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The Australian Collaborative Education Network (ACEN) is proud to present these E-Proceedings which are the refereed papers and keynote presentations from the 2008 WACE Asia Pacific Conference on Work Integrated Learning (WIL). The proceedings feature a range of contributions from university academic and professional staff, and employers, and represent the broad picture of the research and practice presently occurring in WIL across the world. These E-Proceedings can also be found at www.acen.edu.au.

Refereed Papers

All papers forming these E-Proceedings have been blind refereed, with the exception of the keynote address of Stephen Billett.

The E-Proceedings include refereed papers that authors have registered, as of 10 September 2008, to present at the World Association of Co-operative Education Asia Pacific 2008 Conference on Work Integrated Learning (WIL): Transforming Futures, Practice…Pedagogy…Partnerships, which will be held from 30 September to 3 October 2008 at Manly, Sydney, Australia. Whilst every effort will be made to ensure the presentation of these papers at the conference, no guarantees are given in this regard.

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Is creativity lost in translation? : the importance of creativity in challenging work placement experiences

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Creativity is generally undervalued in academic programmes but a challenging work placement requires learners to draw on all their capacities and resources including their creativity – although they may not recognise what they do as being creative.

In a recent study undertaken as part of a SCEPTrE fellowship some insights into this phenomenon were revealed. The study looked at a group of second year undergraduates on a Hospitality Management degree about to embark on their Professional Training Year.

Initial discussions with the group indicated that they were very confident, appeared to know themselves, and had all written positive and challenging personal development aims and objectives, but this study suggests they were all living in a false reality. Within the space of six weeks each had been confronted with what was to him or her un-resolvable work related problems as this partial glimpse of a student personal development log suggests, "Every morning I wake up with the dread of going to work. I am generally a very positive person, the problem is our director, I can only really describe her as a dictator".

A key aspect of the support provided was to identify strategies that would enable students to take ownership of resolving the issue. What appeared to be missing was their ability to translate reactive feelings into creative solutions. The paper will consider what being creative might mean in resolving such dilemmas and how such creativities might be fostered prior to the work placement experience.

INTRODUCTION

The concept for this study came from the chance overhearing of a conversation between groups of students waiting to enter a lecture. The conversation was interesting because the students were discussing a module taught in the previous semester. What appeared remarkable was the amount of reflection being used to maintain the discussion. The module, Hospitality Events Management (HEM), required students working in groups to create, develop, plan and execute an event of their choosing through an approach based on enquiry/problem based learning. It required them to agree team roles and responsibilities and create their own time-plan to meet the requirements set in the module. It was expected that the event would produce a cash surplus and that this would be donated to a charity. Broad terms of reference were set during the initial lecture; these included the various venues available and their capacities, the names of people responsible for the venues and contact details for health and safety, security and licensing.

As the module tutor, listening to the conversation it became very evident that there had been a considerable amount of emotional investment in the organising and execution of the event, that some issues within the groups remained unresolved despite a detailed feedback and evaluation process and that the behaviour of some

third parties had both surprised and shocked many of the groups. In conversations with the groups later it was apparent that apart from learning the theories and practices of event management needed to pass the module they had in fact learnt more about themselves, their peers and the wider university community than they had first realised. So deep, and in some cases so upsetting had these experiences been that the method of analysing how they felt led naturally to a reflective process. It was the personal view of the researcher, gathered anecdotally from both the experience of the HEM module and from visiting students on placement that the 'increased maturity' shown by students when they returned from the P/T year was most likely due to experiences of inter-personal relationships with other staff, customers, their peer group, encountered as part of the P/T process. In the researchers view this was really important learning that was not recognised and for the most part was going unrecorded by the academic community. It was in essence what the P/T process was all about, however students were firmly focussed on completing the P/T report, the main focal point of which required a business analysis of the placement provider. This business section also carried a higher proportion of the marks. Many students had considerable difficulty in obtaining the material needed to complete the report in an accurate or meaningful way. The net result of this was that in most cases this section of the report became the central focus and they lost sight of their personal development achievements and had little time for reflection.

SCEPTRE FELLOWSHIP STUDY

The focus of this fellowship study considers the personal development aspects of students during the professional training year. There are two main aspects of this development, learning about the company and its processes and learning about people relationships. It is the latter of these that appears to have the most significant impact on the student, creates the greatest demands on them but also has the potential to generate the most lasting learning experiences. To change the students' perception of taking a placement year from; 'being a chance to gain work experience' to; 'learning about themselves and understanding the employment relationship'. How to seek information, and use it, develop creative approaches to human interaction issues and how to learn core work place skills and square these with their personal characteristics that can often be at odds with the work they do.

Levinson et al, (1978) suggests that early adult transition (17 – 22 years) represents the developmental bridge between the adolescence and adult worlds, one key of which is separation, in particular from the family home and where a differentiation process begins between self and parents in terms of less emotional dependence and support. All the students in this study were placed in the United States of America (USA) except one who was located in central Scotland. Initial discussions with the group indicated that they were very confident, appeared to know themselves, and had all written positive and challenging personal development aims and objectives, but this study suggests they were all living in a false reality.

In Rogers (1961) Self Theory, our self-image is the kind of person we think we are and it therefore follows that our ideal-self is the kind of person we would like to be. A student's belief that they are for example good communicators, perhaps buoyed following two years of academic presentations hits a new reality when in the workplace. Rogers argues that we may want to be different in some aspects of our

personality or even to be a totally different character because we are very dissatisfied with what we are like. The inference one may take from this is that the greater the gap between our self-image and what we believe our self-image to be, the lower our self-esteem. This is important because students enter the work placement with a high level of self-esteem derived from their academic achievements, particularly at Surrey University where entrance requirements are very demanding, where a culture of being the best is encouraged; and from their background that tends to be caring middleclass.

It is evident from the study that a high level of tutor engagement is required in order that adequate coaching and support levels, in particular, open and sincere lines of communication are available. Even with this enhanced level of support there are still concerns with things about which students are unsure, for example cases where there is very poor communication between supervisor and student, where they experience very poor mentoring, bad work practices, personality clashes or when heavy demands are made upon them when they feel they have had insufficient or inadequate training or support.

At the start of their journey the students are preoccupied by the anticipation of the experience before them, what they are going to learn and excitement about embarking on the actual professional training experience. Work processes, meeting new people and living in a new environment, often many miles from home they are often ill prepared or naive in their expectations despite being forewarned during the pre-placement orientation lectures.

Seventy five percent of students in the study encountered difficulties with their work colleagues and finding appropriate support for what many of them believed to be insurmountable conflicts proved challenging not least because the objective was to get the student to resolve the issues for themselves. Getting the student to talk about the problem aroused high levels of emotion, anger, tears or general malaise. Lazarus, (1982) proposes that cognitive appraisal mostly precedes any affective reaction and underlines, and is an integral feature, of all emotional states. This seemed to be the case where, most of the students that displayed the most explicit reactions had been storing up thoughts without discussion with anyone, although they had recorded this information on their personal progress logs.

TRANSLATING THE PROBLEM

Levels of stress in these situations vary, some students seem better able to control or perhaps conceal their stress than others. Tom Cox, (1975) presents a useful model of stress that he calls the transactional model. The model sees stress as arising from an interaction between people and their environment particularly if there is an imbalance between the perceptions of the demand being made or their ability to meet the demand and the resultant failure to cope. Environment in this case includes the influences of other people. It is this perception, the failure to correctly translate the demand accurately that tends to cause students the most difficulty. Because it is the students' perception of this failure between demand and ability that causes the stress, Cox's model allows for important individual differences in what might be causing the stress and at what level it is being experienced. In these circumstances the tutor mentoring process has first to actively listen to the students' account, their perception of what the problem is. This can be a very emotional exercise and it is important that the tutor is

able to both empathise but remain objective. Developing objectivity is the first stage in helping a student to create a coping strategy that they can follow. Separating out feelings from thoughts and one thought from another so that a better understanding of the situation can be achieved. Typically a student will rationalise the problem and bury it deeply as part of a defence mechanism but it is essential that the student is able to analyse the problem systematically based on the reality of the situation, which helps to get things in proportion.

USING CREATIVITY

The goal of this SCEPTrE study is to change the students' perception of taking a placement year from; 'being a chance to gain work experience' to; 'learning about themselves and understanding the employment relationship'; to understand the complexity of human relationships in a workplace context and consider creative strategies to enhance interpersonal skills to deal with these effectively.

Introducing the student to the concept of creativity as an approach to resolving problems has been useful in providing them with a method that they can adapt and use once the tutor has left. During the study it was found that the first stage requires the student to step out of the situation and analyse the facts as one might, for example, when considering a case study.

This of course is easier said than done so a template was designed to provide a series of prompts around which the student could plan their strategy (see table 1).

The emphasis is very much on the student being able to resolve the issues for themselves using mentored reflection to visualise a creative way to deal with a difficult situation involving people.

TABLE 1
Template for inducing creativity in problem resolution: Peter Alcott SCEPTrE Fellowship paper 2008

WHAT	HOW	WHY
Have a dose of reality	Take a look in the mirror	You have shortcomings too
Do you need to grieve	Have a good rant	Better out than in
Define a difficult person	List pros and cons	You might be one
Deal with strong feelings	Talk to someone you trust	Strong feelings have no place in conflict resolution
What roles are people playing	Examine their agenda	May reveal hidden truths
Can you both win	Examine what each needs	Easier to resolve
Can you attain Catharsis	Disentangle your emotion	For liberation and peace

CASE STUDY 1 STUDENT A

The following is a transcript from a student's personal progress log received 12 weeks into the placement.

> "Over the last week I have finally decided that I have had enough of my current job (and the company itself). This conclusion has been a gradual one over the past few months – a number of incidences have contributed to this decision. Every morning I wake up with the dread of going to work. I have no motivation and no respect for the workplace. The underlying problem is our director (****). I can only really describe her like a dictator, like Hitler or Stalin. She is very unpredictable, short, stubborn, superficial, uncooperative, defensive, irrational, unprofessional, and temperamental; the list goes on. She regularly belittles managers in front of their employees, which is very unprofessional of her (and is highly embarrassing). She has an extremely sharp tongue, she will do things out of spite, she is never wrong, she likes being hated – she seems to get a kick out of it".

Tutor visit (intervention)

The following is a transcript from the student's personal log received 1 week following the visit.

> "Peter Alcott made his first visit to see the Managers in Development (MID) at the xxxx xxxx resort and club. It was good to see him, and to let him know the current situation and incidents that had gone on over the past few months. Peter (Alcott) spent the majority of his time having meetings and luncheons with MIDs and other important people, such as Sandra (HR Director), to see how we were getting along. Peter (Alcott) and I had a long meeting one day after work to discuss my progress: I felt as if this was my last opportunity to try and solve my current state of affairs. He made me feel more positive and inspired me to stay at the resort and to carry on pursuing a new job role with more responsibility. A couple of days after Peter (Alcott) had left Yulia (MID) and I decided that we would write an email to Josie (director), Sandra (HR director) and Jennifer (HR manager) to make them aware of our concerns. A couple of days later Josie replied and we had a meeting with her and her assistant Silvia later that week. Yulia and I were both promoted to new positions within the spa – Yulia – Manager of the Salon, and myself – Assistant Guest Services Manager. We were both very happy indeed to hear of the good news, I am very glad that we persisted with our goal. Josie also told Yulia and I that she was very impressed with both of us, and that we were very professional".

Thoughts

If we consider the style and likely content of the email that this student may have sent before the intervention it is most probable that the result subsequently achieved would not have happened. As Levinson comments this is a transitional period of development and hitherto most students that have reached this level of a degree programme have primarily been focused on the attainment of qualifications and academic learning. Bridging the gap between academe and employment is complex because many, soon to be graduates, believe they have won a right of passage to be taken seriously; and finding a creative approach in dealing with people, bridging the gap and securing solutions for work based problems is an essential skill for them to acquire.

CASE STUDY 2 STUDENT B

The following is a transcript from a student's personal progress log received 12 weeks into the placement.

> "Trying to fit in is the most challenging part. This place will be my home for a year so I have to fit in some way. I have to find a way to create bridges with everyone in the retail division and prove to them that they did not make a mistake bringing me here. Also I need to make friends because I am here on my own and at times it's lonely. Entering the workforce is not as easy as expected. You have responsibilities; people depend on you and expect you to act in a professional way because whatever you do does not only reflect on you but also on them. It seems that they are not interested in my ideas, I don't think they respect me or are willing to discuss my ideas or believe I can take my responsibilities seriously".

Tutor visit (intervention)

The following is a transcript from the student's personal log received 1 week after the visit.

> "The visit by Peter Alcott has been invaluable. His support and presence was incredibly useful as he helped me identify and recognise the different stages of development, through the initial objectives, strengths and weaknesses I had identified prior to starting my placement year. He further provided encouragement through bad times and rejoiced with me when specific goals where achieved. It was good to know that support could be graciously provided and that links still existed with the university in case something did not go to plan. Listening attentively and cooperating are the main approaches, in order to get good training I have to pay attention and cooperate with Lauren in order to learn the processes. My managers seem to trust me quiet a lot and are eager to teach me. They treat me as a normal employee and not as an intern. Because of this I try to please them and do my work properly. I have to admit that their approach to me motivates me to do better and I am more eager to learn".

Thoughts

Much has been written on personality, those unique characteristics of people that make them different and yet allow comparison. Student A and student B have very different personalities and yet the same approach of inducing a mindset that could visualise a more creative thought process beyond the symptoms of the problem provided the impetus to finding resolution. Many eminent authors on personality traits would argue from their own perspective, "within the general definition of personality there are several different theoretical approaches, including the trait and type approach (Eysenck and Cattell), the psychodynamic (Freud, Jung, Adler), the humanistic (Maslow, Rogers), the social learning approach (Mischell), and the cognitive", (Kelly), cited in Gross, (1992, p11).

Given a level of trust it seems possible to open the minds of students with widely different personalities to the possibility that creativity is not just the domain of the artist, but that translating the symptoms of a difficult situation by analysis into components a beneficial resolution can be achieved.

CONCLUSION

A key feature of the Professional Training (PT) year is the PT report and students taking part in the SCEPTrE study were required to produce a report with a different focus to the norm. This change in report focus had a significant impact on the student's perception of what they had learned during the year. As a tutor supervising the completion of these reports it was very noticeable that the emphasis had shifted from one being preoccupied with facts, figures and the overall grade they would achieve towards one of reflection and self-evaluation of their achievements, development and relationships with others.

The overall grade and the span of grades for the reports under the SCEPTrE study are slightly higher than those where a regular P/T report has been produced. However, the student development section is very much improved and in most cases it is this that has had the effect of increasing the overall mark. Students like to talk about themselves and see their development unfold – using the personal progress logs as a support in writing up this section appears to show some better engagement.

Helping to develop management students into becoming better managers may be more than a worthy cause, "Most of the literature on strategy and firm performance has implicitly assumed that firm and management quality influences a firm's future financial performance (e.g., Leiberson and O'Conner, 1972; Weiner and Mahoney, 1981). First, relatively skilled managers may make better decisions. Second, firms perceived as excellent along an array of dimensions may have easier access to the financial capital necessary to facilitate future firm growth. In fact, Louis Harris and Associates (1975) found that the major institutional investors considered the quality of management to be the single most important criterion in the selection of stocks", McGuire et al (1990, p167).

This paper argues that to get the most from their work placement experiences students need to harness their creativity as well as other capabilities. Experience has shown that human interactions are an important site for creativity in the work placement environment although many placement students and tutors might not see this as being creative. To help students appreciate that to be successful they need to create productive relationships and deal effectively with difficult relationship problems. The simple observational, planning and reflective thinking tool I have developed helps students appreciate the complexity of their decisions and actions when dealing with complex relationships and therefore helps them understand better the role of creativity in interpersonal communication and relationships.

Student feedback suggests that overall the students have gained from taking part in this SCEPTrE study, in particular the element of personal mentoring at regular intervals that has facilitated their understanding the dynamics of people relationships both in the workplace and perhaps beyond.

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Examining fitness for purpose of undergraduate curricula in preparing students for work-integrated learning placements

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This paper examines a well-established and highly-regarded work-integrated learning (WIL) programme; that in undergraduate Chemical Engineering at the University of Surrey. The focus is not the co-operative education elements themselves, nor the well-established "workplace skills development" activities that are designed to prepare students for placement. Instead, the paper concentrates on the nature and impact of academic study undertaken by students prior to, and following, placement. Placements normally take place between Levels 2 and 3 of the degree programme. It is instructive to compare reflective student reports at the beginning and end of Level 3. Students are generally much more positive about the relevance of their academic study to their placement work at the end of Level 3, than they are at the beginning. In addition, many students on placement feel under-equipped (in academic terms as well as in terms of "workplace skills"). The paper highlights fundamental differences in teaching and learning activity between Levels 1-2 and Level 3. It is suggested that elements of Level 3 activity – more in terms of teaching and learning approach than in terms of content – could, and perhaps should, be introduced at the lower Levels. It is argued that many learning outcomes, teaching and learning activities, and assessment paradigms at Levels 1-2 are, in some ways, overly modest. Engineering curricula are strictly linear and hierarchical in many ways. The paper questions such linearity and offers examples of how changes in approach may serve to better prepare students for the academic and technical challenges of WIL placements.

Keywords: curriculum design, preparation, practice

INTRODUCTION

The University of Surrey is well-known for its undergraduate work-integrated learning (WIL) programmes; the placement scheme is one of best-established and longest-running in the world. Engineering disciplines, including Chemical and Process Engineering (CPE) have long been at the forefront of WIL developments at Surrey. This paper is based on the experience of the first author as the WIL lead tutor for CPE between 2001 and 2005, and reflections on wider educational issues since. Rather than the WIL aspects themselves, the paper examines the nature of mainstream academic activity, both before and after placement – and evaluates the impact of this on the placement experience. The paper argues that the structural nature of many engineering degree programmes, aligned to the nature of teaching, learning and assessment activity, is an important shaper of student perceptions of learning and how they are applied in the WIL environment.

STRUCTURE OF DEGREE PROGRAMMES

Undergraduate programmes including WIL are four years (Bachelor) or five years (Master) in length. The WIL placement – also termed "professional training" or "Level P" - usually occurs following the (common) first two years. For the most part,

students engage in a single 12-month placement with one company; some students travelling internationally may engage in two shorter placements. The Department strives to ensure that students undertake placements with real work and professional responsibility – certainly in the latter stages of placements, many students effectively perform at the level of graduate engineers. The student reporting procedure is important for this paper. Students completed a report at the end of the placement, combining technical elements with reflective commentary on the experience. They then completed a second, entirely reflective report, at the end of the third academic year.

NATURE OF THE DISCIPLINE, TEACHING, LEARNING AND ASSESSMENT

Neumann et al. (2002) analysed teaching and learning in academic disciplines and derived a classification based on two factors. "Hard" (as opposed to "soft") disciplines are characterised by a high degree of objective knowledge, and "applied" (as opposed to "pure") disciplines are more immediately concerned with practical application. CPE as a whole is hard-applied, with some soft-applied aspects and a substantial core of hard-pure "basics" in science and mathematics, especially in the earlier stages of programmes. Typical of hard(-pure) subjects is a strong sense of curriculum linearity and content hierarchy. Knowledge acquisition (in the "basics") is seen as necessarily preceding knowledge application. Contributory factors include a strong positivist philosophy and a sense of entrants' relative mathematical and scientific ill-preparedness for engineering degree study – see Fry et al. (2002:257).

Analysis of learning outcomes within the early stages of degree programmes is also highly illustrative. Krathwohl (2002) presents an extension into two dimensions of the familiar Bloom taxonomy of educational objectives. The original taxonomy constitutes the "cognitive process dimension" in the revised scheme, which indicates the principal student cognitive activity corresponding to an educational objective. In order of increasing sophistication these are: remembering, understanding, application, analysis, evaluation and creation. The second ("knowledge") dimension addresses the type of knowledge corresponding to the objective (propositional, conceptual, procedural and metacognitive). Krathwohl also outlines a procedure whereby examining the verb parts of learning outcomes allow objectives to be precisely placed in the framework.

Learning outcomes can broadly be described as "mundane" or "complex" depending on where they lie within the framework – the former addressing the lower elements of both the cognitive dimension (remembering, understanding and application) and the knowledge dimension (propositional and conceptual). As an example, a typical mundane outcome in CPE at Levels 1-2 might read:

> "…students should: know the basic principles of gas-liquid equilibrium and be able to apply these in the sizing of packed-bed absorption columns"

The emphasis is on *application* in the cognitive dimension, and *procedural knowledge* in the knowledge dimension, with an implicit basis of "more mundane" aspects (recall, propositional knowledge). This is entirely understandable, not least in light of programme validation / regulatory issues. The "engineering analysis" subsection of engineering benchmark statements (QAA, 2006) broadly covers Levels 1-2 of most

programmes. In this, the verb "apply" features heavily; the implication is that largely mundane outcomes are deemed to suffice at this level. In contrast, a typical post-placement (Level 3) learning outcome might read:

> "…students should: be able to make design / financial / environmental decisions and evaluate these in light of the project requirements"

which clearly addresses much higher levels in both dimensions of the taxonomy, specifically the evaluation and creation of metacognitive knowledge. It is natural that learning outcomes should address more sophisticated issues at later stages of the programme – nevertheless, this paper questions the relative modesty of some learning outcomes at lower levels, and the consequences for WIL placement preparation.

Teaching and learning activity also varies considerably. Levels 1 and 2 are generally characterized by heavy overall contact loads (25+ hours per week contact is common), heavy use of large-group lectures supplemented by smaller-group laboratory classes, and tutorial-type work based around problem-solving classes. In contrast, at Level 3 and above - contact loads are much lower, there is much more self-regulated study, much more unstructured group activity (e.g., in design groups) and "classical" tutorial-type input (from academics advising groups or individuals on project work). Summative assessment practice is markedly different pre- and post-placement. The bedrock of assessment at Levels 1 and 2 is a variation of the ordered outcome construct described by Biggs (2003). The structure is based on a stem – an element of propositional knowledge (a scientific or engineering principle, perhaps in the form of an equation) that learners are required to state or derive. Thereafter, learners are required to apply this knowledge to solve an engineering problem, usually involving mathematical calculation. Finally, and often apparently as almost an afterthought, learners are invited to comment on the significance of their findings in a wider engineering context. Here, this construct is termed "quasi ordered outcome" (QOO). Biggs presents ordered outcome as an *alternative* to examinations, yet QOO in engineering is most commonly deployed *within* an unseen examination environment. QOO's apparent prevalence is remarkable - across a wide range of topics, examiners and institutions. Analysis of chemical engineering degree curricula (Surrey, 2007a) and associated examination papers (Surrey, 2007b) reveal that QOO in examinations accounts for almost half of all summative assessment in the first two years (118 of 240 credits). QOO is also routinely deployed in many coursework assignments, which altogether account for about one-third of all summative assessments. Most UK HEIs only allow internal access to past examination papers. However, publicly accessible papers from Australia (Sydney, 2007 and Melbourne, 2007) indicate that the QOO construct is similarly prevalent there.

The assessment regime is considerably different post-placement (at Level 3 and above). Whilst QOO and/or unseen examinations still feature to some extent, much more of the assessable student output is in the form of portfolios, design reports and the like. Crucially, student outputs at this level (also, arguably, the assessment thereof) much more closely resemble the outputs students would produce as professional engineers, either post-graduation or whilst on WIL placement.

EFFECTS ON STUDENT LEARNING AND PERCEPTIONS; IMPLICATIONS FOR PLACEMENTS

Four characteristic factors of pre-placement academic activity in CPE have been identified: linear, content-hierarchical curricula; particular teaching and learning practices; mundane learning outcomes; and summative assessment practice based largely around QOO. All of these impinge on student learning and perceptions of study, and all change markedly in the post-placement academic period. The key implications of all four are well summarised by literature referring principally to the latter - assessment practice based on QOO. Case and Gunstone (2003) discussed student approaches to learning in chemical engineering. They identified a common "algorithmic" approach based around learning solution methods:

> "The algorithmic approach is one that it is often reinforced by science and engineering courses, when students are told that all they need to do is practice numerous examples, and when assessments require them solely to substitute the appropriate values into simple formulae."

The aim of much teaching and learning research is to enable teaching and learning that fosters a deeper, more conceptual understanding of the academic subject. It is easy to label such algorithmic learning as "bad", yet it is arguable that such an approach "works" for students in the context of the curriculum, the (mundane) learning outcomes and the teaching and learning methods. The key questions for this paper concern the implications such a structure has for preparing students for WIL placements, and how the structure and associated practice might be improved.

IMPLICATIONS FOR PLACEMENTS (AND LEARNING)

Students versed in "algorithmic learning" (probably without realising it) may experience considerable culture shock when embarking on placements. Firstly, unrealistic initial expectations are common:

> "Students generally have relatively unrealistic expectations of their industrial placements, inasmuch as they usually expect the link between their university studies and placement work to be much more obvious and transparent than it ever is…"
> (email from JB to industrial supervisor, 2004)

Students evidently expect to undertake university-like activity in a workplace environment; when they realise this is unrealistic, the relevance of one aspect to the other is sometimes not easily identified:

> "Applying the 'textbook' approach to real chemical engineering problems in industry can only be done by making a great deal of common sense assumptions and it is this sort of thing you can only learn from experience and not in a classroom…"
> (student A, end-of-placement report, 2004)

The reality is that many students face qualitatively different *technical* challenges within placements than they do in the academic arena (at least at Levels 1 and 2). In the "real world" of process engineering, technical problems are very open-ended and fuzzy, available data may well be incomplete or even self-contradictory, and issues

rarely proceed smoothly towards a solution via the implementation of tried, tested and "learned" procedures or algorithms. As a result students may feel under-equipped (in academic, technical terms as well as in terms of "workplace skills"):

> "When I joined the company, I had just finished my second year and I did not feel that the knowledge I had was sufficient for me to carry on with the job I had to do…"
>
> (student B, end-of-placement report, 2004)

Many students still struggle to see the academic-workplace link at the end of the placement period:

> "I haven't actually used any calculations or other mathematical models such as I learned last year… the module I have found to be of most use during my year is the personal skills module…"
>
> (student C, end-of- placement report, 2004)

Yet, following a further year's academic study at Level 3, students are often considerably more positive about their placement work and its linkage to their academic endeavours:

> "I have developed a better understanding of the course as a whole and I have become more assertive about what I know, and learn more about what I am not sure of…"
>
> (student B, end of Level 3 report, 2005)

The implication is that there are factors in the educational experience at Level 3 which causes students to reconcile "professional" placement work and academic study much more readily. Fundamental differences in teaching, learning and assessment at different Levels have been outlined above. The conclusion is that introducing elements of such higher-level teaching and learning into the curriculum at lower levels could be a highly positive step. Whilst students' development in "workplace skills" (such as teamwork, communication, business awareness and so on) is a laudable outcome of WIL placements, students' *academic* development on placement could also be further enhanced through better academic preparation. The paper concludes with suggestions as to how the essence of higher-level teaching could be introduced into pre-placement curricula.

SUGGESTIONS FOR PRACTICE AND CONCLUSIONS

The essence of the suggestions for practice is that neither curriculum linearity nor content hierarchy are necessary, or even desirable. An example is reported by Ramsden (2003:165). By making relatively simple manipulations – essentially reorganising content within the curriculum without compromising it in any way – a practitioner in anatomy (a hard-applied discipline) appeared to significantly affect students' learning and in particular improve their ability to integrate theory and practice. Whilst the process involved a great deal of background work and relied upon the educator's long experience with the course, the changes themselves – once formulated – were relatively modest.

Problem-based learning (PBL) is increasingly deployed across a range of disciplines. PBL implies organising (parts of) a curriculum around problems, rather than around particular facts or theories. The essence is that students acquire, assemble and deploy

knowledge in response to problem scenarios. This is generally regarded as slightly different to project-based learning as typical in the latter stages of engineering programmes (Savary, 2006) but shares certain key features. Compared to traditional curriculum arrangements, PBL seems to lend itself to more sophisticated cognitive processes and hence more complex learning outcomes, apparently with little or no compromise in terms of curriculum content.

Apart from being "good teaching and learning practice" in its own right, PBL would seem to be of specific use in placement preparation. The literature gives many examples of PBL in engineering, for example that at the University of Manchester (Engineering Subject Centre, 2007). Widespread adoption across engineering programmes led to improved retention, progression and student motivation. Importantly, PBL activity seems to be a much better mirror of professional reality than a "traditional" lecture-based curriculum. A related example is the so-called "spiral curriculum" (Clark et al., 2000) which presented core chemical engineering topics in an integrated way, based around co-operative group project work.

Breaking curriculum linearity and content-hierarchy naturally makes academic study more closely resemble professional engineering practice, and as such may smooth the transition of students into WIL placements. Individual chemical engineering educators may consider some of the suggestions outlined here to be too onerous for their own practice; some might require management drivers at faculty level or above if they are to become reality. Nevertheless, the underlying message is relatively simple. Treating pre-placement students more like many educators treat post-placement students (in terms of curriculum structure, teaching, learning and assessment) may confer substantial advantages in enhancing the experience and improving the technical, "academic" performance of chemical engineering students undertaking WIL placements.

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Redefining doctoral programmes as work-integrated learning experiences

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Doctoral education and work-integrated learning are two distinct spheres of educational activity that have been subject to considerable development over time. In this paper we explore the changes that have taken place in the two fields, suggesting that there are close mirrors between the two. We propose that doctoral education and practitioners therein potentially have much to learn from the experience of the older and more mature field of work-integrated learning.

Keywords: doctoral education, development, programme design, practice

WORK-INTEGRATED LEARNING AND ITS DEVELOPMENT

Work-integrated learning (WIL) is an umbrella term describing a range of educational activity, the essence of which is that "academic" learning within the institution is clearly integrated with its practical application in a workplace environment. WIL takes many forms – as described, for example, by Gibson et al (2002). In some cases (perhaps pre-course placements or job shadowing) the degree of integration with mainstream academic study, and/or the "academic content" of the placement might be relatively limited. In others (sandwich placements, internships, practicum) the workplace-academia link is somewhat clearer. Some examples of practice involve short periods of time in the workplace, others much longer periods.

Despite the diversity of detailed practice, work-integrated learning activities share certain key features that distinguish them from mere work experience. Harvey et al. (1998) provide a useful summary of the essential features of modern work-integrated learning. The over-arching principle, repeated by many other authors elsewhere, is that work experience is not necessarily beneficial in its own right; "the experience is not enough" (Flinders 2002). The *learning* that arises from the experience is what really matters. Modern WIL programmes move beyond mere work experience and reflect the importance of learning in the following ways (adapted from Harvey et al.) such that:

- the experience is 'meaningful'. This term may mean slightly different things to different stakeholders; for us working in higher education it generally signifies (better) integration between academic study and workplace learning
- the experience is intentional, planned and recognised. This means that it is based on specific goals and learning outcomes rather than vague or general principles
- the experience leads to student reflection and the opportunity for students to articulate such reflection
- the experience is supported by appropriate feedback and assessment mechanisms

- the experience is accredited in appropriate fashion
- the experience is embedded in a quality (-assured) framework
- the experience is embedded in a wider framework of life-long learning

At the University of Surrey, the sandwich placement has been the predominant undergraduate WIL model with a history extending over many decades. Pollard (2006) provides a fascinating account of developments in "professional training" (as it is now called) since the 1950s. It is immediately obvious that these developments reflect all of the factors listed above. Fledgling placement schemes 50 years ago were driven almost entirely by placement providers, who in many cases directly sponsored students and even dictated when they could be released for academic study. There was essentially no direct relationship between academic study and the workplace, and virtually no academic staff involvement whatsoever. Over the intervening decades, many factors that are currently characteristic of the Surrey WIL model were gradually introduced. Firstly, academic staff adopted responsibility for finding and monitoring placements. This in itself led to considerable steps forward in improving the meaningfulness and intentionality / planned nature of the scheme. Formal record-keeping (both by the University and by students themselves) became a staple of the programme, improving quality aspects of the framework as a whole and laying the foundations for the placement scheme to become a student self-reflective exercise. Academic staff beginning to regularly visit students on placement led to improvements in a range of areas, notably assessment and feedback. Gradually the placement scheme became a fully integral part of degree programmes, eventually being recognised within the final degree classification or through a separate award. Certain professional bodies now accredit degree programmes and recognise placements therein as leading to partial fulfilment of professional experience requirements for full member / fellowship status. Surrey's Centre for Excellence in Teaching and Learning reflects the life-long learning aspects of professional training through its core theme of "learning in a complex world" (SCEPTrE 2006).

In addition, the placement process undoubtedly had a part to play in developments in "mainstream" academic activity. Many undergraduate programmes now feature specific modules devoted to transferable skills including teamwork, leadership, business awareness and communication. Whilst the emergence of such elements cannot entirely be attributed to "preparation for placement", it is abundantly clear that developing students' ability first to access high-quality placements and then to perform at a high level therein was an important motivating factor. All of these developments have served to increase the academic flavour of the placement process, and to more meaningfully integrate placement work and academic study. Such developments seem typical of those in work experience / WIL at various educational levels and in different parts of the world.

CHANGES IN DOCTORAL EDUCATION

The concept and structure of a traditional research doctorate has remained largely unchanged for over 50 years and is still viewed by many as an elite training in research and the route along which future academics travel (Harland and Plangger, 2004). Nevertheless, the postgraduate research environment is currently in the midst of a significant transition which we argue parallels WIL development and the criteria outlined by Harvey et al. The doctoral experience in and of itself is no longer enough.

Many commentators have observed a paradigm shift in doctoral education, from the traditional research model to one which includes research but also personal and professional training and development.

Developments over the last 15 years, driven by concerns from government and employers, have led to significant changes in the structure of the PhD leading to an increasing emphasis on the *process* of the PhD, rather than the *product*. In 2002 Sir Gareth Roberts presented evidence from employers suggesting that postgraduate education does not lead them to develop the transferable skills and knowledge required by R&D employers (HM Treasury, 2002). The Roberts Report, as it became known, was followed by a significant input of government funding for HEIs to support the development of research training programmes and skills development opportunities. National policy drivers have encouraged UK HEIs to establish structures to enhance the research student experience. At Surrey, the Postgraduate Skills Development Programme (PGSDP) reinforces our belief that it is the research *process* which is at the heart of the research student experience. The PGSDP commenced in 2005 and has grown considerably over the past 3 years. There are now approximately 40 workshops offered which were attended by over 600 students last year. These cover areas obviously related to the doctoral process (e.g., *Completing your Thesis, The Viva Examination*) and those concentrating on more "generic" skills (e.g., *Teamworking and Communication Skills, Assertiveness and Negotiation Skills*). The generic skills workshops nevertheless concentrate on the development and deployment of these skills in the research environment. Workshops are delivered by the University team involved in the development of this provision as well as specialist external trainers. Specialists elsewhere in the University are also used on the programme to support sessions on aspects such as career management and academic writing.

These and other changes to doctoral education at Surrey have certainly contributed to ensuring that the experience is meaningful. The shift in emphasis from product to process is clearly providing a better integration between the research training and the personal and professional development.

> "The product that the PhD student creates is not the thesis ….; rather the product of their study is the development of themselves" (Roberts, 2007, p.ix)

The "meaningful experience" element is even more obvious when considering the growth of the professional doctorate (examples at Surrey include the Eng.D. and Psych.D). Bourner et al (2001) looked at professional doctorates offered by a broad sample (70) of English universities. The majority of these claimed that their professional doctorates address the career needs of practising professionals and most have been designed to provide research based career development for experienced and senior practitioners in the professions. Furthermore, professional doctorates normally include explicit WIL elements of industrial, clinical or other professional practice.

Clearly, it is still very early in the process to able to evidence the "meaningful experience" as stated by Harvey and that is certainly an area for further exploration within our own institution. What is apparent is that most doctoral candidates are no

longer receiving a narrow training in research but also developing a broader professional experience, albeit much of it within the boundaries of the University environment (Harland and Plangger 2004).

Park (2007a) discusses what the UK Doctorate looks like today – identifying seven factors which show remarkable similarities to Harvey's list. Park argues that there is a transparency of process whereby quality frameworks such as the QAA Code of Practice (QAA 2004) are placing a growing emphasis on research culture, infrastructure and the research student experience.   The whole process that research students are experiencing is less of a "private activity" than it may have been in the past, although Park does acknowledge the difficulties of engaging with established supervisors within this new academic infrastructure. Harvey's criterion of an intentional, planned and recognised experience, based on specific goals and learning outcomes, is very much part of the evolution in doctoral education. At present Surrey has not specified learning outcomes for the PhD; the degree regulations focus very much on the *product* (thesis) and concern factors such as contribution to existing knowledge, originality and worthiness of publication. Certain other HEIs have moved much more towards a set of learning outcomes which clearly articulate the research *process* and – as mentioned above – include aspects of personal and professional development, including a requirement to reflect on work and working relationships alongside the more traditional requirements of a research degree of discovering and communicating new knowledge.   In addition, as might be expected, learning outcomes for a professional doctorate tend to be somewhat broader than those of a traditional PhD and include aspects related to personal and professional development, also often specifying reflective practice (Bourner et al, 2001).

Feedback and assessment mechanisms in doctoral education are becoming increasingly rigorous. Doctoral students at Surrey are now required to undertake formal progress reviews on at least a six-monthly basis; annual progress reports on each and every doctoral student are reviewed at both Faculty and University-wide level. This obviously has positive implications for quality (assurance) but also requires doctoral supervisors to provide students with structured feedback on their progress at regular intervals, thereby fostering an environment where regular and appropriate feedback to students is the norm in supervisory practice.

Accreditation of the experience is a rich area for further development. As discussed above, this is already a strong feature of some undergraduate programmes with WIL elements. There is considerable scope for this within doctoral programmes. Certain professional doctorates lead the way (notably in clinical and related disciplines); in some cases programmes are fully accredited and completion leads to chartered practitioner status. More widely, as doctoral education in PhD programmes becomes increasingly "professional" there is surely scope for professional body recognition of certain elements. A possible alternative is recognition through a validated academic award; this is already in place at some institutions for teaching-related elements – for example, the *Preparing Future Academics* programme at the University of York (2008) but could be extended / adapted to other areas of professional development.

Reflective practice is a keystone of professional development and it is no surprise to see this articulated in the learning outcomes of professional doctorates and beginning to emerge in generic learning outcomes for the PhD. Reflection is an integral part of

learning (Kolb, 1984) facilitated at Surrey by our Personal Development Planning (PDP) process. PDP is now an element in most of the undergraduate programmes at Surrey and a PDP Framework has been established which makes provision for research students to be able to reflect upon their experience and plan their continuing professional development further. It could be argued that conversations between student and supervisor are necessarily reflective in nature but certainly at Surrey, this is another area requiring further development. We have established PDP structures and supporting tools for doctoral candidates, based on the Joint Skills Statement. At present these are generic (cross-disciplinary) in nature but there is definite potential in certain disciplines to marry generic and discipline-specific professional development requirements (the latter being given by professional body CPD requirements); we are looking at this in specific discipline areas. The intention behind the development of the PDP Framework was very much one of an element within a broader framework of lifelong learning.   Work underway within Surrey's Centre for Excellence is looking at non-formal learning, very much connected to a framework of lifelong learning which builds on the professional and academic development of the student.   This is at the heart of our argument that the PhD is now very much about the *process* – in the same that the WIL model has developed at Surrey. It is about the professional and academic worlds conjoining and providing a more meaningful and much more powerful experience for the research student.

DISCUSSION: REDEFINING THE DOCTORATE IN WIL TERMS

The striking parallels in the developments described in the previous two sections lead us to propose that one of the two fields might be used as a metaphor for the other. More specifically, it seems plausible that the relatively immature field of the two (doctoral education, where significant change has only taken place in the past 5-10 years) might be sensibly informed by previous experience in the much more mature field of WIL. As doctoral education continues to develop, we suppose it will become much more WIL-like. As practitioners contributing to doctoral education developments at institutional level, here we look at the issue from the perspective of the HEI, rather than the individual academic or student therein. Ongoing redefinition of the doctorate might mean the following in practice:

An increasing shift away from the notion that the experience, in and of itself, is beneficial

As mentioned above, this is an essentially mainstream notion in modern WIL. In doctoral education, the intrinsic benefit of the experience is probably still overstated - even if the research degree is seen wholly or mostly as a passport to an academic career. Most academics juggle teaching and administrative loads in addition to research. Furthermore, undertaking research as an academic often involves a great deal of research management (e.g., securing funding, developing broad strategic vision for new research directions, managing and developing others) with relatively little time devoted to performing research in the way a doctoral candidate does. If the doctorate is seen in a broader context – i.e., as preparation for a wider range of career paths – then the intrinsic benefit is further diluted.

A continuing shift in fundamental "employer" (HEI) motivations for engaging in the doctoral degree process

Higher education institutions are the broad analogue in doctoral education of employing organisations in WIL. Reeve (2001) surveyed the motivational factors for WIL employers; in decreasing order the principal ones were:

1. hiring of motivated and enthusiastic employees
2. contributing to student personal and educational development
3. screening for future recruitment
4. accessing employees who produce high-quality work.

Park (2007b) describes stakeholder perspectives on the doctorate; it is clear from this that the fourth factor has probably been most important to HEIs in the past – with doctoral students being seen as the army of 'research ants' that drive the overall mission forward. If doctoral education is to become more WIL-like, then the motivation of HEIs will probably shift to the first and second factors. Such a shift was largely instigated by policy and strategic drivers at governmental level, but is now arguably developing a momentum of its own.

Increasing sense of "planned and managed experience" within doctoral programmes

As discussed above, this is becoming increasingly commonplace within professional doctorates. However, there are also indications of change in the PhD arena. One example of this is the New Route PhD which explicitly adds taught and transferable skills elements to the traditional PhD project. Whilst the initial momentum of this specific initiative has arguably stalled somewhat (roughly a third of the initial cohort of universities offering it have ceased to do so), it nevertheless seems clear that the underlying thinking is increasingly pervading doctoral education in the UK.

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Beam Me Up Scotty: online graduate co-op and professional development through simulation

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Online education provides extensive educational opportunities for students seeking graduate degrees for career advancement. Through innovative technologies, students now have the opportunity to gain "real-life" professional skills through simulation and online graduate co-ops. At Drexel University, the School of Education and Steinbright Career Development Center are working collaboratively to meet the needs of online students and charter new frontiers. Drexel University's Master of Science in Higher Education Program is using simulation to actively engage students in career development courses and the online Higher Education Graduate Co-op.

Keywords: Online education, distance education, simulation, co-op, work-integrated learning

INTRODUCTION

> Unless campus leaders do more to identify and nurture new talent, higher education will face a leadership crisis in the coming decades as the baby-boom generation of college administrators retires and the pool of potential replacements shrinks. (Selingo, 2006, ¶1)

Higher education in the United States is an expansive field that includes approximately 6,800 accredited colleges and universities. These institutions consist of degree granting (associate and above), non-degree, non-profit, and for-profit programs (CHEA, 2006). Additionally, these institutions represent extensive career opportunities for individuals seeking careers in higher education. According to the U.S. Bureau of Labor Statistics (2006), there are an estimated 6,000 jobs in higher education administration that will need to be filled through 2014 (Leubsdorf, 2006). These positions are the result of a predicted 50% turnover among senior administrators in higher education over the next five to ten years (Leubsdorf, 2006). Furthermore, a national study conducted by the American Association of Community Colleges (2001) revealed that 79% of community college presidents planned to retire between 2001 and 2011.

Filling the current and future vacancies in higher education is not easy. According to Jane Courson, a consultant with the executive search firm Witt/Kieffer, "Searches for senior college executives are taking longer and resulting in small pools of less-qualified candidates, and the finalist often declines an offer in favor of other opportunities" (Selingo, 2006, ¶3). As further noted by Alice Miller (2006), another

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Witt/Kieffer consultant, "The irony is that many universities behave similar to the shoemaker whose children have no shoes, offering management training to outside clients but not using those skills internally" (Leubsdorf, 2006, p. A51).

To proactively address this growing critical need in higher education, Drexel University's School of Education developed the Master of Science in Higher Education (MSHE) Program in 2005/06. As affirmed in the mission statement, the MSHE Program:

> Prepares students with the practical skills, knowledge, and experience to become professionals and leaders in higher education institutions, national/international associations and organizations, government agencies, and corporations. The program provides a strong foundation for career advancement, executive and senior level positions, and future doctoral studies. (Drexel University, ¶1)

MSHE courses were strategically designed to incorporate work-integrated learning and professional development through the weekly lectures, discussion boards, and assignments. Additionally, through a collaborative partnership with Drexel University's Steinbright Career Development Center (SCDC), the MSHE Program developed courses EDHE 606: Higher Education Career Development and EDHE 715 & 716: Higher Education Graduate Co-op to provide students with the necessary knowledge, skills, and experience for career advancement within higher education or for career transition into higher education. Through innovative technologies, MSHE students have the opportunity in these courses to gain "real-life" professional skills through simulation.

Since the launching of the MSHE Program in fall 2005, enrollment has grown from 26 students in the first cohort to 145 students in spring 2008. The overall student retention for the past three-years is 83%. Much of the growth of the MSHE Program is the result of the Program being offered fully online. Less than half (47%) of the students reside in Pennsylvania and only 20% of all MSHE students reside in Philadelphia where Drexel University is located. Through innovative programming these online students can gain valuable professional skills that they can apply directly into their place of employment without coming to campus.

PROFESSIONAL DEVELOPMENT THROUGH SIMULATION

Simulation in education provides innovative opportunities for students to apply acquired knowledge and skills as well as actualize or test concepts and theories. However, to fully understand the extensive application of simulation for professional development, it is critical to first understand the term *simulation*. According to Gaba (2004), "Simulation is a technique, not a technology, to replace or amplify real experiences with guided experiences, often immersive in nature, that evoke or replicate substantial aspects of the real world in a fully interactive fashion" (p. i2). Moreover, simulation provides innovative opportunities to improve and augment education and training.

In the MSHE Program, simulation is integrated into courses to provide students with opportunities to apply and reinforce newly acquired skills and conceptual knowledge in real-life higher education settings. Furthermore, the MSHE Program uses

simulation as a strategic technique to develop highly skilled administrators to address the nation's critical need for leaders in higher education.

In EDHE 606: Higher Education Career Development, simulation is used to provide students with the necessary knowledge, skills, and experience to successfully apply for a new position or for career advancement upon completion of the MSHE Program. Therefore, MSHE students are required to identify and apply for a *real job* posted in the Chronicle of Higher Education that would be considered as their *next professional career step*. Students submit a cover letter, resume, and professional biography along with an ePortfolio to Drexel's SCDC. The ePortfolio must include three references and a maximum of five sample documents. Upon submission of the *application*, students receive an email from the SCDC stating they are finalists for the position. Students then schedule live mock interviews in which they present a PowerPoint professional overview including: (a) a self-introduction, (b) highlights of their professional skills and experience, and (c) why they are the best candidates for the job. The *search committee members*, who include the EDHE 606 professor and a SCDC representative, complete two evaluations during the mock interview covering (a) the content and (b) the interview/presentation. They then send each student their two evaluations with personalized text comments and an audio email providing constructive feedback. The EDHE 606 mock interviews are "live" presentations using Horizon Wimba Classroom (http://www.wimba.com/products/wimbaclassroom/). Horizon Wimba Classroom provides a "fully-featured, live, virtual classroom solution that includes audio, video, application sharing and content display" (Horizon Wimba, ¶1).

In EDHE 715 & 716: Higher Education Graduate Co-op, students complete an action research project as part of their 20-week co-op. Simulation in the online graduate co-op is used to replicate the traditional on-campus classroom where students listen to live speakers and they deliver presentations to the class. MSHE online co-op students are required to attend interactive lectures and deliver their final presentations highlighting their co-op project using Horizon Wimba Classroom. Ultimately, the MSHE online co-op culminates in a simulated master's defense that is held in Second Life which is a 3D virtual world (http://secondlife.com/) or Horizon Wimba Classroom.

For the Second Life master's defense, students and all defense committee members must create avatars which are digital representations of themselves. The students and committee members are sent a link to Drexel's School of Education Second Life Island where the defenses are held in a simulated lecture hall. Much like a face-to-face defense, students present their research and discuss their professional development while committee members ask questions. Figures 1, 2, and 3 provide screen captures that showcase the master's defenses simulated in Second Life and Horizon Wimba Classroom.

Forty-three students have completed the MSHE online graduate co-op over the past 24 months. There will be an additional 50 students completing their online graduate co-op over the next 12 months. Of the MSHE students who have completed their co-op, 44% (a) have been promoted, (b) have been transitioned into a new position, or (c) have had their responsibilities for their position increased based on their co-op experience.
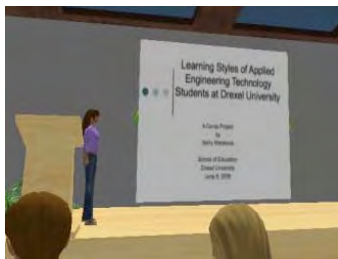
FIGURE 1	FIGURE 2	FIGURE 3
Gerry Marekova	Derek Smith	Steve Radwanski
Second Life	Second Life	Horizon Wimba
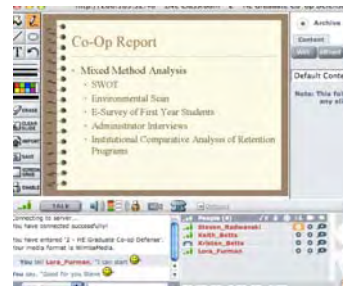
FINDINGS

Data and feedback collected from the 2008 Annual MSHE Student Survey, reflective papers, and reflective journals provide valuable insight as to the success of integrating simulation into courses for professional development. In June 2008, 144 students were asked to complete the 2008 Annual MSHE Student Survey. A total of 75 students completed the survey representing a 52% response rate. According to the survey, 65% of the students frequently and very frequently have applied the skills and knowledge gained from the MSHE Program in their place of employment. Furthermore, the survey revealed that since enrolling in the MSHE Program, 50% of the students were asked to lead a project, 46% were asked to serve on a committee, 37% were asked to be a speaker, and 20% were asked to lead a committee. Additionally, the majority of MSHE students stated they would recommend the MSHE Program to individuals seeking to advance their career in higher education (96%) and individuals seeking to transition into higher education (92%).

The EDHE 606 reflective papers from spring 2008 and EDHE 715/716 reflective journals from winter/spring 2008 provide valuable insight into student learning through simulation. Sample comments from EDHE 606 include:

- The most beneficial learning experience for me has been developing the *e*Portfolio and participating in the Mock Interview in Live Classroom.
- I feel as though EDHE606 has been one of the most important classes that I have taken on any level of education.
- The mock interview left me with a greater understanding of what is expected in the professional world.
- The higher education career development course was filled with practical information that one could utilize in his or her career. The most valuable experience for me was the e-Portfolio experience and the follow-up mock interview helped identify strengths and weaknesses in this process.
- Due to my experience in this course, I know that I will be a great leader.

Additionally, sample comments from EDHE 715/716 include:

- I truly feel as if I have grown through the process into an administrator who can look at the big picture and have a vision, while maintaining the daily operations.
- The entire Drexel online experience has been one I would never exchange. I was skeptical, and hesitant, at first about earning this degree completely online. In comparing this program to that of my peers at other institutions, however, I feel as if I went through a higher ed program that was more challenging and more engaging than theirs, despite the distance in proximity.
- Overall, I feel that the co-op research project helped me to not only learn how to do research but also will help my program in a very positive way. Examination through SWOT analysis, environmental scan, and gathering student data helped me to gain important information that can help guide our program for success in the future.
- Now at the end of this 20-week project, I can say that I have learned a lot, experienced a lot, and gained confidence in my skills as a leader and administrator.

It should be noted that comparative data is not available since the MSHE Program was developed as a completely online program. The MSHE Program did not and still does not exist as an on-campus program. Moreover, the MSHE graduate co-op model was designed specifically for the online environment.

CONCLUSION

The use of simulation in the MSHE Program provides extensive opportunities to replicate professional development and classroom educational activities. Both the mock interviews and the master's defenses enable students to apply new knowledge and skills from the online MSHE Program to simulated classroom assignments as well as their place of employment. However, there are some limitations with simulation. Not all students have computers that meet the technical requirements for Second Life such as the correct operating system, computer processer, computer memory, graphics cards, etc. For students who are able to download Second Life, they may still encounter access issues since they need Cable or DSL Internet access to log on to the site. Additionally, students and faculty who are unfamiliar with Second Life need training on setting up avatars and navigating as well as interacting in the virtual environment. Horizon Wimba Classroom is less complex since it integrates with Classroom Management Systems (CMS) including Angel, Blackboard, Moodle, and WebCT. Therefore, it is important to provide students with options for simulated assignments.

The implementation of simulation in the MSHE Program has been greatly embraced by the students, faculty, and adjuncts. However, further research is needed as technology continues to evolve. Moreover, comparative research is recommended to expand the literature relating to simulation, work-integrated learning, professional development, and learning outcomes in both online and on-campus programs.

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Realising the educational worth of integrating work experiences in higher education

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Increasingly, programs in universities are being positioned as 'higher vocational education', with expectations that graduates will enjoy smooth transitions into professional practice. Aligned with this expectation is the need to provide authentic instances of practice and for these to be effectively integrated into higher education curriculum. Given all this, it is important to understand the kinds of educational purposes that are aimed to be achieved through such curriculum arrangements and how higher education students' experiences in both university and professional practice settings should be best organised and integrated. This paper discusses the educational purposes and bases for a consideration of the educational worth of integrating work experience within higher education, and considerations of what kinds of curriculum and pedagogic practices need to be enacted to secure educational worth. It does this through discussions of broad concepts of vocation and educational purposes associated with occupational preparation and through a reconsideration of curriculum as a set of experiences for students, that needs to be organised and enacted in particular ways. Included here are considerations of the kind of experiences that should be afforded students in both university and practice settings, and their integration and the important role for higher education students as agentic learners.

WORK INTEGRATED LEARNING AND HIGHER EDUCATION

The progressive shift in the emphasis in university programs increasingly away from liberal arts and more towards preparation for specific occupations has led to descriptions, sometimes pejoratively, of universities now primarily being involved in 'higher vocational education'. With is change in focus has also come expectations that graduates will enjoy smooth transitions into professional practice from their university studies. Hence, given the need to provide access to authentic practice experiences, has come an increased interest in and emphasis on work-integrated learning within higher education, albeit it taking different forms across different countries and universities within those countries. Some educators view these changes as being problematic and that imperative of practice will overrun more educational goals are becoming to specific and higher education is now meeting particular sets of social and economic goals. These are important reservations. Indeed, regardless of the way this discussion runs, a focussed consideration of the purposes, procedures and aspirations of higher education and to what degree these are supported or imperilled by these changes is warranted. Hence, there are important questions to be addressed about the educational worth of these experiences and how best should the integration of these experiences occur within higher education. In all, we need to address the question: How should we proceed as higher educators? Offered here is a perspective from learning and curriculum theory about such a progression. The paper proposes finding a more legitimate place for and the acknowledgement of significance of integrating experiences in practice and academic settings. Yet, in doing so, there is a need to

guard against these provisions becoming merely reproductive or to be enacted without the development of critical perspectives. To do so would serve few interests: certainly not the graduate, the workplace, the occupation or the nation. Yet, there needs to be more than the mere rehearsal of exiting critical perspectives, and to understand how these can be positioned productively, for the purposes of learners as well as the community. The perspective offered through this discussion is that of a learning theorist whose work focuses on understanding the relations between the personal and social contributions to individual's development (i.e. learning) and the remaking of culture (developing further culturally-derived occupational knowledge)(Billett, 2006b, , 2008a, , 2008b) and curriculum perspectives emphasise learning through practice (Billett, 2006a).

The case is structured as follows. Firstly, consideration is given to the two distinct meanings of the concept of vocations: as an occupation and a personal journey. It is proposed that, even when referring to a form of paid work, unless there is personal assent to that work it is unlikely to be seen by individuals as their vocations, which shapes how they engage with activities and learning about it. Following this, it is proposed that all education should be vocational, in so far as it ought to assist individuals realise their vocations in either the short or long-term, or in its paid or non-paid forms. Given this, it is important to understand the kinds of knowledge that needs to be learnt for individuals to identify and realise their vocation. These include the domain-specific conceptual, procedural and dispositional knowledge associated with students' selected occupations and the development of the capacities to use that knowledge effectively and strategically. Consequently, more than the canonical knowledge of the occupation, there is a need to understand how this knowledge is enacted in particular settings of the kind where students can experience practice and then go on to seek employment. Also, and as importantly, it is necessary to account for the capacities to be strategic, adaptive and to innovate. Yet, when considering the learning of this knowledge it is necessary to be aware that the construction of rich conceptual, procedural and dispositional knowledge is not the sole province of experiences provided in educational institutions. These kinds of knowledge can also be, and perhaps optimally, learnt through experiences in practice settings. Moreover, each of these two settings has its own particular attributes and, when integrated, is when the learning experiences are probably at their most effective. Yet, beyond the experiences provided and encountered in these two settings and through which individuals are invited to learn is the important role that individuals play as active and directed meaning makers. In all, to secure the educational worth of these experiences, it is proposed that there are curriculum and pedagogic practices that need to occur prior to, during and after students' engagement in practice-based learning experiences in order to maximise their contributions and integrate those experiences. Consequently, consideration is given to the contributions from practice settings and the means by which they might be best integrated into higher education programs, before, during and then after those experiences. Then, to conclude, a consideration of pedagogy, curriculum and personal epistemologies are advanced to assist this higher vocational learning.

VOCATIONS

The term 'vocation' is typically seen as having two distinct meanings. Firstly, that of an individual's occupation or the paid work that they enact. These occupations are seen to be have different kinds of worth based on societal preference for particular kinds of work, including the degree by which the work is seen to be more or less manual (Billett, 2006c). Secondly, vocations can be seen as a personal journey or trajectory, sometimes as 'a calling' or what individuals are called to do either because of its alignment with their personal disposition or preference (Hansen, 1994; Higgins, 2005). This conception of vocation can be taken quite broadly as both a trajectory and set of educational goals. For instance, "The dominant vocation of all human beings at all times is living-intellectual and moral growth". (Dewey, 1916): 310) This view of vocations emphasizes the positioning of the individual, rather than a societal sentiment, as being central of how its worth might be judged. Indeed, Dewey (1916: 307) proposed that:

> "A vocation means nothing but such direction in life activities as to render them perceptibly significant to a person, because of the consequences they accomplish, and are also useful to his [sic] associates. … Occupation is a concrete term for continuity. It includes the development of artistic capacity of any kind, of special scientific ability, of effective citizenship, as well as professional and business occupations, to say nothing of mechanical labor or engagement in gainful pursuits."

In this way, Dewey makes a distinction between the way the world labels occupations and their significance to individuals. He suggests: "We must avoid not only limitation of conception of vocations to the occupations, where immediately tangible commodities are produced, but also the notion that vocations are distributed in an exclusive way, one and only one to each person." (Dewey 1916: 307) Therefore, rather than individuals only being identified in terms of their paid work, he proposes that individuals likely have a range of vocations which are important to their sense of self and engaging to them. However, within this definition, the worth of vocations is aligned to purposes that have social dimensions, valued and standing , which likely have also furnish the needs of individuals in particular ways. For instance, although across the general community, the occupation of coal-mining may not be highly esteemed, yet in a coal mining community, it has potency, even more so when an individual is seen as very competent miner. Indeed, later, Dewey proposed a vocation is any purposeful and continuous activity that involves a service to others and also engages personal powers in a way that fostered growth of the individual (Dewey, 1933): 350-360). Given this, vocations are held to be both personally-purposive and socially-aligned practices. Indeed, the "opposite of vocation is not leisure or cultural activity, but activity that is capricious and involves parasitic dependence on others, rather than cumulative achievement in experience for the individual" (Quicke, 1999) : 132). In this way, a central concept for a vocation is that it is of worth to both individual and the community. Yet, within all this, the positioning of individual as both practitioner and learner is important. A key difference between what constitutes paid work as employment or a vocation is the degree by which individuals identify with that activity. Martin (2001) suggests that "vocations are the work we choose to do as distinct from the job we have to do" (257).

Similarly, Hansen (Hansen, 1994) : 263-64) states that:

> … being a teacher, a minister, a doctor, or a parent would *not* be vocational if the individual kept the practice at arm's length, divorced from his or her sense of identity, treating it in effect as one among many indistinguishable occupations. In such a case, the person would be merely an occupant of a role. This is not to say the person would conceive the activity as meaningless. He or she might regard it as strictly a job, as a necessity one has to accept, perhaps in order to secure the time or resources to do something else. Thus, in addition to being of social value, an activity must yield a sense of personal fulfilment in its own right in order to be a vocation.

Consequently, assisting individuals to initially engage in and then further develop their vocational capacities needs to account for more than just the learning of the kinds of understandings and procedures required to enact that practice. Instead, it also needs to be aligned with individuals' purposes and interests. Such educational goals are likely to be even more essential given the construction of knowledge, particularly the kinds of demanding knowledge required for complex occupations, such as those practised by the professions. Beyond cognitive and procedural capacities, the processes of learning and practising this occupation, requires individual agency, engagement and intentionality. None of these are likely to be forthcoming in ways that are instrumental for this learning unless individuals find meaning in the occupation that they are learning.

Therefore, anything that passes as education needs to be vocational: addressing individuals' needs and trajectories. That is, all education should be vocational, in so far as it seeks to assist individuals realise their vocations in either the short or long-term, or in their paid on non-paid forms. Moreover, given the importance of learner engagement, there is a need to, the imperatives for curriculum and pedagogy need to focussed on meeting the needs of the learner, not just the vocation.

VOCATIONS AND EDUCATION

Dewey (1916) proposes two purposes for education for vocations. These are to assist individuals: (i) identify to what occupations they are suited, and (ii) develop the capacity to realise their vocations. Perhaps, given the constant change in the requirements for work, there is now a need for a third purpose: to assist individuals maintain competence across working lives to sustain and advance their vocations (Billett, 2006c). Likely, most of the focus on occupational development is associated with the second of these goals: the initial preparation for an occupation. Yet, there is also growing interest in the need to maintain competence throughout working life, with governments and employers (Organisation of Economic Cooperation and Development, 2000), as well as workers themselves (Billett & Pavolva, 2005), being concerned that they have the capacities to meet new occupational challenges and resist redundancy in their working knowledge (i.e. the lifelong learning agenda)(Field, 2000).

The key focus in this paper is on the second of Dewey's concerns: assisting individuals develop the capacities to realise their vocation (i.e. be effective in their preferred occupation). This includes understanding the goals for occupational preparation and how best can integration all experiences in academic and practice settings contribute to generating occupational expertise.

Through two decades of focused research on what constitutes expert performance, largely within cognitive psychology, but not restricted to it, there has been developed an understanding of the kinds of knowledge required for effective occupational practice. From this body of research, effective occupational performance relies upon three kinds of knowledge. These are:

- Domain-specific conceptual knowledge – 'knowing that' (Ryle, 1949) (i.e. concepts, facts, propositions – surface to deep) (e.g. (Glaser, 1989)
- Domain-specific procedural knowledge – 'knowing how' (Ryle 1949) (i.e.– specific to strategic procedures) (e.g. (Anderson, 1993)
- Dispositional knowledge - 'knowing for' (i.e. - values, attitudes) related to both canonical and instances of practice (e.g. (Perkins, Jay, & Tishman, 1993), includes criticality (e.g. (Mezirow, 1981)

Certainly, in order to become effective as a practitioner there is a need to develop the domain-specific procedural, conceptual (Glaser, 1984) and dispositional (Perkins et al., 1993) capacities required for the occupational practice. That is, procedures, concepts and values required to be a doctor, hairdresser, plumber, vacuum-cleaning sales person, lighthouse keeper). In addition, That is, the particular set of concepts, procedures and dispositions that are required for effective practice: that is the requirements of the particular circumstances in which doctoring, hairdressing, plumbing, plumbing, vacuum-cleaning and lighthouse keeping (Billett, 2001b).

Conceptual or declarative knowledge comprises concepts, fact, propositions and richly interlinked associations among these. This form of knowledge can be spoken about and written down, hence is sometimes termed 'declarative'(Anderson, 1982; Glaser, 1984). Much of this knowledge can be represented in books, texts and other forms of media or artefacts. The progression of the complexity for conceptual development tends to move from understanding basic factual knowledge through to propositions and associations between conceptual knowledge. Deep conceptual knowledge is usually associated with understanding the relations between sets of concepts and propositions, of this kind (Groen & Patel, 1988).

Procedural knowledge, on the other hand, it is the knowledge that we used to do things, yet cannot be declared or represented in this way(Anderson, 1982; Shuell, 1990). It is required to be engaged with and practised in order for its development to occur. In general, the progression from specific procedures through to strategic knowledge is seen as a process of rehearsing specific procedures in ways that remove the need for conscious memory to be enacted in their deployment, permitting that conscious memory to focus on more strategic issues (Anderson, 1982). This development, at all levels, likely arises from the opportunity to participate in a range of activities and interludes associated with the particular domain of activity for which the procedures are being developed. At one level, it is the rehearsal of specific procedures in order to permit them to be undertaken without conscious thought. At another level the repertoire of experiences which individuals can access and understand, leads to rich associations.

Dispositional knowledge comprises, interests and beliefs, which not only energise the use and development of concepts and procedures (Perkins et al., 1993), they also shape the direction, intensity and degree of their enactment (Billett, 2008b).

Dispositions are likely developed through individuals beliefs and are negotiated through their encounter with particular experiences.

The importance here is of finding ways in which conceptual, procedural and dispositional development can allow individuals to realise their vocation: their selected occupation. These three forms of knowledge are richly interconnected and interdependent. However, the effectiveness of this interdependence usually arises through episodes of practice in which these forms of knowledge are brought together when enacting work activities (Billett, 2001c). This process provides bases for understanding the particular set of circumstances for goal is to be achieved and procedures advanced. It is through all this is that certainty about performance is developed, procedures automated and dispositions tested. Moreover, as noted, each occupation requires particular kinds of concepts, propositions, norms and procedures, sets of values and organising ideas that constitute its canonical knowledge. This is the kind of knowledge which is often attempted to be stated as occupational standards and captured as statements for performance and curriculum content and outcomes. Yet, while this canonical occupational knowledge is important and needs to be learnt, occupational performance is shaped by situational factors. There is no such thing as an occupational expert per se, only in the circumstances where that practice is enacted is it possible to make judgements about the efficacy and elegance or otherwise of that practice. So, not only does expertise take time and extensive repertoires of experience to develop and hone (Anderson, 1982), but it is shaped through particular episodes of experiences, that comprise situated instances of practice. However, and importantly, this occupational knowledge is more than techne - technical capacity, it is far broader and more encompassing than that. Even when taking a narrow view of vocational expertise, "there is also the need to: generate and evaluate skilled performance as technical tasks become complex and as situations and processes change, reason and solve technical problems, be strategic, innovate and adapt (Stevenson, 1994), :9). Moreover, beyond all this, professionals also need critical insights and to be reflexive in how they apply what they know, as requirements will change and they have to decide amongst possible options.

Importantly, Dewey's ideas should not be taken to mean a highly with reproductive model of education or one that is just responsive to the needs of powerful interests. Rather, his key concern was that vocational education should not be beholding to powerful industrial interests, nor be so specific as to be highly reproductive. Certainly, he did not advocate an educational provision beholding to industry or industrial interests, or even specific vocational preparation, but a preparation of a more non-specific kind.

> The kind of vocational education in which I am interested is not one which will adapt workers to existing industrial regime; I'm not sufficiently in love with that regime for that. It seems to me that the business of all who would not be educational timeservers is to resist every move in this direction, and strive for a kind of vocational education which will first alter the existing industrial society, and ultimately transform it. (Dewey, 1916:42)

That is, it is the kinds of experiences students have and what they do with them that likely lead to the development of a foundation for thinking strategically and critically about their selected occupation and its practices. Hence, these need to be accentuated in all forms of vocational education. Also, given the changing nature of work, the

critical skills are required for most forms of contemporary occupations and, in particular, those that are nominated as professions. That is, there is a need for criticality in order to appraise changes in occupational requirements, technologies and practices in order to understand their worth and applicability, and for what purposes (Lakes R D, 1994). Yet, it is overly presumptuous to believe that this criticality is something which only educators and educational institutions can impart. Clearly, critical insights arise through experiences outside of educational institutions and processes. Nevertheless, some will say this kind of development is insufficient because they are not presented within a socially-critical framework. However, this kind of critically, has its own limits as well as strengths, and the need for seeking contradictions will not always be the key imperative or priority.

Certainly, in all, there is a need to explicitly provide critical and strategic insights and prepare students to use these insights. But, beyond what educators intent and enact, learners likely to be necessarily engaged in critical thinking as they are faced with problematic and critical circumstances such as applying what they have learned through participation educational programmes into practices and settings which are quite distinct from those in which they have learnt about them. Developing and guiding the exercise of personal epistemologies, becomes an important educational priority as other have long argued, albeit in different forms (Brookfield, 1997; Marsick, 1988; Mezirow, 1985; Simon R I, Dippo D, & Schenke A, 1991) Indeed, learners actively remake the socially-derived cultural practices in which they engage (e.g.(Giddens, 1991), (Leontyev, 1981). However, a key role for educators is to guide this criticality so that it is directed in a productive ways rather than leading to disillusionment from confronting or uneasy experiences in work places, for instance.

ORIENTATIONS FOR INTEGRATING PRACTICE EXPERIENCES INTO THE CURRICULUM

Before discussing how experiences in practice settings might be utilised and integrated into the overall curriculum that is experienced by learners, it is worthwhile rehearsing some assumptions about learning and curriculum. These are the kinds of premises for how what is discussed below progresses, and is supported.

Firstly, learning is an ongoing process that occurs continually and across all kinds of activities in a range of settings. The ongoing processes of thinking, acting and learning co-occur simultaneously; they are not separate. Secondly, there is a cognitive legacy arising from our activities and interactions or as (Rogoff & Lave, 1984) remind us; activity structures cognition. Thirdly, experiences in educational institutions are not pedagogically privileged. The development of robust knowledge (i.e. transferable) arises as much through experiences in practice, as it does through 'schooling' (Raizen, 1991; Scribner, 1984). Instead, it is the quality of what is experienced (i.e. activities and interactions) and how those experiences are engaged with by learners that is important (Billett, 2001c). Fourthly, both practice and academic settings provide particular kinds of experiences, and potential contributions to students' learning. Each of these settings affords particular potentials for the learning of occupational practice. Therefore, we need to understand how best to organise, sequence, and engage learners in each setting and find ways to productively integrate experiences across them. Fifthly, individuals' taking up of those experiences (i.e. their construal and construction) will not be uniform as these processes are premised upon what they

know and have previously experienced. Hence, their engagement and learning is person-dependant by degree. Consequently, it is important to consider both the provision of experiences and individuals taking up of those experiences.

So, a consideration of curriculum is more than what educational institutions and work settings intend to occur (i.e. intents) or as something enacted by teachers and practitioners, and through educational settings. Ultimately, curriculum is something experienced by learners. Hence, it is important to be reminded that educational provisions are nothing more or less than an invitation to change. One way to conceptualise these processes is through consideration of affordances and engagements (Billett, 2001a). *Affordances* comprise the invitational qualities of the experience (i.e. degree by which students are invited and supported in their learning) in both academic and practice settings. This includes the experiences that are provided for them, the kind of support they receive, access to activities and guidance from more experienced and expert practitioners. However, affordances can be negative as well as positive. That is, the lack of an invitation to participate and engage in activities is often a feature of contested workplaces (Bernhardt, Morris, Handcock, & Scott, 1998). Equally, some students identify educational institutions as being uninviting and not affording them the kinds of opportunities that they require to access and learn occupational concepts, practices and dispositions (Bowles & Gintis, 1976; Lehmann, 2007).

Engagement refers to how students engage with and learn through what they are afforded (Billett, 2006b). That is, how they take up that invitation. Given that individuals are meaning-makers and that the quality and kind of their learning is mediated by how they elect to participate in workplace activities and interactions, learner engagement becomes very important. So, even the most invitational of learning circumstances might be construed by an individual is being un-invitational (Bernhardt et al., 1998), uninteresting or not worthy of their interest (Cho & Apple, 1998) and effort (Hodges, 1998). Alternatively, an environment which might be seen to be un-inviting, can be rendered an effective learning environment by the actions of agentic learners (Billett, McCann, & Scott, 1998). Moreover, the kinds of knowledge that individuals have, their access to discourses, their preferences and skills will shape how they will engage with activities and interactions in both settings (Billett, 2008b). Hence, the learning that derives from students' participation in any given activity is not just dependent upon the affordances of educational institution or workplace, but how individuals they elect to engage with what is afforded them in both education and practice settings. Consequently, considerations for organising effective learning experiences needs to extend to not only what they mean to students (i.e. worthwhile and worth engaging with), but also for learners to be active in maximising what is afforded them. This includes their negotiation of circumstances of low affordances. All this leads to the question: What combinations of affordances and engagement are most likely to secure robust and critical professional knowledge? In addressing this question, this paper largely focuses on the contributions of experiences in practice settings and how these might be integrated.

CONTRIBUTIONS FROM PRACTICE SETTINGS

It follows from the previous section that it is necessary to consider how experiences in practice settings can assist higher education students to: (a) understand their selected occupation, and (b) develop the capacities to practice effectively and enjoy smooth transitions to practice. The first of these is briefly dealt with here and a slightly greater consideration is given to the second.

1. Identify to what occupations individuals are suited

As noted above, Dewey (1916) argued that it was important to find out what occupations suited particular individuals. To do otherwise risk the danger of individuals being engaged in work to which they had little interest or bases for becoming the application. Indeed, identifying what occupations suit individuals was advanced as a key goal for vocational education. Dewey proposed that:

> "An occupation is the only thing that balances the distinctive capacity of an individual with his [sic] social services. To find out what one is fitted to do and to secure an opportunity to do it is the key to happiness. Nothing is more tragic than failure to discover one's true business in life or to find that one has drifted or been forced by circumstances into an uncongenial calling." (Dewey 1916:308)

Dewey used the examples of galley slaves, who were coerced into work which was not their calling. Yet, a more common risk in contemporary times is that individuals will elect to engage in a particular occupation because others (e.g. parents, friends) think they should. The expectation that those securing a high university entrance score would automatically enrol in courses preparing students for prestigious occupations such as medicine, is not so far away.

One particular way in which practice-based experiences can assist here is to provide opportunities to trial and experience occupations. This can offer individuals opportunities to understand whether or not or parts of an occupation are suited to their individuals' needs. In one recent project, high school students referred to not knowing whether they would actually like their selected occupation until they were in the third year of their degree programmes (Billett & Ovens, 2007). Year 12 students wisely, commented that by then they would have expended a lot of time and committed significant financial resources to this occupation, yet without knowing whether it suited them. This raises the issue of at what point in students' development should they be able to access their preferred occupation. For instance, although many individuals are attracted to particular occupations because of its profile or its apparent suitedness to their gender, these choices might be ill-made. For instance, we know that many young women select hairdressing as a gendered choice, yet find it an unsuitable occupation once they have engaged in or even completed their apprenticeships in it. Moreover, as somebody who used to teach in fashion studies, I was constantly engaging with students (usually young women) who had very idealistic and unrealistic conceptions of what working in the fashion industry comprised.

2. Developing these capacities through effective occupational practice

Beyond identifying to what occupations individuals are suited, experiences in practice settings (e.g. workplaces) provide access to activities through which the kinds of knowledge that they need to learn and that learning can be is structured, organised and refined. A programme of research which examined learning through work by workers from a range of different kinds of occupations (Billett 2001) concluded that some of the key strengths of learning through workplace experiences were as follows: (a) access to authentic work activities (i.e. authentic activities, novel and routine); (b) observation and listening – cues and clues) (indirect guidance); (c) access to more experienced co-workers (direct guidance – development of heuristics) and (d) practice – opportunities to reinforce refine and hone. These contributions to learning were subsequently verified as being quite common across a range of different industries by workers engaged in a range of different kinds of work and with quite different knowledge requirements. That is, participation in everyday work activities furnishes a range of contributions that can support individuals' learning. Nevertheless, there were also identified a series of limitations to learning through practice. These comprise: (a) learning bad habits and dangerous or inappropriate shortcuts; (b) the lack of opportunity to practice or extend; (c) lack of support and guidance; (d) undertaking tasks but not understanding what or why (i.e. the failure to develop understanding); (e) experiences that constrained individuals' learning because of a lack of support; and (f) experiences that were personally or professionally confronting and which inhibited the development of positive occupational identity.

These contributions to and limitations of learning from work will be manifested in different ways across different occupations and workplace settings. For instance, in a current study, while all student nurses understand and appreciate the importance of clinical experiences to assist their development, and would likely concur with the list of positive contributions above, in different ways, they also experience some of these limitations (Newton et al 2007). For some, the preceptor (i.e. mentoring) and more experienced nurses with which they work helpful in assisting their work and learning. However, this is not always the case.

Therefore, it follows that when considering integrating experiences in practice settings, it is important that we seek to utilise the productive contributions and seek to redress or attempt to limit those that potentially can lead to unhelpful or insufficient learning. In short, we as educators need to work to maximise the contributions of practice settings while addressing these limitations.

INTEGRATING PRACTICE-BASED EXPERIENCES

Therefore, it is important to advance approach is to effectively integrate practice-based experiences within the curriculum and pedagogic practices of higher education. A helpful starting point is to acknowledge that both kinds of settings make particular contributions to students' learning (Billett, 2007b). The academic setting can provide access to a range of conceptual bases, premises for procedures and access to norms associated with a particular occupation. Moreover, the academic setting can provide experiences in which to reflect upon this knowledge, and what is experienced in other settings, such as those were practice is conducted. The practice setting, as noted, provides a range of experiences which are situationally-authentic in terms of the

exercise of the particular occupation. These experiences provide access to a range of contributions that are richly informative in terms of conceptual, procedural and dispositional development. It follows that a key consideration for integrating practice-based experiences in the overall curriculum within higher education is to utilise their key contributions and, if possible, redress or prepare students for the potential limiting experiences that they might encounter (Billett, 2007a).

Yet, just before considering how we might proceed in these ways, it is timely here to consider the central role of students as learners in this entire process. We need to remember that it is students who participate in, negotiate and learn practices in and across both settings. They are the meaning makers. As foreshadowed, the process of learning is ongoing and ubiquitous, yet the shaped not only by what students encounter in educational institutions and practice settings, but also how these students engage with what is afforded them, and learn from those experiences. Active engagement and learning on the part of university students is a pre-requisite for most higher order learning of the kind required for university level studies. Moreover, these qualities are required for effective occupational practice, and not only for the top-end professionals (e.g. law and medicine). Indeed, the expectation for those whose occupation carries the moniker of 'professions' is for practitioners to be self-directed in the learning to maintain the currency of the professional practice. The point here is that, the very qualities required to be an effective student in higher education -- a proactive and agentic learner -- are those required for effective professional practice. In essence, the agentic qualities of learners are essential for effective professional practice and rich learning. Consequently, more than attempting to organise experiences for students in educational institutions and workplace settings, there is a need to focus on preparing students as agentic learners, as part of their initial professional preparation.

In the following section, consideration is given to the effective integration of students' experiences in both academic and practice settings. These considerations are presented in overview and organised under three headings: those associated with what should happen: before, during and after practice-based experiences. These considerations are drawn tentatively from previous work and initial findings of a project which seeks to integrate student learning experiences across the disciplines of human services, physiotherapy, nursing and midwifery (Billett 2008).

In overview, these are as follows.

Prior to the practice experience

- Establish *bases for experiences* in practice setting, including developing or identifying capacities in practice settings (i.e. practice based curriculum, interactions)
- *Clarify expectations* about purposes, support, responsibilities etc (i.e. goals for learning)
- Informing about purposes, roles and expectations of different parties (e.g. advance organisers)
- Preparing students as agentic learners (i.e. developing their personal epistemologies) - the importance of observations, interactions and activities through which they learn
- Prepare students for contestations

During

- − *Direct guidance* by more experienced practitioners (i.e. proximal guidance)
- − *Sequencing and combinations of activities* (i.e. 'learning curriculum', practice based curriculum)
- − Identifying and utilising *pedagogically rich work activities or interactions* (e.g. handovers)
- − Promote effective *peer interactions* (i.e. collaborative learning)
- − Active and purposeful engagement by learners in workplace settings

After

- − Sharing and drawing out experiences (i.e. articulating, and comparing - commonalities and distinctiveness e.g. canonical and situational requirements for practice)
- − Making links to what is taught (learnt) in the academy
- − Emphasising the agentic and selective qualities of learning through practice (i.e. personal epistemologies)
- − Generating critical perspectives on work and learning processes

These curriculum and pedagogic activities are presented as tentative, and likely manifested in different ways across different programs (e.g. those with shorter or longer durations of practicum experiences), and will be more applicable to some occupational practices than others. From these, and considerations associated with the integration of experiences for higher educational purposes, the following renderings for pedagogy, curriculum and personal epistemologies are worth previewing.

PEDAGOGY, CURRICULUM AND PERSONAL EPISTEMOLOGIES

In order to realise the educational worth of integrating practice experiences within higher education provisions there is a need to:

- − identify and acknowledge the pedagogic potential of practice experiences, and identify how these can engaged and integrated within higher education curriculum to maximise learning experiences.

- − include within curriculum considerations for higher education about how best to prepare for, position, sequence and identify the most appropriate duration of practice experiences, and consider support for learning from those practice experiences.

- − identify what kinds of experiences might best develop, sustain and utilise students' personal epistemologies, including their critical engagement and reflection.

In all, a re-conceptualisation of the worth and appropriateness of practice-based experiences is required for them to be understood more fully, legitimised and dignified through a clearly articulated and validated set of pedagogic, curriculum and epistemological bases. It is these than that can be planned for enacted and experienced in realising the educational potential of practice-based experiences. From these bases,

it might be possible to fully integrate them within the totality of higher education experiences that aim to be generative of developing robust and critical occupational knowledge.

REALISING THE EDUCATIONAL WORTH OF INTEGRATING WORK EXPERIENCES IN HIGHER EDUCATION

In conclusion, here it has been proposed that 'smooth' transitions to effective professional practice will most likely be enacted by graduates who are informed, prepared and have capacities for professional practice, including critical insights and personal agency. This includes preparing students to be proactive learners, capable of exercising critical, but productive agentic learning. Moreover, the generation of these capacities likely arises through including and integrating episodes of practice-based experiences within the totality of higher education curriculum. In order to realise these kinds of experiences and that potential benefits, mature relations between academics and practitioners, and academic institutions and practice-settings are likely to be helpful. However, these are difficult to generate and sustain in realising realise these transitions, given the different imperatives of educational and practice-based settings, and tensions that can arise between distinct goals and priorities. Nevertheless, were these arrangements stand to be the most effective is when they are supported by mature relationships between institutions focused on educational and practice, and between/among practitioners from education and occupations. Importantly, practice based experiences should not be seen as being opportune, or as a side issue, but brought centre stage within educational provisions. The key challenges for us as higher educators is to overcome existing orthodoxies that embrace notions of learning through practice, support and acknowledge the legitimacy of learning through practice, and understand that effective curriculum and pedagogy are constructed differently in practice settings, and those in educational settings, albeit shaped by consonant concepts.

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Work Integrated Learning Quality Partnerships: The case of the Central University of Technology, Free State

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All ideas expressed in this paper are those of authors and in no way reflect the position of any institution whatsoever.

Whilst the South African Higher Education (HE) sector is faced with the challenge to articulate its role and place in society, secure national support, promote confident evidence-based intellectual scrutiny and locate itself in the change processes under way in South Africa, Africa and the world, its transformation has to impact on teaching and learning and research to realise the promise of transformation in HE and the education system as a whole (Pandor, 2004). This necessitates building quality partnerships between the HE sector and key stakeholders in education from civil society and the private sector; characterised by conceptions of quality in HE, namely: excellence/exceptional, perfection/consistency, fitness for purpose, value for money and transformation (Harvey & Green, 1993). Equally important is the need for the sector to anticipate the needs and challenges facing the country's economic growth and development; focusing on human resources development and steering knowledge towards global competitiveness.

Building partnerships is not a new phenomenon in HE and relevant literature indicates that this is an international cutting edge practice although the genuineness of most partnerships is debatable. The paper intends recognising the emergent quality partnerships that exist between the Central University of Technology, Free State (CUT) and industry for purposes of Work Integrated Leaning (WIL). This is done by outlining how each partnership started, its purpose and objectives, activities towards realising the objectives, achievements and the meaning of achievements in terms of quality in HE; how the practical relevance and value of the WIL partnerships broadly give the CUT an edge as a valued HE institution in the region. In addition, the paper sets out levels of institutional involvement through WIL partnerships as partners support one another's processes of value and engage in structured WIL activities with clearly defined outcomes.

INTRODUCTION

Partnerships proceed from the idea that participants are members of common community that they seek to improve for the sake of their own and each other's benefit (Torres and Schaffer, 2000). The WIL partnerships are formed between diverse institutions in order to address a neighbourhood problem or network of problems that no one institution can solve on its own (Torres and Schaffer, 2000). All WIL partnerships between the CUT and industry are arranged such that there is minimum risk to students, employers and the CUT; yet there are mutual benefits to all involved.

As Jacobs puts it in Co-operative Education Session (2005), students have both academic and career benefits; they learn to effectively apply their academic knowledge, solve real world problems, adapt to the workplace environment and in turn persist to complete their studies. Career benefits include work experience, career clarification, self-confidence, decision-making, acquisition of attributes that ensure success at work and enhanced employability. On the other hand, employers have access to 'skilled' workforce, WIL is a recruitment tool and it contributes to human resources development, students are affordable and their structured activities enhance production. Quality WIL partnerships have direct and positive impact on the graduates produced by the CUT and enhances its throughput since WIL is a compulsory component of the formal instructional programmes. The credibility of the quality partnerships is seen as the extent to which they sharpen the 'fit for purpose' between the needs and demands of the communities and the graduates produced by the CUT.

Newly created universities of technology are referred to as 'universities of the real world' since they find mechanisms of drawing employers to provide real world problems which students can solve for the duration of the WIL, their key strength (Du Pré, 2005). From both national and international surveys on employment needs of employers, factors such as self-confidence, ability to increase shareholder value, ability to work in a team and technology literacy come out as priorities for suitable employees. These factors should form the basis of career-focused education of the universities of technology.

Background

In response to the South African Society for Co-operation Education's (SASCE) call for WIL quality partnerships papers, the authors conducted a 'snapshot' study of emergent WIL quality partnership that exist between the CUT and industry in the Free State and beyond. The study was inspired by the significant role that HE institutions can play in the economic growth and development of their local and regional communities while interacting with communities; giving access to people who would otherwise not have the opportunity to access institutions of higher learning.

Problem statement

The problem is that although various relationships exist between the CUT and industry stakeholders, their nature and value needs to be defined in terms of purpose and objectives, activities towards realising the objectives, achievements and the meaning of achievements in terms of quality in HE. This paper determines whether the CUT really has such partnerships for purposed of WIL and their value to both partners and the region. To clarify the significance of the role WIL quality partnerships at the CUT plays to the Free State communities and beyond, the following questions may be put forth:

 1. Does the CUT have quality partnerships with Free State industry stakeholders?
 2. What is the nature of these partnerships?
 3. What does the CUT and its community benefit from these partnerships?

LITERATURE REVIEW

Theoretical Framework

As evidence of its commitment to develop the country's human resources to enhance socio-economic development, the South African government came up with the Human Resources Development Strategy (HRDS) and the National Skills Development Strategy (NSDS). The WIL practice at THE CUT is informed by the workforce development approach; established to support mainly the two government strategies and the National Policy on Higher Education (NPHE); the latter clarifies the role of HE institutions and requires new but innovative approach to human resources development, both efficient and effective (Koorts, 2002). Informed by these national initiatives, WIL practitioners at the CUT take a more global, coherent and total approach in establishing mechanisms of increasing student intake by industry through WIL activities that provide opportunities for students to solve real world problems.

Gibson *et al* (2004) argue that the fundamental concept of learning in the workplace is not new but agree that historical models were relatively un-structured; recent approaches have been more structured within a defined learning framework. These clearly combine and integrate learning and its workplace application (Academic Board/Board of Technical Studies, 2005). In structuring WIL activities, practitioners have to be aware of economic growth and development outcome indicators (priority areas), output indicators (strategy) and performance measures (projects/programmes) in the communities to anticipated and ensure alignment between the needs and challenges of the communities that can be solved through student activities and at the same time fulfil the academic requirements of their study programmes.

As part of the global economy, most South African citizens are not adequately equipped with skills needed for economic and employment growth and social development so as to improve productivity and their competitiveness in industry, business, commerce and services; largely due to the legacy of apartheid. The sustainable development of the South African economy is dependent upon a highly "skilled" and not "qualified" people; the increasing reliance on technology in a knowledge or information-based economy makes it imperative that undergraduates obtain the knowledge, skills and competencies required to live productive, economically self-sufficient and civically responsible lives (Department of Labour, 2003). There is a need to develop graduates who can contribute effectively as citizens, leaders in the wider community and competent professionals within their chosen disciplines (Queensland University of Technology (QUT), 2003).

Definition of Operational Concepts

Quality:
Harvey and Green (1993) define conceptions of quality in HE as:

> a. Excellence/exceptional
> b. Perfection/consistency
> c. Fitness for purpose
> d. Value for money
> e. Transformation

WIL:

WIL refers to an educational activity that combines and integrates learning and its workplace application, regardless of whether this integration occurs in industry or in the university and whether is real or simulated (Academic Board/Board of Technical Studies, 2005).

According this definition, WIL is an umbrella term used to describe all Vocational Education and Training and Higher Education educational activities that combine and integrate learning and its application as part of an enrolled programme of study. Although WIL covers a wide spectrum of learning activities in the workplace, this paper focuses only on Experiential Learning and Community Service Learning, being the two relevant to the CUT.

Partnership:

a. concise Oxford English Dictionary (2004) defines a partnership as an association of two or more people as partner.
b. www.partnershipresourcecenter.org/resources/partnership-guide/appendix-b.html defines partnership as a voluntary, mutually beneficial arrangement entered into for the purpose of accomplishing mutually agreed upon objective(s). Specific legislative authority must exist to form partnerships where the parties anticipate exchanging funds, property, or other items having value.
c. cooperative relationship between people or groups who agree to share responsibility for achieving some specific goal (http://www.google.com/).

The definitions of partnership recognise all parties to the arrangement as partners, point at some form of agreement or arrangement of mutual benefit and legislative authority to form the basis of sharing items of value.

Related Literature

The ten years of democracy in South Africa were marked by outbreaks of angry and sometimes violent protest against poor service delivery in the Free State and other parts of the country. McCarthy *et al* (2005) attribute the 'missing links' in development strategy in South Africa to lack of genuine trust between the public and private sectors, a collaborative mind-set; whilst some aspects of the outbreaks unquestionably point to municipal delivery. Meanwhile there is evidence of government's effort to build partnerships with civil society and the private sector to set the tone and pace for co-ordinated growth and development and to ensure integrated planning and implementation of government strategies (Free State Growth and Development Strategy (FS PGDS), 2005).

On the other hand, Freeland (2004) documents longstanding suspicions between universities and communities, thus impeding constructive collaboration; universities merely co-existing with the communities while communities always looking for what they can get out of universities. Furthermore, Fry (2006) agrees with Freeland (2004) as they challenge colleges and universities to lead the revitalisation processes of their neighbourhoods and surrounding communities by contributing time, energy and intellectual capital to build these partnerships; as a need and moral imperative. They argue that revitalised cities would attract more business, most talented students,

faculty and staff. Such relationship necessitates genuine, strong and sustainable partnerships between institutions and these communities; these would definitely facilitate the placement of students for WIL and improve the relevance of institutions' response to economic growth and development of the regions.

> "Genuine democratic partnerships value the bonds that form between people, and acknowledge that the building of strong communities happens through networks of individual relationships that deepen with time and experiences shared. Strong collaborative relationships are intentional and are characterised by the following: trust and mutual respect; equal voice; shared responsibilities; risks and rewards; forums to support frequent and open communication; clear lines of accountability; shared vision; and mutual interest" (Torres and Schaffer, 2000).

Literature clearly indicates that partnering is the way to go for universities. While such partnerships have always existed between universities and communities, trust and support between the partners should be based on the extent to which each partner's contribution gives an edge as valued partner needs attention. The same consideration should be taken when negotiating WIL partnerships of quality between institutions and industry.

CASE PRESENTATION AND DISCUSSION

In the following section, case evidence is presented and discussed in terms of how each partnership started, its purpose and objectives, activities towards realising the objectives, achievements and the meaning of achievements in terms of quality in HE.

Contribution to the economic growth and development of the Free State and beyond

The partnership started with the drawing of the Free State Provincial Growth and Development Strategy (FS PGDS); representing the culmination of sessions between government, private sector and civil society. All stakeholders were invited to assist the provincial government to align the province's policies with the national policies, to guide development in terms of effective management and governance to achieve growth and development; linking the implementation of the strategy to a monitoring system related to key performance indicators (FS PGDS, 2005). The stakeholders included organised business, organised labour, organised youth and organised community structure in the province (FS PGDS, 2005).

The strategy defines the priority areas that should form the bases and broad guidelines for the future development of the province (FS PGDS, 2005). Higher education sector has a mandate to steer knowledge and produce graduates that can contribute to this development as citizens while able to compete as professionals in the various sectors of the economy. For the CUT to play a role in identifying the priorities is an opportunity to anticipate the needs of the labour market and thus create among others WIL activities that will be of value to employers to encourage them to host students.

The purpose of the activity was to conceptualise the Free State Development Plan and lessons learned from it, propose the framework towards the PGDS, set critical success factors and set the process in motion through a sector group methodology (Van Rensburg, 2004). Developmental agenda (focus area), profile realities, the interim Integrated Development Plans (IDP) of municipalities and the priority areas were

determined through consultative sessions with all stakeholders. The PGDS document sets common direction and guidelines to guide activities in the province, enhances alignment of activities, promotes integrated development planning and is a tool for monitoring and evaluation of processes in provincial departments.

Being part of the drawing of such a document clarifies both outcome and output indicators as well as performance measures for the province; provides information on priority areas, government strategy and programme/projects throughout the province. Aligned to that are all provincial budgets, making it possible to source programmes/projects for which money has been allocated (Van Rensburg, 2004). Such information is very important to creating mechanisms to increase student intake for WIL, identify real world problems that can be solved by students through WIL as well as the quality of the activities assigned to student during WIL; considering that they would have to be structured such that the activities assigned to students fulfil the academic requirements of their programmes of study while enhancing employers' performance.

To address the human resources challenges facing the priority areas of intervention, namely: economic development and employment creation, social and human development, justice and crime prevention and efficient administration and good governance, the CUT responds by providing professionals with competences and commitment needed. This necessitated formal partnerships between the CUT and industry. The quality of such partnerships has had a huge impact on the refinement of 'fitness for purpose' between the professionals developed and industry needs. Through quality WIL partnerships, HE institutions can develop graduates who can contribute effectively as citizens, leaders in the wider community, and competent professionals within their chosen disciplines (QUT, 2003)

Further evidence to that, the CUT has students placed in various activities initiated towards the realisation of the objectives of the PGDS. These include services key to economic growth, for example infrastructure development, has led to the Department of Transport and Public Works (DoTPW) providing bursaries to students studying scarce skills such as eng*ineering, architecture and quantity surveying and providing them with WIL opportunities in the various provincial departments to contribute to the infrastructure development initiatives (RSA DoTPW, 2006).*

These include the Expanded Public Works Programme (EPWP) in conjunction with Construction Education and Training Authority (CETA) designed for creation of jobs and poverty alleviation; while speeding up skills development. A significant numbers of graduates and students benefited from this initiative. They got an opportunity to manage their own businesses, budgets, drive government projects and acquire relevant work experience while solving pressing community problems.

Providing solutions to real life problems

Provincial departments' budgets detail interventions in the form programmes and projects that would be funded to realise the provincial priority areas; while highlighting the human resources challenges. Some of these can be addressed through well structured WIL activities. As work placements are negotiated, roles of each stakeholder are outlined as well as the benefits from the specific partnership. In most

cases the employer host students to address a specific need such as capacity limitations, scarce skills and race and/or gender representativity for professional positions identified as critical.

One such example for the CUT is the relationship with the Provincial Department of Agriculture (DoA) where the WIL negotiations to increase student intake in the department led to assisting the department in addressing high vacancy rate of civil engineers (RSA DoA, 2005). Structured work placement learning activities assigned to students afforded them the opportunity so solve real world problems under the supervision of an academic staff member whose role is to ensure a link between academic and workplace learning experience (QUT, 2003). The following initiatives are of value to both partners:

a. Normal recruitment and selection processes were found not to be sufficient; the department arguing that graduates displayed lack of critical technical competencies during interviews. On the other hand, the CUT had students who needed WIL placements. A programme that would fulfil the academic requirements while providing the department with an opportunity to create a pool of suitable candidates as they address immediate community problems under supervision of both academic and workplace professionals was decided upon. The activity brought in the Department of Labour for blessing and financial support through the National Skills Fund; considering the competencies to be of provincial and national priority. Other stakeholders had to be identified to enhance the absorption of students who would not be utilised in the DoA on completion of the programme.

b. Another critical factor to the vacancy rate was found to be problems encountered by the department with regard to professional registration of qualified staff members, restricting them to operate under supervision regardless of their qualifications and experience. The CUT responded by identifying a registered civil engineer on its academic staff establishment to assist the department. Although this is currently fulfilling an immediate problem of the DoA, it is anticipated that it would be rolled out to equip students placed for WIL in the above mentioned programme as well as any other newly appointed professional to ensure proper professional conduct of its employees. Moreover, the department will be able to host more students in the future supervised by the same professionals that are currently being assisted to register by the institution.

c. It is anticipated that this partnership will continue to provide solutions to problematic human resources and skills development initiatives of the department; hence the decision to formalise the relationship with a memorandum of understanding with clear terms of reference currently being finalised (DoA CUT MOU draft, 2006).

Providing an alternative tool for recruitment and selection

While employers hosting students for WIL provide students with an opportunity to meet the academic requirements of their programmes of study and enhance their employability through competencies acquired, they in turn get an opportunity to observe students as they apply their academic knowledge during the workplace learning experience, make an impression of the students' abilities and conduct over the duration of the WIL period as opposed to an interview; and recruit and select

students to address scarce skills needs and improve their equity representation targets. In this way, a pool of professionals can be created for the individual employer's needs and beyond.

Moreover, students recruited through their WIL placements adapt to the environment readily, perform better from the first day of their appointment and have a better chance of understanding and supporting the employer in the endeavour to address immediate performance problems; some of which would have formed the basis of their WIL placements before they were members of the staff establishment of that organisation.

Giving communities access to academic expertise

In all the partnership examples outlined above, as employers are approached to host students for WIL, they get an opportunity to share problematic human resources areas of their organisations with WIL practitioners. In most cases these are inseparable from the possibility of the employer optimising the organisation's hosting capacity. For example, some professional bodies only recognise mentors for WIL students who are registered professionals themselves. Therefore, an employer willing and able to host WIL students may not do so if workplace professionals are not registered or registered ones are already supervising those that are not registered. In such cases bringing in WIL students would then be a burden for the employer or it would compromise the quality of the student's workplace learning experience.

Without trying to solve all world problems, the CUT's approach has been to assist the employers with minimum risk to optimise the organisations' hosting capacity. This in turn gives employers access to academic expertise and affords academic staff opportunities to keep contact with industry and contribute to the WIL students' workplace environment beyond the CUT's campuses.

Maintaining contact between the CUT staff/ students and the community it serves

While there are numerous ways of keeping contact between institutions of higher learning and industry, quality WIL partnerships between the CUT and industry have been instrumental in establishing and maintaining such contact; evident to that being the current media reports of poor municipality performance areas in the Free State. In response, the CUT approached the Provincial Department of Local Government and Housing to negotiate WIL placements with student activities that can provide application solutions to some poor performance areas of the department.

This led to a series of information and planning sessions mainly providing platforms for the department to share their challenges with the CUT and for the institution to indicate possible areas of support. For purposes of this paper, problems that can be solved through WIL are continuously being identified and WIL students have faced up to the challenges even beyond their graduation as employees, learner employees or volunteering their service. As graduates continue to have contact with the institution, they also keep the institution informed about developments and opportunities in the different departments and refer workplace staff to the institution whenever necessary.

This contact promotes self-reliance in the graduates who are aware of the changing world of work, take responsibility for their own career and personal development, and manage their ongoing relationship with work and with learning throughout their lifetime; enhancing life-long learning (CTM Standing Committee: Co-operative Education, 2000). According to the CTM Standing Committee: Co-operative Education (2000), identifying the skills that should form an integral part of the teaching process and those that should be facilitated outside the curriculum remains the challenge. Maintaining contact between the CUT staff and industry through WIL placements is an enabling setup for this distinction to be made.

Testing the cutting edge knowledge in the field

The CUT's quality partnerships with industry provide an opportunity for the CUT staff to test the cutting edge knowledge in the field, determined the labour market trends and tendencies before incorporating the knowledge into the formal instructional programmes. Thus keeping programme offerings relevant, up to date and responsive of industry needs and challenges; and enhancing students and graduates employability.

Making teaching and learning more stimulating

On the bases of this paper, one can argue that teaching and learning can be seen as part of day-to-day activities with potential solution to social problems. To the academic staff, their teaching is stimulated by its relevance and possible real word solutions in the form of structured student WIL activities that are valuable to industry and the economy. To students, the WIL activities are stimulated by being part of the solution to problems and challenges of the day; thus students immediately take responsibility and have a clear role in their communities.

CONCLUSION AND RECOMMENDATIONS

From the discussions above, it is apparent that issues of quality partnerships between HE institutions present challenges for the nature of existing partnerships and necessitates robust debates on building trust and support to each partner. Evidently, this can only happen if the relationship is base on genuine trust and platforms for discussions and decision-making are clearly defined. However, it is important to note that WIL partnerships can play a vital role in enhancing contact between the universities and their communities and that they have direct and positive impact on citizenship, commitment of professionals and enhancement of life long learning. This encourages students to start to have an impact on the community while still studying, thus declaring a clear professional role and space.

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Putting WIL on the (round) table: Developing policy and practice at UTAS

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Teaching in universities can be a solitary pursuit, with academics designing and delivering learning and teaching experiences, and even units, in relative isolation. Even course design can involve only a small, discipline-specific team who draw on expertise that rarely extends to colleagues outside their specialisation. The challenges and possibilities provided by introduction of work integrated learning to universities offer an unprecedented opportunity to share knowledge and experience across disciplines to enhance student learning. At University of Tasmania (UTAS) a roundtable was convened to allow staff from across the institution to share successes, challenges and resources and then to make recommendations to address identified issues.

There are a number of different models of work integrated learning operating at UTAS. These include internships, work placements, contribution of industry or clinical professionals to coursework delivery and joint projects with industry partners and state government. Interestingly, despite the unique status of UTAS as the single University in the state of Tasmania, many of the identified issues mirrored those found elsewhere in Australia. Finding quality placements and being able to support students on placements, particularly when these were overseas emerged as key concerns. There was also much discussion around integrating learning for students and ensuring consistency of assessment of students on placements. The participants at the roundtable supported a collaborative institution-wide approach to these issues and have proposed a number of initiatives to promote this.

Keywords: Internship, Partnership, Professional Experience, Work placement, Work Integrated Learning

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INTRODUCTION

Work Integrated Learning (WIL) encompasses a range of activities and experiences that draw together formal coursework with industry or workplace learning (Reeders, 2000; Atkinson, Rizzetti & Smith, 2005; Edwards, 2007). These experiences have the capacity to: explicitly connect university coursework with the field setting and encourage deep learning through this integration (Arnold, Loan Clark, Harrington & Hart, 1999; Atkinson, Rizzetti & Smith, 2005); allow opportunities to learn in context - from first hand experience (Lizzio & Watson, 2004); introduce students to workplace culture and assist in transition to work (Alderman & Milne, 2005) and; develop ability to reflect on practice (Schön, 1983). From an industry point of view, WIL programs can enhance employability (Fallows & Steven, 2000) and most importantly contribute to the preparation of graduates that meet the demands of dynamic, complex professions and the reality of practice (Reynolds, 1997; Williams, 1998; Arnold, Loan-Clark, Harrington & Hart, 1999; Eyers, 2005).

Professional degree programs such as medicine, nursing, law and education have traditionally incorporated work placements into their programs (Trigwell & Reid, 1998), however WIL is now no longer confined to these courses. The demands of the knowledge-based economies of this millennium together with the current competitive market for student places in universities, have seen a growth in WIL across the sector more broadly (Abeysekera, 2006). Nevertheless, despite the many benefits that WIL can provide, engagement of universities with professional practice is not without challenge (Boud & Garrick, 1999). The need for structure around WIL programs, with attention to progressive and systematic of integration of theory and practice is increasingly being recognised (Arnold et al, 1999; Abeysekera, 2006), as is the need for collaborative approaches in development of curriculum and in structuring, supporting and assessing WIL experiences (Brown & Shipway, 2006; Alderman & Milne, 2005).

METHODOLOGY

This paper reports on the outcomes of an institution-wide roundtable that was convened in response to the growing importance of the Work Integrated Learning (WIL) agenda to both UTAS and the higher education sector more broadly. In order to inform future initiatives in WIL, evidence was gathered to inform the following research questions:

1. What is the current status of WIL at UTAS in terms of successful programs, supporting resources and identified challenges?
2. How can UTAS address current challenges?
3. How effective was the roundtable format in meeting the needs of staff?

The WIL roundtable was attended by 24 delegates representing 3 campuses of UTAS and four of the six faculties (Health Science [9 delegates]; Business [1]; Education [4] Science, Engineering & Technology [2], together with representatives from the Library, Student Services, Information Technology Resources, the office of the Pro-Vice Chancellor, Teaching and Learning and TAFE Tasmania. The event was hosted by the academic development unit, the Centre for Advancement of Learning and Teaching.

The roundtable began with a keynote address from the Executive Director of the Australian Collaborative Education Network (ACEN), Carol-Joy Patrick outlining the national perspective on WIL. Delegates then participated in two workshops. The first was to provide an overview of the current situation in WIL in represented Faculties, together with identification of key successes, supporting resources and challenges. Key issues were then identified and workshopped in interdisciplinary groups. In addition to the workshop sessions, participants were invited to bring resources for a sharing table.

A mixed methods approach to data analysis (Creswell, 2005), was employed. Group notes were collected at the conclusion of both workshop sessions and provided qualitative data for analysis and feedback to participants. This data was analysed through a process of reading through for familiarity, followed by a collation and categorisation process in order to address the research questions (Miles & Huberman,

1994; Patton, 1990). The evaluation of the roundtable itself was undertaken through a written anonymous survey that provided quantitative data. These responses were analysed using descriptive statistics gained from responses to Likert scale questions.

RESULTS

The Faculty discussions revealed a number of different models of WIL operating within UTAS. These ranged from a series of integrated placements (in Health Science and Education), internships (Business and Education), student-arranged work placements with industry (Science), inter-disciplinary simulation events (Health Science), field trips (Science), industry involvement in coursework or curriculum (Health Science, Science) to collaborative research projects (Science, Business, Education). Three of the four faculty groups reported utilising international placements. There was consensus around WIL being highly valued by students and reports of successful partnership initiatives that have raised the profile of the university and/or linked work placements with graduate employment. In addition, some faculties (Health Science, Education) have begun to explore different placement models.

In terms of resources, several schools had, or were currently developing a database for placements; the School of Aquaculture had developed an induction booklet with necessary information for workplace supervisors and including possible research links; the School of Education had developmental rubrics for practicum assessment and TAFE Tasmania had developed a package for workplace supervisors.

There were a number of shared challenges for the faculty groups. Finding *appropriate placements for students* was nominated by three of the four groups (the fourth employed a system where students identified their own placements). In Health Science, this situation is exacerbated by "a growing number of students and a shrinking number of workplace professionals". *Supervision and support for students* was raised by all faculty groups, with a significant area of concern being international placements. Related to this were concerns about *academic workloads* and *resources* to support visits. Similarly *communication* was raised by all groups, with "establishing formal agreements that are appropriate and not too onerous" being a specific example. *Integrating, or embedding workplace learning with coursework* was also a common concern, with two faculty groups going further to mention the tensions around *differing expectations* of industry and university, "managing expectations of work readiness" and, "gap between competencies and industry requirements and …a well-rounded curriculum" being exemplar comments. *Consistency of assessment* of students on placements was raised by both Science and Business groups. This was less of an issue for Education and Health Science where developmental rubrics or guidelines existed.

The difficulty in finding and sustaining quality placements resonated with all participants. Possible strategies to alleviate this included: having more flexibility across the year with respect to placements; promoting partnership models where all parties receive benefit (for example providing professional learning opportunities for workplace supervisors); investigating placement links through alumni and;

establishing a more strategic method of tracking possible work placements including investigation of a register for community organisations and employers who may have projects that could utilise UTAS students.

It was also recognised that a number of schools use international placements for WIL. Whilst this can realise significant opportunities and benefits for students, it also presents a significant challenge in terms of support for students, assessment and communication with employers. Specific strategies to address this issue were: translation of the UTAS Practicum Agreement to cater for international placement providers; development of a set of university-wide principles for international placements that recognise students cannot be visited and may be difficult to contact and; investigation of the use of web 2.0 technology for communicating with students on international placement through a small scale trial.

The WIL participants suggested that models of support for workplace supervisors be investigated to enhance the quality of WIL placements. Possibilities raised at the roundtable included provision of orientation, print-based and on-line information and resources, provision of training to supervising staff, professional learning in mentoring and introduction of 360° feedback to workplace supervisors/mentors. It was acknowledged that some schools had already introduced these measures with varying degrees of success. It was further suggested that sharing of models that work would be a useful starting point upon which schools could build.

A clear and consistent message delivered to employers from the University was seen as essential. One current challenge that was identified was the practicum agreement, where there is confusion in terminology for some disciplines. It was suggested that clarification of the agreement could be achieved through the inclusion of a glossary of terms that acknowledged the terminology used in different discipline areas. Furthermore the possibility of the development of a standard UTAS database, for practicum placements, was raised. Whilst some schools had developed or adopted different databases for these were not coordinated resulting in a number of practical implications including overloading of employers with students from a number of programs at any one time.

It was recognised by the participants that introduction of WIL has implications for pedagogy. Preparation of students for WIL and how this may be incorporated into coursework was discussed. This is an area of ongoing interest for many of the WIL roundtable participants. In the short-term, sharing of resources, and the consideration of producing a generic framework for professional skills development were suggested. Any increase in WIL will also bring a consequent increase in the need for UTAS staff to visit or supervise students off campus. This has implications for workload. It was suggested that this be raised for discussion at a later date, with a view to achieving some consistency and to provide a united voice across UTAS.

In terms of evaluation of the roundtable, participants were asked to rate each of the components of the roundtable on a Likert scale (1 being not valuable to 5 being extremely valuable). The Keynote address and both workshop sessions were rated highly by participants (each scoring an average of 4.1). The sharing table received a slightly lower rating at 3.6. Convening a similar roundtable in 2008 was supported by 13 of 16 respondents and a future roundtable inviting external stakeholders was

supported by 12 respondents. Although only one respondent indicated that they had initiated an activity (a grant application or project) as a result of the roundtable, eight participants indicated they intended to do so in the future.

DISCUSSION

The breadth of WIL activities at UTAS mirrors that of many other institutions in Australia, as do the perceived and actual benefits of introducing WIL into degree programs. However, with no institutional targets for incorporation of WIL, as have been instigated in several mainland universities (Patrick, 2007), the impetus for current interest in, and attention to WIL in professional and general degree program stems from faculties, or individual schools. As such, the roundtable was welcomed as an opportunity to share practice not only between faculties, but also within faculties.

The unique position of UTAS, as the only university in the state was recognised as providing significant opportunities for partnerships with both government and industry. A partnership agreement exists with state government paving the way for collaborations that work to support both the needs of university and the state service. Nevertheless, UTAS is not immune to the problems of locating quality work placements found in mainland institutions (see for example, Lizzio & Watson, 2004). Tasmanian workplaces also face difficulties in the ability to provide training and supervisory time for a greater numbers of students, again mirroring what is found elsewhere (Reeve, 2001). At the roundtable, both the Education and Health Science faculty groups reported being "dependent on goodwill and personal relationships to support placements". Several strategies proposed at the roundtable have potential to alleviate this by drawing more widely for placements, and through increasing flexibility of WIL experiences that may not rely on traditional workplace placements.

The drawing together of issues highlighted a number that were shared, and could potentially be addressed at institutional level. One such issue was providing quality supervision and mentoring for students, particularly those who are on international or remote placements. Whilst a trial of a technology supported initiative was suggested for international students, the role of the workplace supervisors in providing quality mentoring and support for learning is more complex. Widely recognised as important (Haigh & Ward, 2004; Jordan, Phillips & Brown, 2004; Brown & Shipway, 2006), the roundtable participants proposed a number of initiatives that could be investigated to address this. Some of these build on what is already happening, with sharing of experiences and resources seen as a vital first step in this process.

Reviewing resources, such as induction materials and assessment rubrics as well as discussing methods of facilitating communication between stakeholders was a useful outcome of the roundtable. As with support for workplace supervisors, building on what has been successful, and working together has the capacity to reduce workloads on individual academic staff and to send a more cohesive message from UTAS to the broader Tasmanian community.

CONCLUSION

As a result of the roundtable, several initiatives have been actioned. The first is to establish a WIL network to foster communication, and to give a united voice to WILrelatedissues across the institution. The second is to convene a working party to consider the recommendations with respect to international placement issues, including a trial of technology to support students on overseas placements. Longer term goals involve fostering inter-disciplinary links to streamline communication between the institution and industry and to support the development of different models that foster collaborations to better integrate theory and practice. The remaining challenge is to build a research component into initiatives to provide not only a scholarly approach to WIL issues but the necessary evidence to promote WIL in the wider university agenda.

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The Clinical Communication Program: An innovation in clinical learning for nursing students

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The Clinical Communication Program (CCP) is an online interactive learning program with multiple components to assist in preparing students, including those for who English is not their first language, for clinical practice in the Australian clinical nursing environment.
The program is virtual and accessible by students, academics and clinical facilitators in any location (university, home or clinical setting). The program is interactive, using Adobe Flash Player, sound files, PDF files of current charts used in the health agencies. The program consists of a nursing handover of 16 patients incorporating elements from actual practice scenarios combined with visual and phonic elements. The aim is to increase nursing students knowledge and skill in oral and written communication and therefore to assist them in integrating into the clinical workplace. The ability to chart, to total and to make a judgment about a patient's fluid intake and out put is also included as one of the many activities the CCP covers.

Keywords: Clinical Communication, Nurses, International students

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INTRODUCTION

Effective communication is a key determinant of cohesive team work, clinical decision making and ultimately quality patient outcomes. Deficiencies continue to be identified in both the teaching and implementation of communication skills for nursing students (Jarrett & Payne, 1995). Descriptions of essential communication skills and associated strategies in health care focus on development of active listening, empathy, interviewing skills and counselling skills. Thus, often exclude day to day interactions with professionals and documentation required to develop knowledge of patients and an efficient, integrated nursing workforce.

An ever-increasing dilemma in nursing education is to prepare students for the reality of clinical practice. Preparation for professional practice requires activities which are the same as those experienced in practice, replication of the context of practice and repetition. What is required are diverse teaching and learning approaches to facilitate the development of mental representations of current clinical situations. Although nursing students' state they learn best by experiential learning and interaction with real patients in the clinical environment (Rakoczy & Movey, 1995; Medley & Horne, 2005) a predominate focus on 'hands on skills' (Thornton, 1997) means that developing and refining communication is often not afforded the same priority. The aim of experiential learning in relation to oral and written clinical communication is to assist students to develop mental representations which can be used in subsequent experiences through the process of pattern recognition and development of skills of

cognitive inference. Clinical simulation which role models a particular communication behavior and cultural expectation provides rich experiential learning opportunities and supports the aims of cognitive learning theory in its promotion of student interaction with clinical cases, use of prior knowledge, and the development and consolidation of mental representations (Johnson, et al., 1999). Exposing students to examples of clinical communication has the potential to prepare students for interactions with patients and nursing and other health professionals. Feedback to students at the completion of experiential learning activities is essential to enhance learning (Issenberg, et al., 2005). Feedback aids in error correction, reflection, prioritising interventions (Lassater, 2004; Issenberg, et al., 2005), verbalization of actions, articulation of rationale for actions and correcting knowledge and communication skills (Lasater, 2004). Immediate rather than delayed feedback can assist students in reconstruction, analysis and critique of their actions (Miller, et al., 2000; Lasater, 2004).

BACKGROUND TO CCP DEVELOPMENT

Flinders University of Adelaide, South Australia, like other Australian Universities, increased their enrolment of international nursing students (Armstrong 2004). Although international students enter Australian Universities with an understanding of both written and verbal English language they still experience difficulty in interpreting and using abbreviations and understanding medical terminology and its application in the health care environment (Shakya & Horsfall 2000; Hofmeyer & Cecchin 2001; Sanner et al 2002; Duffy et al 2003; Gudhe 2003). Australian students also experience difficulty in identifying the meaning of abbreviations and pronouncing diagnoses and medications. Researchers, academics and health care professionals working with international students recommend Universities teach medical terminology, clarify abbreviations and focus on pronunciation (Davis 2003; Grant & Letzring 2003; Koskinen & Tossavainen 2003; Omeri et al 2003). The 2005 review of the Bachelor of Nursing at Flinders University Adelaide also demonstrated international students required more accessible English for Nursing practice support when in the clinical area. At the present time both academics and clinical staff at many different venues spend considerable time assisting nursing students to develop communication skills appropriate to the clinical area. Students, academics and clinicians are often isolated from support when in the clinical area.

The Clinical Communication Program incorporates the development of an interactive learning program with multiple components to assist in the preparation of nursing students for health care communication in Australian clinical nursing environments. The program is virtual and accessible by students, academics and clinical facilitators in any location (university, home or clinical setting). It provides a leading edge teaching and learning product developed in consultation with the staff from the International English Language Institute (IELI), academic and clinical staff and supported by experts in graphics and Web development. The program is interactive, clinically based, incorporates actual practice scenarios and combines visual and phonic elements.

The CCP is designed to increase the accessibility of resources for teaching and learning in clinical, academic and home settings. The CCP innovation will be trailed and evaluated for its effectiveness by students undertaking placement, academics and clinicians at the end of the first 12 months of it implementation.

LEARNING OUTCOMES

The CPP will:

- Provide a vehicle for student development of language skills in the clinical and academic environment
- Assist students in understanding the processes used in clinical communication
- Provide resources accessible in any location (with internet) for clinical and academic staff to assist students in the development of their professional language
- Increase students' confidence in their clinical performance and interaction with staff and patients
- Increase clinicians understand in of the CCP's philosophy and strategies so they can respond to international students with approaches congruent with the clinical communication needs of international students.

DEVELOPMENT OF CCP

The project was funded by a $10,000 Vice Chancellor's teaching and leaning innovation grant. The project team examined common communication difficulties experienced by students in the clinical environment to identify elements to be covered in the CCP. The issues identified below have been addressed in the CCP (Figure 1).

- Lack of understanding of RN language used when handing over their patients from one –shift to another;
- Lack of familiarity with documentation and inability to accurately complete such documentation;
- Difficulty in interpreting health professional and patient's speech due to different accents and intonation of language and non-verbal cues;
- Inability to decipher the multitude of abbreviations used in the clinical setting
- Understanding nursing and medical notes
- Writing nursing notes
- Interpreting pattern and trend in patient data
- Managing interactions with patients, nursing staff and other health professionals
- Transferring theory of nursing law into practice in pharmaceutical administration.

FIGURE 1
Identifying components of the CPP
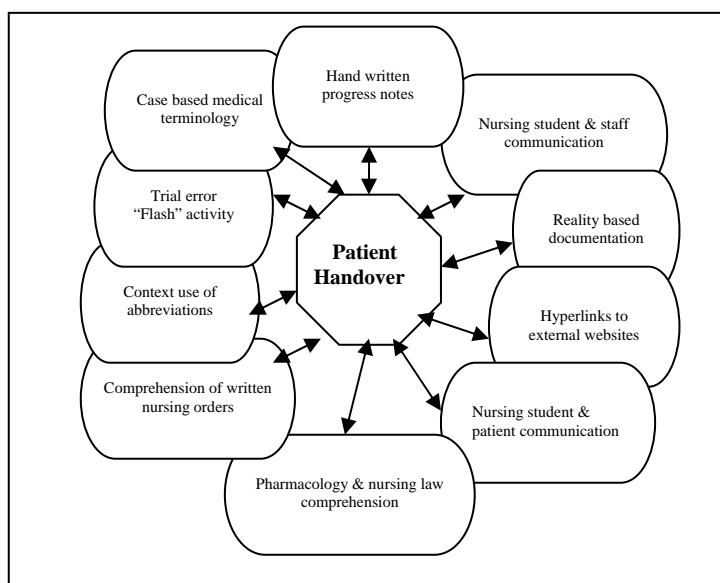
SCRIPT DEVELOPMENT

Nursing staff handing over their allocated patients from the morning to the afternoon shift formed the basis for script development. The 16 patient handovers were collaboratively with clinicians and academics. This was to ensure clinical accuracy while at the same time meeting the undergraduate clinical practice adult medical and surgical curriculum outcomes for all three years of the program. Each patient handover was scripted to include language and abbreviations as they would occur at the time of shift handover between the morning and afternoon nursing staff. To follow is an example of one patient script:

> Bed 1 Mr Michael Conley 72 yrs of age admitted 3 days ago from home following ½ hour of heavy substernal chest pain. Angiogram arranged from ED where two stents were positioned in the LAD. IV GTN and IV Heparin continued for 24 hours. Now on SC Heparin BD and Warfarin daily based on daily INR due at 1800. Atenolol and Lisinopril are due at 1800 from ward stock but his own have been ordered following the round at 1100 today. Temp 36, P90, Sinus Rhythm, Resps 18, B/P 140/90. Now on day 3 of Cardiac Mobilisation regime, Seen by Cardiac rehab nurse today and for D/C tomorrow. Ward clerk will need to notify transport as he requires a community car to take him home to McLaren Vale.

The entire handover of 16 patients lasts for 24 minutes also reflecting the reality of shift handover. The voices of the registered nurses in the handover included male and female in addition to a variety of accents including German, Scottish and Australian. Each nurse handsover to the camera so that students can study the shape of the mouth as well as hearing the verbal handover and following the PDF of the verbatim handover including abbreviations, slang and colloquialisms.

ACTIVITY DEVELOPMENT AROUND PATIENT HANDOVER/SCENARIO

In the development of the CCP activities to promote pattern recognition it was ensured that they contained essential features of a particular clinical situation (Nosofsky, & Palmieri, 1997) and where possible incorporated visual, verbal and written cues (Norman, et al., 1996). The incorporation of clinically based exemplars possessed the potential to enhance experiential learning, skill acquisition, problem solving abilities, team work (Alinier, et al., 2006), integrate learning (Lasater, 2004) and develop critical thinking skills (Feingold, et al 2004; Medley & Horne, 2005). The team followed the VARK (Visual (V), Aural(A), Read/Write (R) and Kinesthetic (K)) learning style preference adapted by Fleming (2001) to guide the development of activities used throughout the CCP. Strategies were developed to integrate students learning and facilitate transfer of learning between theory and practice from the university to the clinical environment. The handovers were authentic and delivered in a format representing and providing familiarity with the clinical setting. Students can access the CCP at any time promoting self direction. This aspect is particularly useful for students with English as their second language as they are able to replay the handover video when language cues are missed. Development of activities was contextual using patient data from the handover such as nursing interventions, medication orders, pain scale data, fluid balance trends. All of these activities required the students to engage with the clinical documentation and formulate reports on their findings from the data. The activities were developed with a strong emphasis on what is currently required of students whilst on placement in addition to what will be required when employed. Each activity provides students with correct answers and in some cases hyperlinks to additional information supporting the answers (O'Conner, et al., 1999; Miller, et al., 2000).

TECHNOLOGY REQUIREMENTS

To ensure the CCP study aid was accessible to students and the wider community it was developed to be delivered at various download speeds. Although Flash video is recommended, high resolution video (480X360), low resolution video (320X240) and mp3 audio and images are also selectable options for viewing. The website was tested on Microsoft Internet Explorer and Mozilla Firefox browsers. The installation of JavaScript, the enabling of cookies and pop-ups or scripting, and adjusting security settings must be achieved for scripts to run and the browser must have the add-on (or plugin) enabled to play sound. Adobe Flash Player is recommended to play the videos but these can be played using the Apple QuickTime add-on. Adobe Flash Player (formerly Macromedia Flash Player, minimum version 6) and Acrobat PDF Reader are required in addition to a web browser (e.g. Internet Explorer, Firefox) to enable full use of the site.

CONCLUSION

Development of the CCP was expensive in the use of time and human resources. Indeed each hour of final content took between 30 and 200 hours of development time (Macleod, 2000). The developers are however convinced that this resource and its accessibility to students are worth this investment. The CCP is currently being trailed across the three years of the undergraduate pre-registration program. Preliminary findings from students indicates that the third year students would have accessed this

study aid back at the beginning of their degree as they can see the benefit of the contextual language and gaining familiarity with health care documentation. Industry partners are very encouraging about the study aid and are accessing the program in the public domain to provide language support for newly employed registered nurses orientating to nursing in Australian. Industry partners from midwifery and mental health are keen to discuss the development of a similar program to assist in the integration of students into their specialist working environments.

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Learning in early-career police: coming into the workplace

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This paper explores the experience of police recruits as they move from the classroom experience to learning on the job. The research presented forms part of a larger study of newcomers to the policing profession. The study is contextualised within the NSW Police Force. Police recruits, in New South Wales, generally undertake the study of the Associate Degree in Policing Practice through Charles Sturt University, with the final year of their study coinciding with their role as a probationary constable. During this period of time the recruits are developing their professional practice and identity through a process of socialisation and situated learning. This paper will present findings, using case studies, of the initial experience of new recruits in the policing world to better understand the effectiveness of university – industry partnerships and pedagogical practices in the development of early-career professionals.

Keywords: policing, professional practice, situated learning, socialisation, workplace transition

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INTRODUCTION

Coming into any community requires the newcomer to adapt to new circumstances , build relationships and access new learning opportunities. Students emerging from university studies into the world of work are often underprepared for this negotiation of the social and cultural dimensions of the new work environment; this is especially true in policing. This paper describes the first part of a longitudinal study of early-career police, focusing on three recruits, and their experiences as they moved from the college environment into the field of policing, or from being legitimate peripheral participants to full members of a policing community of practice.

LITERATURE

University study as a part of the initial professional development in the field of policing is a relatively recent development within the Australian context (Chan, Devery, & Doran, 2003). University-based courses in policing have been present in this country for a little over a decade. Few studies have looked at the long term impact of academy training on police recruits and at the specific impact of university education as opposed to 'in-house' training programs. Chan et al. (2003, p.42)

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claimed that beyond their study, there existed only a few other substantial studies namely Van Maanen in the US (1973, 1975), and Fielding in the UK (1988).

It is often argued that within police culture there exists a strong bond among members with significant camaraderie and trust (Reiner, 2000; Reuss-Ianni, 1984; Wood, 1997). Reiner (2000) considered that these traits emerged as a result of the nature of police work which involved high levels of stress, exposure to dangerous situations and the necessity to deal with aspects of humanity that most others can ignore. However, "police culture – like any other culture – is not monolithic" (Reiner, 2000, p.85). Even at a local level it is argued that there exists many varied groups of police that are separated by culture, for example the differences between detectives, highway patrol and general duties police (Chan, 1997). Reiner (2000) identified in police culture the characteristics of a sense of mission, cynicism, isolation, solidarity, conservatism, machismo and racial prejudice. Police culture permeated all functions of policing as tacit knowledge amongst the experts in the field. Furthermore, the practice of policing is embedded in this culture and a newcomer to the community is required to negotiate its social and cultural layers while accessing professional knowledge (Gherardi, Nicolini, & Odella, 1998).

Learning in this situation involves the acquisition of tacit knowledge ,which is situated in the activity that is occurring (Steadman, 2005). Through trajectories of participation, "…individuals develop personal identities that are shaped by and are formative of their activities in the various communities in which they participate" (Greeno, 1997, p.7). 'Situativity', as labelled by Greeno, dependeds on the acquisition of the ability to participate and interact in a successful manner – success being defined as the ability to learn from others, operate in the given environment, and be accepted in the community. Billett (1998) regarded 'situated learning' as separate from the notions of socialisation and internalisation. He concluded that although there is significant exposure to the socio-cultural aspects of a community through interactions with experts, this does not directly correspond to the fundamental changing of the novice. He conceded that, given the power differential between expert and novice, the dominant values of the expert may influence the behaviours and attitudes of the novice.

Formal education and informal experience combined to develop in a person, new to a social group, adaptations that ensure their social survival (Chan, 1996; Chan et al., 2003). These aspects often coexisted and interacted within an organisational setting. Schein (2004) viewed such a process as leading to the internalisation of espoused organisational values and beliefs. The formal and informal can not be separated neatly to the academy and the field, but worked together throughout the experience of the student and early-career police officer (Soeters, 2000). Chan et al. (2003) asserted that success within the policing world was determined by the capacity of the newcomer to accumulate social and cultural capital. To acquire social capital it was necessary for police to cultivate supportive networks of relationships, and this included their supervisors (Chan et al., 2003; Fielding, 1988; van Maanen, 1978).

The concept of a community of practice builds on a pedagogical tradition of viewing learning as a socially mediated activity (Daniels, 2001; Lave & Wenger, 1991; Vygotsky, 1978; Wenger, 1998) and forms the conceptual framework in which this study is grounded. The participants in this study emerged from a police recruit

training program that provided them with a base level of skills into a learning environment where they engaged with more capable peers, in the form of more experienced and senior police. They brought to this situation "functions that have not yet matured but are in the process of maturation, functions that will mature tomorrow but are currently in an embryonic stage" (Vygotsky, 1978, p.86). In this environment, the novice and expert engaged in learning interactions that moved both beyond their individual capabilities.

METHODOLOGY

The methodology employed in this study is a qualitative case study (Stake, 2000; Yin, 2003) providing for deep analysis of and insight into an individual's encounter with the phenomenon being studied. Data was collected through a series of one-to-one semi-structured interviews and observations of participants in the field during a normal shift. The individual interviews provided for an exploration of phenomenological ideas, but also for clarity and triangulation of field-based observations (c/f Marshall and Rossman, 2006). The interview, combined with field observations, helped the researcher understand the meaning that everyday activities held for individuals and provided a more substantial perspective of the phenomenon. Van Maanen (1978) argued that observation of the policing field provided the best source of data for understanding the relationships and culture of policing, both important foci of this study, especially with regard to the community of practice. In the observations of practice, the researcher was defined as a 'peripheral member-researcher' (Adler & Adler, 1987).

The data was analysed using the data analysis spiral (Creswell, 2007) within a framework grounded in notions of situated learning. This perspective presents knowledge as not being something that is a self-sufficient substance but as something that is intrinsically linked to the situation, that is the social, cultural and physical world, in which the learning occurs (Brown, Collins, & Duguid, 1989). Communities of practice, which drawn on conceptualisations of situated learning, allow the study of learning situated within a particular practice and organisation (Cox, 2005; Lave & Wenger, 1991; Wenger, 1998). A perspective of communities of practice highlights the expert-novice relationship and its contextualization within a broader social network that shapes practice, knowledge and identity, *in situ* (Brown et al., 1989; Brown & Duguid, 1996; Lave & Wenger, 1991). Through a combination of observation, of "structures, rituals, repertoires and relationships" and in-depth interviews to elicit "detailed descriptions of activities" an understanding of the characteristics of the community emerged (Benzie, Mavers, Somekh, & Cisneros-Cohernour, 2005, p.183).

RESEARCH FINDINGS

All three participants in this study were female and voluntarily agreed to participate in line with expectations of the accepted ethics for research. Two were 50 years of age and the other was 21. The two older participants were both located at the same Local Area Command which was an inner city command, small in geographical size, with most of the population of low socio-economic status including a large Aboriginal population. This command area will be referred to as 'West Side'. The younger participant was located at a suburban Local Area Command in a wealthy area, which

was moderate in geographical size, with significant representation of people from Anglo and Asian backgrounds – in this paper referred to as 'Uptown'. The details of the participants are summarised in Table 1,including the pseudonyms by which they will be referred to.

TABLE 1
Research Participants

Name*	Age	Gender	Location	Previous work experience
Eloise	50	Female	Inner city Busy but small LAC *West Side*	University qualified and worked in this field for a period of time, most recently was a baker.
Emily	50	Female	Inner city Busy but small LAC *West Side*	Nursing unit manager Midwife with significant managerial experience
Sophie	21	Female	Suburban area Quiet but moderately sized area command *Uptown*	Limited work experience Attended a wealthy private school Worked previously in the family business

*these names are not the real names of the participants

The motivation of the participants to join the police varied. Eloise and Emily, who are older and both had successful careers previously, spoke about being motivated by the challenge of the job and seeking out something different. Both knew police already with Emily's sister having previously been a police officer, and Eloise's partner is a current serving officer at another station. They were not naïve about policing and the repetitive nature of the work but saw the opportunity as something that could advance themselves and address some of the frustrations that they were experiencing in their previous occupations; in particular Emily spoke of her frustration of dealing with drug addicts and not being able to solve the overall problem. Sophie came to choose policing for very different reasons. Policing was something that came to be of interest when other possibilities did not eventuate. Sophie's parents ran a successful business that she worked at for a while, but did not enjoy the field. Before that her parents had hoped that she would pursue a career in the law, but her final school results were not enough to gain entry. Policing was a fall-back position and a compromise that Sophie identified as partially fulfilling the "law thing".

Given the diversity of reasons for joining there was natural variation in the expectations of the job. Being younger, Sophie, saw policing as a long term occupation and one in which she sought diversity in experience and the ability to undertake many different roles. Such an expectation presented as a frustration while she was required to fulfil her tenure at Uptown. This frustration was further exacerbated by Sophie's being given the opportunity to work at a nearby station for one shift in which she spoke of being more engaged and active and encouraged to challenge herself. Eloise and Emily had clear expectations of policing as not being for the long term, with both of these set to retire from the workforce in the coming ten years; so their focus was far more upon the individual challenge of the day-to-day tasks. They, like Sophie and despite their differing motivations, are seeking to push

themselves and experience a variety of policing. The aspect of challenge and change is seen as important to all three.

> … I am up for the challenge and I like the challenge, but sometimes I need a bit of a shove to get in there. (Emily)

They were hungry to learn this new thing of policing and all have experienced frustrations with partners who are not willing to provide these chances. Emily, in speaking of her Field Training Officer (FTO), states that:

> He's terrific. He has been pushing me. He was the one who pushed me into doing the assault. He just got me out the front and said what are you going to do, what are the main things you are going to have to do.

Such a view was evident in all the participants. However, this was often tempered with the need for support. Sophie, talking of her second FTO, wa more concerned about what she will be doing and whether her FTO will provide the assistance that she needs.

> I don't have a problem with him. I wouldn't get on as well with him, because I am going to do all the work, though there isn't that much. He will be like you do this, you do that.
> INT: Do you think this is because they want you to learn?
> No, this guy is just lazy. … he is nice, but he is … he won't copy jobs he will just wait for someone else to copy it and say don't worry about that one.

Eloise described well the role of the FTO in providing opportunities for learning when she indicates:

> … so it was really up to that senior constable or constable to basically do what they wanted with you. Fortunately the guy I was with said you might as well get right into it, so this is how you answer the phones, if you've got any problems let me know. And he was very good.

This quote started to suggest a problem in the current induction and early training methods evident in this context. Despite the use of checklist manuals and an overall expectation by the policing organisation that recruits will develop with a core set of competencies that are transferable to other stations and commands, the reality is that there is significant variation in the skill and behaviours of police officers. This variation is dependant upon the type of command, the training and experience of the FTO, the willingness of the new recruit to seek out learning opportunities, and the presentation of points of access to the situated curriculum of policing.

The FTO was the most significant point of access to the community of practice and the situated curriculum. Sophie worked at a station where she was allocated one FTO for each of the six week training periods. Her association with these FTOs, both of whom were senior constables, allowed her to build a reputation with others at the station and to be included within the general social norms of the community. This allowed her to acquire points of access. However, through this process it took Sophie most of the first twelve weeks to become fully accepted, though she was exposed to quality learning opportunities and was developed with respect to her level of ability.

Emily and Eloise had very different experiences, where Emily's FTO had been appointed to higher duties and was unable to work with her and Eloise was unsure as to who her FTO was and worked with a variety of other staff. Given their age and previous experience both Emily and Eloise were able to negotiate access to knowledge with this being aided by their previous experiences, namely nursing and being a partner to a police officer. However, at times it proved frustrating for both Emily and Eloise. The consequence for Emily was a failure to access a range of opportunities, such as working with specialist units, which others in her cohort had made available to them. Eloise struggled to fully assimilate to the community and did not enjoy her early encounters with many of the staff.

Amongst all participants there was a willingness and desire to experience policing on the street and to "get out amongst it"; however, the dynamics of the command made this more or less possible. Sophie's command was a quiet suburban area where she would deal with a serious situation once in a while, which she found concerning when compared to the breadth of experience of recruits at other commands. Sophie had a particularly frustrating experience where she was mainly located on custody / station duties because her FTO was the only one qualified on her shifts to undertake these roles. She recognised the importance of these functions to policing, but given her length of service and restrictions, due to rank, on what she could undertake, most of this time was wasted and she could see others from year class moving forward with their learning. Emily's and Eloise's command was much busier and more varied in the types of jobs. They have a different experience to Sophie in that the learning that occurred at any one job was associated with the immediacy of the job and they were often likely to be moving onto another before consolidating their learning.

Each of the participants saw value in the formal education at the College and how it supplemented their experiential learning in the field, but the education at the College was often sidelined as "best practice" versus the "real thing" in the field.

> At the College everyone said this is what you get taught this is not what will happen, which is true to a certain extent, but I can't see how they would teach it differently, how they could teach it the way it would happen. They have to teach best practice down there, and if you find shortcuts work better, you come across your shortcuts … one of the things I have always got others to do is listen to what everyone says and then work our what is best for you. (Emily)

Eloise expressed that although the College provided a good foundation she had now moved into the field and her learning needs changed.

> I'd have to say that most of the stuff we learnt was very relevant. Certainly all the OS [Officer Safety] stuff is always very well taught – the academic stuff … it's a bit different. They do things differently definitely outside like it's not the detailed notes that we got taught to take and that sort of thing but yeah I think what we learnt was definitely relevant. I guess that we've learnt enough though.

This comment highlighted a frustration that was evident in both interviews and observations where new recruits were required to continue their formal university studies in conjunction with adapting to the new workplace; the university program commenced at the College but continued for twelve months while also in the field. Eloise articulated this frustration the best when she said:

> Look I think it's all good practice to go through case studies and write fact sheets and all that sort of stuff but I think that it's ironic I'm working and having to do a narrative of a break and enter for my notebook entry in real life and then I've got to come back and do it as an assignment. I think, and this is just what I believe, that the schooling should be finished by now. It's enough of the formal stuff because now I think it's all about learning on the job. I've always been of the opinion it's a hands-on, learn-on-the-job profession … a vocational profession.

Acceptance was a key theme evident in the data of each participant.

> Everyone wants to fit in. You don't want to be the one that everyone talks about behind your back. … I don't want to be on shift for 12 hours talking to myself. (Sophie)

Signs of acceptance come in many forms. Things such as inclusion in the gossip of the station, gaining a nickname and having this used on the allocations board, being asked about dinner or lunch and the freedom of other police to make "rudey-nudey comments" around the new recruit. The time this took was dependant on various factors, but it was often mostly associated with the shared experience of having completed some jobs together successfully. The new recruits were tested to see their commitment and personality.

Despite levels of acceptance improving, the participants experienced a strong cultural sense of hierarchy, rank and position, and they were the lowest of all. As one officer put it during an observation, "even police dogs get more respect than a new probationer".

> I will be doing all the s--- jobs, like checking the truck and doing all that. In my old job I did that, I was good at delegating, but I can't delegate at my level in the police force. (Emily)

Even though the participants spoke warmly of the sergeants that they worked with, there was still a clear protocol about asking them for help. For most issues the participants sought help from other probationary constables, who were of the same rank but had more experience. They would then move through the ranks depending on the difficulty of the question.

> It is just like they're [senior officers] very busy and they have no time for stupid probationary constable's questions who want to know how to do stuff. They expect you to go to the next probie, and then the one next up from there, and then maybe s constable and then senior constable. (Sophie)

IMPLICATIONS FOR PRACTITIONERS

In the light of these findings, four key implications for practitioners are proposed:

1. *Management of variability of learning and acceptance of the development of professional practitioners is contrasted with 'production line outputs'.*
   There inextricably exists variation in the learning opportunities presented at various sites and with different staff. Within policing, considering that a junior police officer after a period of time can move anywhere across the state of New South Wales and into a range of specialists fields, there needs to be a greater diversity of learning opportunities with newcomers. They need exposure to a variety of policing environments with a developing consciousness of the variability of policing and the need to be professionally flexible in responding to situations.

2. *Building better learning partnerships between the field and training institution.*
   The gap between the field and the training institution, in this context the Police College and the University, needs to be narrowed. As Boyer (1996) argues, the purpose of scholarship should be to engage the field and contribute to the way the field operates, alternative the field should also contribute to scholarship. Although, within this study, graduates can make some links between the two experiences there exists a need to make obvious what these are and to not have the College and the field perceived as opposing forces. This divide, as identified also by Chan et al. (2003), is culturally based and requires change at that level, as well as in practice, to overcome this hurdle. It appears, though, that this gap is slowly being eroded if comparison is drawn between what Chan et al. (2003) concluded and this study reveals.

3. *Workplaces need to aim to capture the enthusiasm of a newcomer; which compliments the fourth implication.*

4. *Successfully accepting and building upon the previous experience of the newcomer.*

Within the policing context newcomers join with an enthusiasm to contribute to what they perceive as the ideals of policing, and they desire to 'get out and amongst it'. In the early stages of the induction process there needs to be adequate opportunity for this to occur, but more importantly when working alongside the FTO the newcomer needs to be presented the opportunity to practice what they have been learning. There is a tendency during the early stages for the newcomer to be sidelined with an attitude of 'watch and learn' dominating. To an extent this is a result of the discounting of previous knowledge and experience. Within policing there does not overly exist much of a welcoming of challenge by the newcomer to way things are done, especially given the rank structure of the organisation. The newcomer is expected to conform to the norms of the community rather than the community being changed and shaped by the experiences that the newcomer brings. Constantly emerging communities of practice are great sources of innovation (Brown et al., 1989).

CONCLUSION

The participants in this study have made their first step on a long journey from students at the Police College to fully accepted and serving police officers. Differences in age, experience and the characteristics of the command all contribute to the path of this journey. The underpinning desire to fit-in is evident amongst all participants. How such a process is facilitated is important for ensuring that newcomers have adequate access to the knowledge of the community and can develop fully as professional practitioners.

This research forms the first stage of a longitudinal study that has tracked these participants through their early career development. The study will address a gap in the current literature around this period of development in police, in particular the absence of substantial research on the immediate post-probation period of professional learning. There is generally a paucity of research on police learning and development. The ongoing development and learning of police at the various stages of their careers presents as a fertile ground for future research.

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Practice based learning: exploring current models used for real world learning at a "dual sector tertiary institution"

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This paper will explore and discuss the potential advantages for students, education provider, and industry when using practice based learning methodologies, particularly focusing on workplace learning in certificate courses through to industry projects in higher level courses. Practice based learning (PBL) or co-operative learning are terms that are commonly used to describe the form of learning that integrates learning in the classroom with productive work experience in the workplace. Traditional models of cooperative education programmes in engineering and technology reported in the literature predominately have a requirement of six to twelve months work placements. Alternative practice based learning i.e. courses delivered in the Bachelor of Applied Technology (Electrotechnology) are directly linked to industry through focusing on industrial products where the design for teaching and learning is through a project based philosophy. Instead of traditional work practices, students will focus on approved research topics with a technology and industry project and complete their projects through working in conjunction with industry. In conjunction with the higher level delivery models of "practice based learning" there are other significant models of delivery utilised when vocational and technical courses are delivered within a "dual sector tertiary environment". In particular for apprenticeship style learning workplace learning is conducted and assessed at the workplace and students carry out full time work and study on a part time basis. This form of "on job" and "of job" learning requires a significant different approach in terms of learning and assessment and the alternative methods of applying "practice based learning" across the different student cohorts. Students that continue into higher level learning from the certificate courses have most likely experienced "practice based learning" in some form whilst studying within the dual sector institution and will have a clear understanding of actual requirements needed within the workplace.

Keywords: Undergraduate degree, industry oriented, electro-technology, industry, vocational, workplace learning.

INTRODUCTION

This paper will explore and discuss the potential advantages for students, education provider, and industry when using practice based learning (PBL) methodologies, focusing on workplace learning in certificate courses through to industry projects in higher level courses particularly within a New Zealand context. As indicated by Hodges and Coolbear (1998) under the traditional model of cooperative education students usually study on a full time programme where the work placement is interspersed with the curriculum. There may be variations of this type of arrangement where multiple work placements are utilized or there may be a portion of the programme that takes place at the workplace that is carried out as a project based course under the supervision of an industry supervisor and/or an academic supervisor.

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Industry placements have been used as alternative methods of learning options with tertiary education providers for some time linking education programmes to a real work environment, and generally the two main objectives of industry placements either provide for students to gain hands on work experience, or for students to earn academic credits within an academic programme.

BACKGROUND

Co-operative education or practice based learning have been effective in building a bridge between tertiary institutions and industry by integrating the curriculum into a meaningful process of learning through productive work experience. Students have gained the opportunity to combine their academic capabilities with their practical skills to secure future work prospects. Several examples of practice based programmes have been identified in the literature across the world, and now within New Zealand numerous tertiary institutions have implemented PBL as part of the learning process within the curriculum of many disciplines.

One type of PBL using the work experience model is usually set up at the end of or during an academic programme. Students are sent to work placement and no academic assessment is required because the work experience is usually additional but may be included in the academic programme but does not incorporate academic credits.

The second type is integral of the academic programme and students earn academic credits from the work placement. This type of placement is well used in certificate level courses and in particular at trade type courses where "On Job" assessment is achieved as students work towards achieving competency standards in a particular discipline.

Alternative models that incorporate the Practice Based learning methodology are identified where employees who work full-time carry out structured learning within the workplace and also away from the workplace at the tertiary intuition. Programmes that have been developed under a New Zealand Industry Training Organization (ITO) usually incorporate the "on job" "off job" methodology across an industry. When programmes are offered in this way the employees are registered under a training agreement with the employer and the ITO. (Hodges and Coolbear. 1998).

Practice based learning is also used where specific courses are designed to enable project based learning in conjunction with industry such as courses delivered in the Bachelor of Applied Technology (Electrotechnology) at Unitec New Zealand. The courses are directly linked to industry through focusing on industrial products where the design for teaching and learning is through a project based philosophy. Instead of traditional work practices, students will focus on approved research topics with electronics technology and an industry project and complete their projects through working in conjunction with industry. (Qi & Cannan, 2004).

Providers delivering co-operative education engineering programmes within New Zealand such as Unitec New Zealand's Bachelor of Engineering (Unitec, 2003), Manukau Institute of Technology's Electronic Engineering (Manukau Institute of Technology, 2006), The University of Waikato's work placements in engineering and Science (University of Waikato, 2006), all of these programmes deliver the more

traditional models of co-operative education programmes in engineering and technology. Reports in the literature predominately indicate a requirement of 6 to 12 months of work placements. For example, at Unitec the Bachelor of Engineering students are required to complete 800 hours of work experience as this is the standard requirement of the Institute of Professional Engineers New Zealand (IPENZ). Unitec (2004). The work experience component can be completed alongside the academic requirements prior to graduation whether by studying full time or part time.

LEARNING "ON JOB OFF JOB"

Workplace learning is defined by Skill New Zealand (2001) as the formal acquisition of skills and knowledge in the workplace. It can be 'employer based', where the learner is an employee working and learning while at their place of work, or 'work-based', where someone who is not an employee of the company comes into that company's workplace for the purpose of training. Knowledge and skills obtained in the workplace are formalized with assessment and the achievement of a national qualification. Workplace learning may be supported by off-site education and training on a regular or occasional basis. (Skill New Zealand, 2001)

In New Zealand, Industry training organizations (ITO's) were established through the passage of the Industry Training Act 1992 and given the task of producing and moderating qualifications made up of unit standards that determine the assessment requirements, and the integration of the learning is conducted through the delivery of learning and assessment at the workplace and also at a tertiary institution. In particular within the electrotechnology industry there are an increasing number of employees and trainees involved in workplace learning. This is carried out in various forms and the need for structured practice based learning is clearly required to ensure that the quality of the learning is vital. In the Applied Technology Institute at Unitec Practice Based Learning programmes across disciplines and levels have been developed to enable this form of learning to occur.

At the certificate level it has become common practice to commence student training and education through pre-employment type programmes, rather than for school leavers to enter straight into the workforce as an apprentice as used to be the case where trainees spent a great deal of time working with a supervisor to gain some knowledge and experience of a particular trade. The programmes that are now available are particularly useful to provide students with the relevant underpinning knowledge and skills prior to being an employee at the workplace. Recently through a new Government incentive programme the "Gateway" initiative has been introduced and designed for students still at school that have decided on certain career pathways that through a co-operative agreement and preparatory course with Unitec Applied Technology Institute students can complete an "On Job" work experience and assessment towards their qualification. Cannan (2008)

Within the Electrotechnology and related industries the qualifications have been designed to incorporate formal training necessary to be undertaken at the workplace (i.e., on job learning) and for the theoretical and practical underpinning to be carried out through a learning programme with a tertiary provider (i.e., off job learning). At Unitec in the Applied Technology Institute learning and training packages have been developed to allow for practice based learning that is conducive to a productive

learning pathway. It is essential as indicated by Billett (1995) that learning in the workplace requires the development of a learning curriculum that organizes a pathway of guided learning experiences. Unless such a pathway is set out for the learners experience within workplace learning the workplace may not offer the best opportunity for developing skillful knowledge.

When students are employed at the workplace the practical component of the unit standard is conducted there and the unit requirements are practiced until the student is deemed competent, and once the student has reached that stage the practical assessment is completed. To ensure that quality control is provided for there is a rigorous process in place to ensure that the assessor at the workplace has the skills to enable the assessment to be completed and that the academic supervisor can verify that the assessment is valid. Once the assessments at the workplace have been completed it is up to the supervisor to report the result to the National Qualification Authority (NZQA) to record the amount of unit standards achieved towards the national qualification. For effective learning and "On job" assessment to be carried out at the workplace there is a need to realize that there are possible limitations that may inhibit the total effectiveness of workplace learning and these are identified by Billett (1995) through previous studies as: "inappropriate knowledge; access to authentic activities; reluctance of experts; absence of expertise; opaqueness of some knowledge; and instructional media."

When students have opted for a pre-employment programme they have the advantage of gaining their "off job" training component in a much quicker time and are able to concentrate on their education without the distraction of having to work simultaneously. For students that attend pre-industry courses such as the Certificate in Applied Technology the courses that they complete off job count as credit requirements only and when they carry out their work experience as PBL there are no credits or practical assessments achieved. The main advantage for this method of PBL is for students to become familiar with work activity at the workplace and gain an on job experience prior to gaining employment. (Cannan, 2008)

PRACTICE BASED TEACHING AND LEARNING COURSES

Practice based learning is fully utilised in the courses in the Bachelor of Applied Technology (Electrotechnology) at Unitec New Zealand where the design for teaching and learning is through a project based philosophy that directly relates to industry through focusing on industrial products (Qi & Cannan, 2004).

Through demonstration and investigation the mechanical and electronic embedded software design is studied. The focus for learning is product design, application, operation and diagnosis of electronic components and circuitry. Simulated industry conditions are provided where students will gain invaluable insight of design technology, operational procedure and programming techniques.

In the first two years of the Bachelor degree programme students specialize in one technical area and acquire a set of technical knowledge, skill and capability using the strategies described above to solve practical problems in an applied mode. The final

year is wholly focused on integration and application where students will work on their industry project in co-operation with industry working at the workplace through a practice based work plan supervised both by the technical expert and academic staff.

The student industry project is the most important part of an academic programme which also contains the academic assessment. Where a Trade level on-site competency assessment is relatively straightforward, a degree level on-site assessment is very difficult. An academic supervisor and an industry supervisor have to work closely together to ensure the student industry project assessment is completed successfully. Therefore, an industry project agreement is developed to ensure adequate protection of students with their academic study, health and intellectual property as well as ensure academic supervisors are to be involved in the on-site assessment and industry supervisors are to understand academic requirements. Graduates will, therefore, acquire the generic skills needed for achieving technological progress, economic growth and well-being, and will have specialized technical skills, as well as entrepreneurial and management skills to meet the constantly changing technological environment they work and live in. The students are well equipped to develop advanced knowledge and expertise required for their technology and industry project through a practice based learning agreement with industry in their final year. (Qi & Cannan, 2006b).

PBL: DEGREE LEVEL INDUSTRY PROJECTS

PBL carried out within industry projects at the higher degree level generally tend to be structured as part of the work placement where a formal Memorandum of Understanding (MOU) is based around a 'work-integrated learning' category where an academic component of the course is required to be assessed at the workplace. As part of the MOU there are clear guidelines in the form of a learning agreement that all three parties the student, employer and learning provider agree to, ensuring that the academic requirements are met maximizing the students learning opportunities at the workplace (Unitec, 2006). Unitec New Zealand offer programmes that include work placements that require project work to be completed as practice based learning such as in the Bachelor of Business where the industry project consists of 18 credits and the Bachelor of Computing requires an industry project of 36 credits. The Bachelor of Applied Technology (Electrotechnology) has an industry project of 60 credits value. Academic supervision is provided for all of these programmes and the assessment consists of a project report and employers' evaluation report. Students need to demonstrate effective personal, interpersonal and intellectual competency in the completion of a project and to critically reflect upon the process undertaken in completing a work-based project. Students will also are required to demonstrate to industry and their supervisor in the form of a formal presentation in the Bachelor of Applied Technology their project topic. (www.unitec.ac.nz)

DISCUSSION

This paper has explored and discussed the potential advantages for students, education provider, and industry when using practice based learning methodologies within vocational and technical education across a dual sector institution. The types of PBL that have been identified here have been from both ends of the academic spectrum giving aspects of current models used and linkages between the curriculum and the

workplace. They are operated in very different ways; however both types of PBL impact on students in a similar way where the workplace learning is integrated with classroom studies allowing practice to be integrated with theory.

At the undergraduate level PBL delivered through the Industrial oriented teaching and learning model poses several advantages as indicated in previous work: (Qi, T., & Cannan, J., 2005). Students gain a strong affiliation with their lecturers allowing for a greater ability to meet the employers' requirements for employment. Academic staff members will also enhance their credibility from industry through the increased relationship with industry practitioners where partnerships formed will strengthen research and development links with industry. For students engaged in certificate courses and employed at the workplace they are able to progress through their academic programme whilst carrying out authentic work and complete their required assessments. The "Off Job" requirements are closely linked through the learning package and provide for an integrated approach for learning and working. For students studying on a pre-employment programme they are able to complete their off job requirements in a much shorter period of time and at the same time gain a clear insight into the world of work whilst studying.

CONCLUSION

Practice Based learning can be seen to be effective across both certificate and degree programmes even though the nature of the delivery is clearly different and the advantages discussed throughout this paper are evident. Students that articulate into higher level learning from certificate courses have most likely experienced "practice based learning" in some form whilst studying within the dual sector institution and will have a clear understanding of actual requirements needed within the workplace.

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I see …I hear… I do … and I understand: building competence, confidence and pedagogical capacity through collaborative partnership

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Primary educators tend to avoid teaching science because they lack confidence or believe they lack competence in the pedagogy of science teaching. This can be alleviated by involving pre-service teachers (PSTs) in teaching science as literacy. By demonstrating interactive inquiry-based learning in schools, PSTs can inspire school children and practising educators to embrace science. Inquiry learning provides opportunities to experience, acquire and appraise information (Mahony, 2003). That is, by seeing, hearing, doing and understanding, all learners can build their confidence, competence and capacity to use science and learner-centred inquiry as a means of understanding the world. This practice-based paper explores the concept of Novice as Facilitator within a project partnership between schools and university through a five-week buddy project in the schools workplace of schools (LiW), the paper illustrates that PSTs can affect their learning and that of others.

Keywords: Australia, Interactive learning, Inquiry learning, Pedagogy, Practice, Partnership, Pre-service teachers, Science teaching, Workplace learning

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INTRODUCTION

National initiatives to improve the use of science prompted the author to promote science as a way of understanding the world. In particular, the Australian Academy of Science findings that primary school teachers lack confidence, competence and self-efficacy in the teaching of science (Goodrum et al, 2000; Hackling & Prain, 2005) led the author to create authentic and relevant training that pre-service teachers could implement in their school workplaces. Additionally, the PSTs could influence and facilitate learning for school students and practising teachers. The author trained her staff and students in interactive teaching of science as literacy (Figure 1).

FIGURE 1
Science as Literacy Training
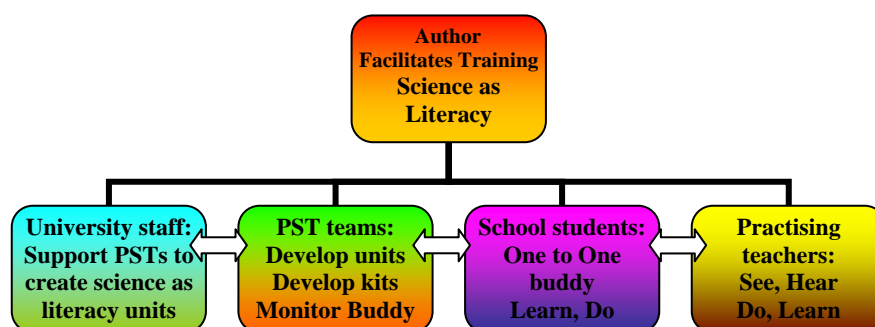
RATIONALE

This initiative aimed to facilitate and build PST pedagogical practices, competence and confidence through authentic purpose and real world application of learning in the workplace (LiW). Using the medium of science as literacy enabled the development of interactive teaching and learning that built content and practice knowledge. This helped PSTs, students and practising teachers. By creating the opportunity for all learners to see, hear, do and understand, the model catered for individual and group development.

DEFINING WORK-BASED PRACTICES

Designing the Novice as Facilitator model required a review of current workplace practices. Connell (1995, p. 97) suggests the purpose of all teaching is to develop the capacity for social practice. In adult education, this necessarily includes work-related practices. The author also argues that building social practice is multi-dimensional and ever expansive in its impact. This paper focuses on an example in which the novice facilitates the learning. The adage that a teacher can never tell where his or her influence stops is apt, because each participant has the opportunity to spread and influence others within and beyond the workplace — for example, teachers sharing practice, students telling parents, and PSTs demonstrating the practice in multiple school settings. (Figure 2).

FIGURE 2
LiW Model with Novice as Facilitator

LiW Model with Novice as Facilitator
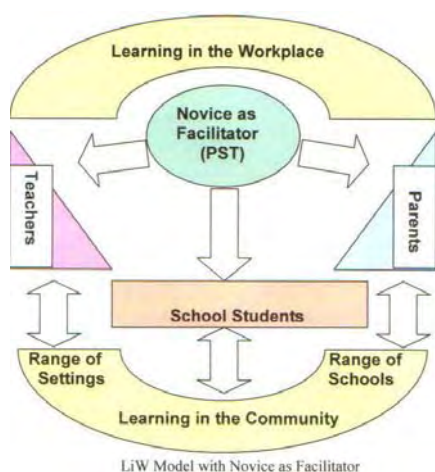
Brown's discussion of conceptualisations of practice (2003, p.2) notes a LiW model that develops the "novice to the expert". This model is commendable because it recognises that "people learn differently at different stages of their professional development" (Daley, 2001). However, it assumes that the novice travels along a continuum toward expert learning. This paper argues that an individual could be situated anywhere along the continuum in relation to a range of activities and, as demonstrated in the Novice as Facilitator model, the novice can also be the expert who in turn mentors others (Figure 2).

Because the author's work with PSTs is inquiry-based reflexive practice (Cara, 2007), one must acknowledge the importance of reflexive practices in personal and professional development. Schon (1983, 1989) notes a discrepancy between college and university text descriptions of professionals' work compared with actual workplace practices. He describes two types of learning from experience: "reflection-in-action" in which one modifies as one works; and "reflection-on-action" in which post reflection creates retrospective actions. Both of these reflexive practices were facilitated in the Novice as Facilitator model. The PSTs repeatedly taught interactive units of study over five weeks, thus enabling refinement of practice as they worked, and also post-experience modifications. They worked in teams to ensure "reflection-in-action" and kept learning journals to build "reflection-on-action".

Billet's work on socio-cultural frameworks in vocational practice (2001) distinguishes three levels for understanding practice. He refers to socio-historical, socio-cultural (the occupation) and situational levels (actual work practices in a specific workplace). This aggregated approach recognises the informal or authentic learning that occurs through work. Calway (2008) identifies eight overview groups of work integrated learning (WIL) practices: Pre-course experience (course prerequisites); Project-based (workplace career-related project); Vocational (on the job training); Contextual learning (real-life experiences to classroom); Work Experience (short-term observations); Supervised experience (course skill-based supervision); Work-based learning (optional integrated periods of academic study and work experience); and Joint Industry/University courses (industry invitation into classroom). However, categorising the Novice as Facilitator model is not a neat fit, though it contains common elements and is definitely WIL intentioned. It is a distinct model in which the facilitator is the learner or novice in the workplace. This model better fits Daley's (2001) recognition of constructivist learning, in which the learner builds individual learning through sense and meaning-making. Additionally, through socially constructed and highly situated group learning, specific learning is gained in the context of that workplace. These layers of learning form the types of meaning-making from different experiences and interactions within the workplace.

Calway (2008) defines WIL as learning that occurs through undertaking industry/professional practical experience whilst studying an accredited tertiary study, and states that it should be expressed through work readiness, life-long learning, human and social potential, internationalised thinking, knowledge transfer and career development. Most importantly, he asserts that it is *intentional*, *real-world and accredited* within an educational structure that *reflects the crucial elements* of the student, the teacher/supervisor, curricula, teaching methodologies and social function of education. The Novice as Facilitator model presented in this paper meets these core criteria and is an example of WIL as best practice.

THE DESIGN – INTENTIONAL, STUDENT-CENTRED AND ACCREDITED

The principles of effective teaching and learning (POLT) principles (DE&T: 2001) are based on literature and current research. They demonstrate that effective learning needs to be within a supportive environment that promotes independent, interdependent and motivated deep levels of student-centred learning. It is achieved through authentic purpose that connects to community with assessment integral to that learning. This WIL project was intentionally designed to reflect POLT and also the crucial elements noted by Calway (2008).

The WIL sessions were embedded into an existing accredited twelve week unit of study within the Bachelor of Education (BEd). The author initiated the five week project as an extra opportunity to meet multiple layers of intention, local and national. First, it was designed to create a supportive workplace teaching and learning environment that was student-centred and based upon the implementation of the POLT principles. Thus the project was designed to meet PST needs to advance their pedagogical understandings and their recognition of multi-literacies through seeing, hearing, doing and, in practical terms, understanding. Rotational groups ensured maximal scaffolding and developmental learning for the school students, and maximal exposure and experience in teaching for the PSTs (Figure 3). It was also designed to give PSTs authentic purpose and motivation to become "experts" who could influence others in interactive science, while meeting the national imperative to improve science teaching.

Figure 3: **SEE, HEAR, DO & UNDERSTAND-LiW** (PSTs, school students, practising teachers and staff)						
Prior to school (See, Hear, Discuss)	Week 1 (See, hear, discuss, do)	Week 2 (See, hear, do)	Week 3 (See, hear, understand)	Week 4 (See, hear, understand)	Week 5 (See, hear, do and understand)	Post LiW (Understand)
Professional development and training for staff & PSTs Readings Team planning	Introductory ENGAGE- Read book EXPLORE- Paper plane	Activities A B C Each group plans, teaches and sets up kits	Activities A B C Other group teaches/plans extension from Wk 2	Repeat Wk 2 C A B To ensure different activity for each group	Repeat Wk 3 B C A Other group teaches/plans extension from Wk 4	Reflection & Evaluation processes including team reports, surveys
All PST groups planned, led, observed and supported unit implementation.						

IMPLEMENTATION – AUTHENTIC, REAL WORLD AND REFLECTS CRUCIAL ELEMENTS

Using the strategy of see, hear, do and understand (Figure 3) was integral to the learning, because it enabled all participants multiple layers of experience and time for reflection. For example, "reflection-in-action" and "reflection-on-action" occurred because the teams taught repeated units to multiple groups and alternated units to teach multiple units. Turn taking facilitated further learning, since PSTs observed and supported each other. To support the schools, the PSTs monitored and reported the progress of a buddy student to the practising teachers. To widen the impact, practising teachers were invited to observe and interact in the sessions. All work was scaffolded, progressive and developmental (Vygotsky, 1978) and built deeper levels of thinking and action in content and hands-on application. Using interactive teaching and learning as the mode of inquiry created highly motivated and engaged students. All participants were able to see, hear, do and gain understandings. The atmosphere created was exciting, challenging and beneficial.

Goodrum (2007) notes that "professional learning" is in keeping with the philosophy of lifelong learning and the lifelong learner. He acknowledges the importance of teachers as professionals and as catalysts for change and improvement. Darling-Hammond (2000) states that to improve student achievement one must improve teacher preparation and qualification. Her research indicates "the effects of well-prepared teachers on student achievement can be stronger than the influences of student background factors" (p.19-20). The Novice as Facilitator model centres on the learner/novice as the facilitator of learning (PSTs) and the change agent (through explicit and specific training). This model of practice met the needs of participants because they gained from the multiple opportunities to see, hear, do and then understand (Figure 4). For example, the PSTs gained valuable facilitator experience in the workplace, practising teachers learned from PSTs, students received one-on-one support in science; and local newspapers acknowledged the school community for innovation.

FIGURE 4
See, Hear, Do and Understand (Sample)

LOOK & LEARN Investigate, Enquire, Look, Observe, Demonstration Read, Review, Learning Journal, Recorded activities, Related videos and multimedia	LISTEN & LEARN Self voice (I am a scientist) Other voice — PSTs, Peers, Teachers, Parents Record the voice — wall charts, surveys, multimedia
DO & LEARN 5 Es: Engage, Explore, Explain, Elaborate, Evaluate Interactive hands-on activities: Test Reflection in Learning Journal	UNDERSTAND &TRANSFORM Application, experiment and trial Form own informed opinion based on data Transform this knowledge into applications (own it)

EVALUATION

At the beginning of the semester, the first year BEd PSTs indicated their feelings about their competence and confidence in the teaching of science through an interactive consensogram.

FIGURE 5
Confidence Scale of Teaching Science
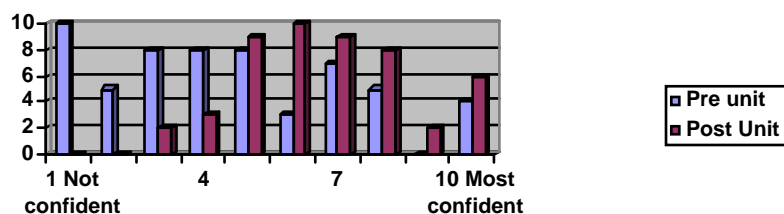
The findings (Figure 5) showed that, while recognising science as important (on a scale of 1-10, 98% of students valued it as 5 to 10 in importance); the PSTs overwhelmingly felt inadequate and lacked confidence in themselves as teachers of science (light columns). Their feelings post unit (after seeing, hearing, doing and

transforming through implementation) changed dramatically; most students now felt confident to teach science as literacy (dark columns). The PSTs also provided feedback through surveys and interviews. Though they faced a steep learning curve, they agreed the experience was beneficial to them and also to school students and staff. For example:

'The experience has been invaluable to my understanding of science, student learning and classroom management'.

'Overall, I would highly recommend this project continue in the future'.

'Although I was dubious about the relevance this activity would have to our course and the impact we would have on the grade two students, I am happy to say that my doubts were blown away'.

'Although I personally found making the kits etc a time-consuming task, the development in confidence and knowledge I have seen in both the primary school students and the pre-service teachers in my group made it all seem worthwhile'.

A science-learning log (Figure 6) was kept for the school students to document their understandings. This clearly demonstrated progress and the practising teachers commented that children continued to discuss their learning between the weekly visits to the school. And the school principal commented that the other grades "were very disappointed that they were not invited to take part in the sessions". Over the five weeks the students were able to use terminology accurately, to explain and describe their interactive work and to activate their learning in a range of hands-on activities. This was documented and recorded in their individual work, group collaborations, discussion, video and journals.

FIGURE 6
Student Learning Journal

The practising teachers also noted student progression and had lengthy discussions with the PSTs and the University staff regarding the engagement of school students on the interactive activities. They clearly noted benefits to themselves and their students.

'Even after such a short period of time it was amazing to see the transformation in some of the students. By the end of the period students knew the overall structure of the lessons and what expectations were had of them. The students seemed to become more and more engaged as each lesson passed. The first lesson saw children guessing answers, but by the time week 4 and 5 came they were supplying answers such as 'gravity', 'force', 'mass' and 'composition'. Our group was amazed how students' confidence in their use of such words developed to the point of using them in everyday conversation'.

'Group discussion regarding theories relating to the science lessons was taking place during the week' (Teacher learning and reflection).

'The students can reflect on the five weeks through their journal entries. The drawings and short stories provide evidence of learning taking place. Using the weekly journal entries allowed for our group to assess each student's learning. This provided our team with valuable insight for the purpose of revision of certain concepts which the students needed clarifying. At the end of the five-week block, all key concepts were clearly understood by each student'.

'Class teachers confirmed that the new vocabulary and concepts were being introduced into the classroom by the students of their own accord'.

CONCLUSION

This model of practice was unique in the use of the Novice as Facilitator of LiW. It was a successful initiative that schools have asked to be repeated in 2008. It will once again evolve and be improved by refining what occurred in 2006 and 2007. The Novice as Facilitator model of practice demonstrated best practice WIL since it provided students and PSTs with work readiness experience and globalised understandings of the world through science. It built lifelong skills and knowledge transfer within the interactions and relationships formed (social and life applications). But most importantly, it was intentionally developed with authentic purpose and workplace learning that was integrated within an accredited course and unit of study. This allowed the PSTs to lead and facilitate, while successfully putting into practice what they preached to schools, teachers and school students: To see, hear, do and understand through interactive teaching and learning.

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Minding the gap between Japanese cooperative education and internships abroad – the value of cooperative project based learning

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Due to the prominence of in-house training common to Japanese companies, the expectation that new recruits will bring experience and high levels of skill are comparatively less than those of peer industries abroad. Consequently, Japanese style Cooperative Education (CE), which might satisfy the needs and expectations of domestic industries, does not always arm students with what is required to fulfill expectations of overseas internship providers and employers, who operate within different educational, social and industrial boundaries. This discussion paper will outline issues faced by CE program coordinators at a Japanese university in facilitation of a pre-overseas internship training program, before offering proposals on how to close the current gap between the needs of Japanese students and those of overseas industry. Proposals are intended to increase benefits for both students and host organizations involved in CE programs, and spawn discussion for finding new and improved methods of CE for universities both in Japan and abroad.

Keywords: Japanese cooperative education, overseas internship, objectives, training and development

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INTRODUCTION

This paper will outline two CE programs involved in overseas internships currently offered at KSU and highlight some of the issues faced when sending students abroad. The programs are Internship 4 and On/Off Campus Fusion (O/OCF). Proposals offered will focus on modifications to currently employed project based learning and the increase of content of overseas internship programs. These proposals are expected to provide maximum return for both students and internship hosting organizations. What are referred to as internships in this paper fall within requirements for Japanese style CE education programs, which, due to their length and content, be considered as work 'shadowing' as found in other countries.

BACKGROUND TO CO-OP EDUCATION AT KSU

KSU has been offering its students a range of CE based domestic internship programs since 1999, with the addition of an overseas internship program, Internship 4, since 2002. Internship 4 targets 2nd and 3rd year students and requires them to undertake both pre and post internship seminars and workshops entailing group discussions, language training, cross cultural understanding and safety management classes. Students from all faculties are invited to join this program which runs from mid May through September each year including a four week overseas internship during the academic summer vacation. Seminars and internships provide personal as well as skills based training which help raise the students' general awareness and increase their overall achievements both academically and professionally. In 2008, 18

organizations including travel companies, schools, a motorbike factory and a supermarket, etc offered 19 internship positions to students at KSU. Benefits of the program can be seen from statistics in 2006 when 88.9% of students said that through completing the internship program, they were better able to decide which classes they should be taking to increase their chances at a entering desired career (Hayashi, Mori & Isumi, 2007). Internship 4 featured in October 2002 on a special on a National TV channel called 'Close-up Gendai' and featured KSU students on internships in China.

It was felt however that some students were not able to keep up with the rigorous pace of these internship programs, and more time was required for preparing students for overseas internships. A four year program called On-Off Campus Fusion (O/OCF) was introduced in 2003 and was perhaps the first of its kind in Japan. O/OCF (pronounced *ocef*) is a four year spiral shaped sandwich style model of CE which nurtures students' technical, conceptual and human related skills. 'On' in O/OCF refers to on-campus study and career related preparation, and 'Off' refers to 'off'-campus internships and other work related experiences. It is the 'fusion' of these two components which is believed to offer students the best support for developing 'self awareness' which is considered one of the keys to choosing a favorable course of study and later a fulfilling career. In 2004, O/OCF was presented with a Good Practice (GP) award by the Ministry of Education, Culture, Sports, Science and Technology (MEXT) for it role as a 'Japanese style CE' program. For more details of this program, readers are directed to Tanaka (2006).

Within O/OCF, a number of classes have been designated to preparing students for study abroad and internship positions. In their 1st and 2nd years, students in these classes undertake domestic tasks and work experience, which along with classroom based study, acts as preparation for a 4 week overseas internship in the summer vacation of their 3rd year. The theory behind this timing is that students by this stage in their studies have acquired personal communication skills and greater knowledge of work related environments. Students have also completed most of their core classes and are ready to move onto more specialized learning in their remaining 1 1/2 years before graduation. Internships have been found to help enlighten students in their selection of classes for their final three semesters which provide them with maximum benefits and fulfill academic goals born from their internship experiences.

CURRENT ISSUES for O/OCF

Maintaining overseas CE programs raises a variety of issues, including; what the length of internships should be, expectations of students verses host organizations, necessary language skills, and student background knowledge of industries.

The ideal length of an internship is hard to give measure to. Currently O/OCF students are required to complete a four week overseas internship. Howard and Jorgensen (2006) assert that even the twelve week duration of a typical domestic vocation experience through a specialized engineering internship program is not enough time to have students be able to 'fit in' to the environment and take on a role of importance or particular value to either the student or the organization. O/OCF students represent a range of faculties and majors and are only able to gain a brief understanding of the

host industry, meaning they are even less likely to fit in. Accordingly, their input to the host organization can only be expected to be minimal compared to their peers on longer term, industry specific internship programs.

Expectations and objectives of Japanese students undertaking internships are for them to gain experience in a working environment, immerse themselves in a foreign culture, and seek experiences which will help direct them in choosing courses at university upon returning to Japan. Host organizations however have different expectations and seek a level of return to their business which will justify the time and resources spent on the internship. Internship hosts in New Zealand, for example, indicate that they expect students to possess strong communication skills, show independence and initiative, and demonstrate a stronger interest, enthusiasm and passion for their internship positions. Added to expectations of students and internship hosts are those of the O/OCF program, which are to develop students' generic or soft skills and for them to attain experience in a work environment. As Toohey, Ryan & Hughes (1996) advance, "…practicum are more likely to emphasize attitudinal changes than acquisition of knowledge or technical skills". Currently there seems to be a gap between the expectations of the student, the internship host organization and the university.

Added to these issues are those of language abilities of students and their background knowledge of the industry in which they are placed. To combat the language issue, O/OCF students are required to gain foreign language skills, largely English, outside the O/OCF curriculum. To make English more accessible to all students on campus, KSU proposes TOEFL training courses, which will be open to all students, meaning that a larger number of O/OCF students too will have increased access to English lessons. Background knowledge of industry is important for the students to successfully find and undertake internships as well as for companies to benefit from receiving internees.

In conclusion the main issues for O/OCF are finding the ideal length of internships, meeting the expectations of all those involved, language abilities of students, and background knowledge. Following are fundamentally two proposals for improvements to O/OCF while remaining within the current curriculum framework and pedagogical ideology of the Japanese style CE system.

PROPOSED SOLUTIONS

To optimize learning and performance by students, we believe the ideal internship program could be modeled on a Disney World Internship Program. Through these programs, internees are provided intensive language training, an industry related pre-internship study program and an internship lasting up to several months through which students gain extensive experience in their internship roles. The logistics of running such programs however means that they are not easy to replicate. Considering the conditions under which Japanese university based internship programs must be administered we propose programs, which incorporate one month internships. Our first reason for this is experience gained through programs run at KSU and feedback from hosting organizations. Secondly, survey results released by the Japanese Ministry of Health, Labour and Welfare (MHLW) in March of 2005 show that

companies and universities believe that students need at least a month to gain from their internship experience (MHLW, 2005). Two possible solutions shall now be outlined.

Solution 1: 3 + 4 Summer Program

One proposal is to maintain the current four week internship, with the addition of a three week pre-internship three week intensive language and business training program. Seven is the maximum number of full weeks that students can be away over the summer vacation period. KSU students have been sent to a partner university in the UK on a similar structured program in which they received two weeks of language study before entering the host university's international student's office for an internship. An additional feature of the English internship program was the reduction in language course fees as a reflection of the labor input by the students during the internship. A similar arrangement with internships at other educational institutes would better enable students with financial restrictions to participate in programs abroad.

Solution 2: Semester + Summer Program (SSP)

Our second proposal entails a semester long pre-internship training program including English language training, preferably in the country of the planned internship, followed by a four week internship during the summer vacation. KSU currently sends students to a program in the US which includes a semester long combination of language and business classes and completion of project work with optional final presentations. A modification of this program for internship students would academically and generically offer positive input for the students allowing them to increase their understanding of local business and 'fit in' at their internships. Weekly visits to the host organization could be incorporated into the curriculum to smooth the introduction of the student to the organization and vice versa, which is another issue highlighted in the MHLW (2005) survey. Although data from this survey refers to Japanese domestic internships, such mismatching issues are not isolated to only Japan. Finally, this program would ideally be offered during the northern hemisphere spring semester of the students' third year to allow students to return to Japan to enroll in specialized courses their overseas experience to use during job hunting in the following year.

Project Based Learning as a Compliment

To either of the above solutions, the inclusion of a project based learning (PBL) component is encouraged to maximize potential return for students and host organizations. Projects might, for example, require students to design a tour for a travel company, undertake market research for a manufacturing business or create a new curriculum for an educational institution, etc, each orientated toward the Japanese market. Students on the 3+4 Summer Program would carry out their project work during their pre-internship spring semester at KSU. Students on the SSP program would complete project work at a language training facility in the host country while regularly visiting the host organization as a lead up to their internship.

Incorporation of PBL in these CE programs is proposed based on the assertion of Tanaka (2006, p. 3) that, 'practical experience', as found through internships, is the "perfect compliment to academic curriculum", in this case PBL. Their combination helps facilitate self-awareness in students, and positively influences their overall academic performance and achievement. A model proposed by Milne (2007) demonstrates the integration of what are referred to as the three worlds of learning; the world of the student experience, the world of the tertiary professional, and the world of work integrated learning experience. PBL combined with business training and an internship is one avenue along which the integration of these three worlds can be achieved.

PBL is employed extensively in the O/OCF overseas class, throughout the four years of the program, and has shown to improve students' ability to work in teams, encourage them to carry out investigative research, develop report writing and presentation skills – communication skills, and offer greater purpose to students' studies. Currently however, PBL content is predominantly student initiated and not directly related to forthcoming internships. It is proposed therefore that a curriculum be developed which combats what Howard & Jorgensen (2006, p. 3) refer to as "disintegrated or fragmented knowledge". By introducing students to their host organizations several months prior to their internships, and by assigning students to projects which have a direct relationship to their internships, and which are designed / requested by the host organization, the program would:

- offer a meaningful research experience and propulsion for student PBL exercises.
- offer a greater depth of return for host organizations.
- be a potentially inexpensive resource for the internship host organization.
- expand students' appreciation CE and its benefits
- increase employability of students through the combination of industry related investigative research and practical work.

CONCLUSION

The above discussion has outlined a CE and overseas internship program at a Japanese university and highlighted issues faced by course facilitators; length of programs, expectations of students and organizations, and language skills, and student background knowledge. It has offered two alternatives to the current curriculum design which include project based learning either followed by, or inclusive of, overseas intensive pre-internship training. These combinations we believe will offer students increased support while maintaining a high amount of challenge, which Milne (2007, p. 4) asserts as "the best mixture, resulting in students achieving growth in learning…". It is through these combinations and bringing together of three worlds of learning that facilitators will be able to better mind the gap between the needs of students and organizations hosting internships.

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Putting the 'integrated' in work-integrated learning

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A key aspect of work-integrated learning (WIL) is the notion that it entails the *integration* of knowledge and skills gained in the educational institution and in the workplace. WIL educators are interested in what way students take what they learn on campus into the workplace; and conversely how what they learn in the workplace becomes related to, or incorporated into, the next phase of learning when the student returns to the campus after completing a work placement Here we report on a major national study of the pedagogical approaches used in New Zealand WIL programs in terms of integration of student knowledge, and consider what impact these might have on student learning.

INTRODUCTION AND BACKGROUND

Work-integrated learning (WIL) is an educational strategy in which students undergo conventional academic learning within an educational institution, and combine this with some time spent in a workplace relevant to their program of study and career aims. It goes under a number of names internationally; sandwich degree (Ward & Jefferies, 2004); cooperative education (Groenewald, 2004); and internships (Sovilla & Varty, 2004; Walters, 1947). The name *cooperative education* reflects the tripartite nature of WIL in which the student, higher education institution (HEI), and workplace work together collaboratively to educate students (Coll, 1996). Recently the World Association for Cooperative Education added 'integrated' in a by-line to its name to reflect a broader perspective of the nature of cooperative education that can include capstone programs, a practicum, internships, sandwich degrees, and work-based learning via industry-projects (Franks & Blomqvist, 2004). A key aspect of WIL is the notion that it entails the *integration of knowledge* and skills gained in the educational institution and in the workplace. It is the integration aspect of WIL that distinguishes it from workplace learning (i.e., what a student or employee learns in the workplace, Boud & Falchikov, 2006).

A key purpose of work-integrated learning is the notion of providing graduates with a comprehensive skill set desired by potential employers. However, the literature notes that it is problematic for higher education providers to provide students with some skills, especially behavioral or so-called soft skills (Burchell, Hodges & Rainsbury, 2000; Coll & Zegwaard, 2006).

Eames (2003) notes that whilst there is a rich literature on the success of WIL programs, such research is almost entirely concerned with what he terms 'operational outcomes', such as benefits for students (Dressler & Keeling, 2004), employers (Braunstein & Loken, 2004), and HEIs (Weisz & Chapman, 2004). For example, it has been reported that compared with conventional graduates, students who participate in WIL programs gain employment more easily, fit in better in the workplace, advance more rapidly in their careers, and so on (Dressler & Keeling, 2004). However, there is a serious paucity of research into what WIL students learn, how they learn, whom they learn from (Eames & Bell, 2005), and how the learning might be better facilitated and supported.

The focus of the work presented here is in what way does the student take what he or she has learned into the workplace, and conversely in what way does what the student learns in the workplace become related to, or incorporated into, the next phase of academic learning when he or she returns to the HEI after completing a work-placement?

CONTEXT

The objective of this current study is to investigate which pedagogical approaches in New Zealand WIL programs are currently used by WIL practitioners (i.e., staff from HEI that run WIL programs) in terms of learning and the integration of academic-workplace learning, and to consider what impact these have on student learning. The authors of this paper are both WIL practitioners and senior researchers who are conducting the research in partnership. Together the parties investigated their respective WIL programs, and the use of pedagogical approaches within them. The context for this study comprises three important sectors of New Zealand higher education; *business and management*; *sport management*; and *science and engineering*, and a cohort of higher education institutions that offer WIL/cooperative education programs in these areas in a variety of ways.

METHODS

The research is interpretive in nature (Guba & Lincoln, 1994; Merriam, 1998), and two main data sources were employed; interviews with three stakeholder groups (viz., employers, students and co-op practitioners), and analyses of educational artifacts (e.g., relevant documentation course/paper outlines, assignments on reflective practice, portfolio of learning, etc.). In this study, credibility was enhanced by the use of data triangulation (Yin, 1994), which involved comparison of findings from multiple methods of data collection, and cross-case analysis, which reviews "processes and outcomes across many cases, to understand how they are qualified by local conditions, and thus develop more sophisticated descriptions and more powerful explanations" (Miles & Huberman, 1994, p. 172).

This paper provides preliminary findings from focus group interviews related to science and engineering, sport management, and business and management. The interview questions focused on pedagogies and learning that were in current use on campus and on placement, or both. The interviews were audio-taped and transcribed verbatim. The findings are presented in the form of a thematic analysis of the focus group interviews.

RESULTS AND DISCUSSION

Sport Management

According to all three stakeholder groups (i.e., recent student-graduates, supervisor-employers, and university supervisors-co-op practitioners) work-integrated learning in sport management "provides a point of difference that employers value." The three main student learning outcomes that the placement - or practicum as it is called in sport management - provides as identified by each of the focus groups were:

- preparation in the 'real world';
- personal achievement; and
- networking.

The practicum is reported to change student attitudes and behaviors, with a more professional approach applied before work, which then provided a launch into the job market. The students indicated they felt they were "developed as people," as they were able to reflect and self-assess their workplace "journey." The practicum experiences resulted in greater self-awareness, self-confidence, self-belief, and improved task, project, and time management skills. The work-based experience also reaffirmed the value of theory learned on campus, and that university study was beneficial in terms of career preparation.

Pedagogies that practitioners reported were used on campus were lectures, practicum classes, facilitated reflection (Martin & Fleming, 2006), and interaction and reassurance from lecturers and student peers. Students perceived a need for more practice in specific work-related activities on campus (e.g., preparing budgets using Microsoft Excel; planning of projects, etc.), and more purposeful, structured reflection. Skills thought to be best learnt on campus were verbal and written communication, along with planning, project and event management. More development of soft skills was identified as a need, such as oral presentations. How an organization is structured and functions, and sport in the social context (e.g., working hours/ volunteers; difference between player/administrator; it's not glamorous, but dynamic industry), were also identified as knowledge best gained on campus. Practitioners highlighted the importance of a "coherent course of study."

Initial pedagogies that were used *on placement* followed the key steps of a human resource management process (Cuskelly & Auld, 2006) and consisted of:

- interview - CV, competitive process; and
- induction - systems, processes and policies - manual for students and supervisors.

The students said they felt they were treated as staff on practicum, with expectations of students and supervisors discussed and clearly established. A need was identified to help work place supervisors adopt more empowering management skills, and to help students take ownership of their projects earlier on in the practicum. Performance review was both informal and formal, with training being offered that provided the student with a "360 experience" of the organization. It was noted that skills, knowledge, and theory students learnt on campus also needed to be developed at the placement, along with the specifics and operations of the organization (e.g.,

specific databases). An important supervisor role identified on placement was mentoring and offering career advice.

Science and Engineering

In science and engineering the students felt they learned "theory" on campus and more "practical work" on placement. On-campus learning of theory was not necessarily seen negatively; indeed it was recognized that there was considerable "variety of information" able to be delivered in lectures, for example. But the practical laboratory work at university was seen as limited, whereas on placement students said they felt "like a real scientist," and that "it was a privilege to use scientific equipment," whereas on campus there was a perception they couldn't be trusted with equipment in laboratory classes: "Oh don't give that to the students they most likely to crap it out." So the students felt that co-op programs in science and engineering were likely to help them gain useful practical skills that complemented their on-campus theoretical learning; practical skills were best learnt on placement, and theory on-campus.

There also was evidence that student participants felt they learned more than content knowledge and practical skills on placement. They also discovered that "when you are doing placement research, it don't necessarily always work," and were somewhat surprised to learn "the work that goes into researching and coming up with ideas."

There was a feeling amongst the students that it was a good idea that on-campus and on-placement learning is integrated; but it seems for this cohort there are no mechanisms or persons that might make this happen. Instead any integration was ad hoc and consisted of recognizing that specific scientific knowledge (e.g., "protein assays," and "mass and energy balances") learnt on placement turned out to be helpful when encountering such knowledge in the next year of study on campus. So when the lecturer "went into protein assay and started explaining. I said 'it's alright I've sort of done it before', so it helped in that way."

Interestingly, the interaction between researcher and participant that occurred during the conduct of the interview, indicated that such integration had indeed occurred on a number of occasions, but it seems there was little recognition of this at the time: "I think a lot of students don't realize what they take back from placement … like through this interview you sort of think oh yeah, you use that from placement, and that from uni." However, examination of placement reports indicates that reflection and review are requirements in all placement reports for the student cohort involved. This suggests that whilst some mechanisms may be in place to facilitate integration, such pedagogies are not recognized as learning tools as such. Alternatively it may be that such an approach is focused on what is learnt on placement, and fails to place sufficient emphasis on how such learning might be utilized upon returning to campus.

Business and Management

On campus learning occurred via lectures and workshops and focused on "major knowledge, in all the theory," whereas, placement learning was for students to gain "hands on experiences." Co-op practitioners from the business management sector felt student's learned best on campus when they had clear learning outcomes, the most

important of which was "reflective learning, reflecting on their own performance." This was facilitated by means of workshops and guidance in the development of learning portfolios. These include things such as "weekly email journals," and "intermittent face-to-face meetings" between practitioners (whose role was to support learning) and students on placement. So students were encouraged to "reflect on incidents that have occurred that week or an incident and describe it, analyze it and say what they might change." A key feature of placement learning experiences was the fact that "they contextualize learning" that" depends a great deal on the placement and that person." Skills gained on placement were "attitude," and "self-management," and interestingly "the value of social skills … students suddenly realizing they actually had to talk to people."

A key feature of learning for the students in the business and management sector in this work was the use of portfolios and in particular a requirement for students to accumulate and justify the learning. A key feature is the notion of "reflective journals … trying to encourage that lifelong analysis." It was this tool that was seen as the main way we might help student to integrate their knowledge gained from on campus and on placement.

CONCLUSIONS AND IMPLICATIONS

The preliminary findings from the three educational sectors indicate that the placement/practicum experience is a point of difference that employers value. Learning it seems occurs from a variety of sources and via a variety of modes. Pedagogical approaches on campus are traditional lectures and laboratory classes, but also include workshops and development of portfolios with a strong focus on reflective learning. It does seem overall that with a few exceptions, any integration is largely unintentional. For example, the encouragement of reflective is intended to produce lifelong learners, rather than to foster the integration of on campus and placement learning experiences. If co-op programs wish the integration of learning to feature as defining aspect of programs that are indeed cooperative *education*, then explicit mechanism may need to be developed that articulate such a process as a defining feature of cooperative education programs in New Zealand.

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Work, education and knowledge: a case study of educational partnerships and pathways

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TAFE NSW – Hunter Institute

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This paper will evaluate the changing nature of learning about work in further and higher education through a broad analysis of trends about curriculum and practice linked to a case study of my own multi-sector institution. The global skills shortage is changing the dimensions of access to education, training and work so that new 'career territories' are being opened up, creating different frameworks for learning spaces, including revitalising educational experiences within work places to be more integrated and authentic. These changes are occurring in ways that cross barriers between education and the economy, and between different sectors within education and training such as VET and higher education. This emphasis on 'work-readiness' is shaping new constructs around general and technical knowledge. The University of Newcastle in Australia, with its partner at the Central Coast Campuses – the TAFE NSW Hunter Institute – has developed new strategic directions focussing on a closer alignment between undergraduate teaching and workplace experience. This paper will present perspective on the synergies between education, work and knowledge applied to the contemporary world of further and higher education.

Keywords: Partnerships, work-ready, skills, professional, vocationalisation, knowledge.

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This paper will explore emerging themes in the relationships being developed between work, education and knowledge, especially in relation to a case study of implementing broader and enhanced opportunities for study-related work at a university. Work-based education in higher education is not necessarily a new event, though universities [higher education: HE] have differentiated themselves from further education [FE] and vocational education and training [VET] by presenting the learning undertaken by university students as more theoretical and conceptual than the practical 'hands' on' learning that is the stereotype of VET. These assumed differences have been the undoing of many attempts to reduce the distance between the operations and philosophies defining the various levels, providers and sectors in education and training.

Yet most undergraduate programs in HE are work-based in the sense that they are vocational – they teach students how to be engineers, doctors, nurses, teachers, architects, scientists, artists, musicians etcetera. It is important to state upfront that, for this case study, work-based does not necessarily mean worksite-based. Nonetheless, most HE students draw directly from their degree for obtaining employment (in their "profession") in much the same way FE students draw on their qualifications for getting a job or a better job, or a better position within their place of employment (in their "vocation"). Increasingly, HE students want their course to be relevant to their

chosen career, especially now that they are paying high fees and being encouraged to see themselves as customers. Contemporary observers would not argue with Dewey (1897, p. 80) that:

> (…) through education, society can formulate its own purposes, can organise its own means and resources, and thus shape itself with definiteness and economy in the direction it wishes to move.

Where the differences between FE and HE have been bridged is one other consideration. Bridging the divide between FE and HE is not the only way to address the issue of workplace learning, but there are clear lessons to be learnt from each sector, and yet this conversation has not taken place in any meaningful way. What is the significance of how each sector envisages and addresses "work-readiness", and does this provide greater, or less, validity (and credibility) to general or vocational knowledge(s)? Multi-sector, or cross-sector, FE / HE partnerships are one inventive way to provide a broader focus for partner organizations as well as providing benefits to the students they share and service. A case study of one such example, the "Central Coast Campuses" in New South Wales, Australia, follows in this paper.

What do we mean by 'work-integrated learning' and where is it heading?

The National Association of Graduate Careers Advisory Services [NAGCAS] / Australian Learning and Teaching Council [ALTC] "Work-Integrated Learning" Project describes "WIL" as involving:

> … real-world experiences providing opportunities for students to apply theoretical knowledge, develop and consolidate transferable skills, career development competencies, reflect on practice, and develop an understanding of the relevant professions or related sectors. *(Adapted from QUT).*

The ALTC project goes on to suggest that WIL can be implemented in many different formats and may include or be known by the following terminology:

> Work-based learning, work experience, practice / practicum, clinical placement/ practice, community-based learning / project, co-operative education, service-learning, professional skills program, work / job shadowing, work-experience, vacation work, internship, apprenticeship, sandwich course, industry project, cadetship, traineeship, enterprise project, experiential learning.

WIL is seen (by the ALTC) as occurring in a workplace, in the community, within the university, and real or simulated, as long as the experience is authentic, relevant and meaningfully assessed / evaluated (Boud and Symes, 2000).

Across Australia over the last two years there have been a number of major initiatives that are driving new directions in work-integrated learning. In October 2007 Universities Australia released a discussion paper on "A National Internship Scheme". The impetus for the discussion was evidence that 85% of all students work in paid jobs at some stage each year, but that thus work is often not structured and not necessarily linked in any way to the student's intended area of graduate employment. The Paper acknowledges existing 'internship' style programs but offers a range of new options intended to capitalise student interest in study-related work.

Also in 2007, the then Minister for Education, Science and Training, the Hon. Julie Bishop MP, announced that a consortium of 14 universities had been commissioned to develop a single agreed template for an Australian Diploma Supplement. The final report was released on the 21st May 2008 after analysing the current European situation, the recommendations of the UK 'Burgess Group', e-portfolios, pilot supplement diploma projects between 2002-05, and talking to employers, professional associations and HE recruiting agencies. The key recommendation is for the introduction of an Australian Higher Education Graduation Statement [AHEGS] that will take the form of documentation provided to graduates by awarding institutions in addition to the degree or diploma certificate or testamur. The purpose of the AHEGS is to make qualifications more portable and their value more transparent by providing descriptions of the nature, level, context and status of the studies that were pursued and completed by graduates, as well as information about the education system to which the qualification belongs. www.une.edu.au/chemp/projects/dipsup/index.php

In February this year the Innovative Research Universities Australia group initiated a work-integrated learning project that is intended to report at the end of 2008. The project includes three phases based on local awareness, sharing information and collating / displaying shared learning (paper and web formats). The planned outcomes include identification and documentation of good practice models for WIL.

In addition, there is a nation project on career development and WIL, funded by the Australian Learning and Teaching Council, that aims to develop case studies that demonstrate effective strategies for incorporating career development learning across a variety of approaches that involve engagement between the university, industry and their communities, as well as inform the planned development of guidelines for the provision of work-integrated learning that maximises career development and employability skills. The project is ongoing and there was a symposium to allow a broad input into the research to date, and into planning for the process and mapping of issues and exemplars. www.usq.edu.au/nagcascarrickproject/

"Volunteerism"

Macquarie University has announced a partnership with Australian Volunteers International as part of a policy and plan to introduce mandated volunteering that gains credit points, most likely as part of an elective but the "service" periods could be part of semester or regular stints throughout a semester. The mechanics and resourcing of 32,000 students has not be fully explained as yet, though it is an interesting development given that about 30% of Australians between 18-24 do voluntary work anyway.

AN INSTITUTIONAL CASE STUDY OF EXPANDING 'WIL'

This section outlines practical issues related to implementing work-integrated learning in the majority of undergraduate degrees as part of the push by the University of Newcastle to extend the existing high profile for excellence in professional education by achieving the goal of having 'work-ready' (graduate) students. Creating new and extended work-based experiential learning opportunities for UoN undergraduate students will involve a change of attitude on the part of a number of academic and administration personnel but there is a broad and successful body of practice at the

UoN that provides evidence for the value of WIL; called 'work-based experiential learning [WBEL] at the UoN. Part of the work the UoN will do before the end of 2008 is to better define what WIL means for us.

Since the 1990s, 'Education' has increasingly been understood at the UoN as lifelong learning, of which explicit time-based, sequential and hierarchical learning is only one part and one source of knowledge acquisition by young people in a Digital Age. These changes are driving initiatives that are reducing the gap between vocational / general / professional education (and training) in a way that is also addressing issues of relevance and recognition of work-based / curriculum-aligned learning.

Generation Y students are working significant hours in paid employment to manage student fee debt and attrition in 1st year, worldwide, is high; not only because of the pressures of paid work but also because this generation is failing to see the relevance of what they are being taught, by lecturers who fail to understand why young people are not interested in learning the way they did. That is why the University of Newcastle's strategic plan has as the very first goal and target:

> We will incorporate an opportunity for work-based, experiential learning opportunities into all undergraduate programs so that our graduates are flexible and ready for the workplace.

The measure for the success of this strategy will be the percentage of undergraduate programs that include work-based experiential learning; and of graduate employment rates and starting salaries. The target that was set in 2006 as part of the University's new strategic plan "Building Distinction" was for 70% of UG programs to include work-based opportunities by 2011, and for at least 10 programs to be recognised as having graduate employment rates and starting salaries in the top quartile of the sector by 2011.

Already, work experience and placements are an assessable component of some UoN degree programs. Building Distinction envisages the extension of WBEL within UG programs as an expression of the intention to make the high quality education of professionals a defining feature of the University of Newcastle and thus give UoN graduates a competitive edge when entering the workplace. Strategic Priority #4 is:

> We will foster partnerships that enrich and develop our communities in mutually beneficial ways.

with the first goal and target:

> We will offer further opportunities for students to engage in community-based learning and leadership activities.

The measure determined in 2006 was the percentage of undergraduate students undertaking community-based learning and leadership activities. This means real experience as part of each student's program of study, and actual developmental learning related to that field of study; that is, WBEL at the UoN does not mean being a substitute for the employer as casual staff or being assigned or undertaking menial and/or meaningless tasks unrelated to each student's field of study and level of expertise.

The UoN has a long, distinguished and internationally recognised reputation for problem-based learning in many degrees. This innovative curriculum design and pedagogy in higher education is a tradition and foundation that the UoN can build on to enhance and expand opportunities and structures for providing work-based experience learning on and off the campus. Learning is contextual and one of the key outcomes expected from WBEL is that knowing an experienced profession / workplace is one way to give theoretical knowledge a more complete form (*phronesis* 'practical wisdom') and/or a form perceived by students to be more useful to their purposes and is perceived by staff one way to help develop a creative intelligence.

For the UoN genuine WBEL will be a key component of the way in which the institution is building distinction through performance improvement, institutional capability and a seamless fit to community, industry, business and professions. Priority 4, Strategy 1 of the UoN ISP states "We will offer further opportunities for students to engage in community-based learning and leadership activities". The measure for this goal and target is the percentage of students undertaking community-based earning and leadership activities.

Curriculum-aligned WBEL means that the practice of WBEL at the UoN is considered to be an integral part of an academic program and a valued and rewarding experience by students through helping them make the links between what they learn and what they can do. Assessment practices can include supervision by academic or administration staff, or by trained workplace staff, or reflective journals, mobile phone delivered projects, real world projects, and so on. The central feature is a focus on good teaching and learning outcomes, not on narrow instrumental outcomes.

Regional Factors and WIL

The Central Coast region of New South Wales Australia, is characterised by an increasing population and economic growth but low education participation rates. Central Coast school students leave school earlier; there is a lower than NSW average retention rate in the senior years; there is lower than NSW average participation in VET; there is lower than NSW average participation in higher education; and a lower percentage of people with a higher education qualification than the NSW average (Crump and Williams, 2007). In response, state and local government inquiries have focused on education as a key lever in building the community and the region.

However, the Central Coast region does not yet have a single defining or well-recognised location or identity. Rather, the region is an amalgamation of numerous "villages", with varying characteristics and local community cultures (rural, coastal, industrial and service), some of which are outward looking and growth-oriented, others striving to retain the traditional features and advantages of a small and homogenous and "unspoilt" locality. The same dilemma applies to local business as there is a lack of a defining industry for the region. Many state government departments and initiatives view the Central Coast as a fringe suburb of Sydney, and a very high proportion of residents leave the Central Coast daily for employment. This creates problems for building loyalty to local institutions.

In the case of the multi-sector campus at Ourimbah on the Central Coast of New South Wales, the TAFE NSW – Hunter Institute courses are strongly engaged with work-based learning, including self-paced study, flexible learning centres, 'prior recognition' for individual study programs, learning projects sponsored by industry or the community, and on-line managed and m-learning. However, the FE organisational culture, as in HE, inhibits the shape and depth of these initiatives extending learning and teaching outside the traditional classroom, with professional privilege of knowledge just as important to VET teachers as to university lecturers.

As mentioned earlier, one of the primary aims of multi-sector institutions is to narrow the gap between success and failure by improving student retention and completion rates across all levels. While this is a matter of institutional self-interest, it potentially has advantages for social cohesion and educational equity in a country as large and diversely populated as Australia as well as improved educational participation rates and outcomes. Our joint FE/HE campus at Ourimbah demonstrates some of these benefits, as well as the potential for even better synergies and outcomes. Currently there are 205 TAFE courses and subjects offered by the TAFE NSW – Hunter Institute with credit transfer arrangements. For 2007, 1,093 students with a TAFE qualification were offered a place at the University of Newcastle – 24.6% of all offers – and 839 offers were accepted (about 300 at Ourimbah).

TAFE students get guaranteed entry into the UoN on the basis of Certificate IV or Diploma into 11 degree programs, with the highest cohorts of students entering a broad range of university programs: business / commerce / management, nursing, education, engineering, fine arts, information technology, social science, podiatry and oral health. Whilst there is a 'cost' to the Hunter Institute from loosing these TAFE articulants, the UoN gains a high value cohort in that there is very little attrition of students with a TAFE qualification from university courses. The Hunter Institute gains through attracting students on the basis of these pathway options, as well as students with a university qualification then taking TAFE courses to broaden their credential portfolio.

Multi-Sector Factors and WIL

One on-site example at the Ourimbah campus where work-based learning is particularly effective is in teaching and training for early childhood education. The campus has a dedicated space for all levels of training, from a basic FE certificate through to undergraduate degree and research degrees. The Centre is called "Yerra", in which FE and HE students learn and work together with FE and HE staff. This includes experiencing real-life workplace situations that are provided through a free child-minding service whereby local community members are able to bring their child(ren) to Yerra and leave them for a few hours at times when early childhood education students are able to work with the children, under supervision, and watch each other through a one-way mirror tutorial room.

There are many benefits to this approach to the community, staff and students. It is a good example of a Deweyan perspective on "work-readiness" in that students gain a well-adjusted views on the realities of workplaces and the value of their work, whilst not having been socialised into a particular workplace, where the result can sometimes be quite reactive:

> (…) such training *may* develop a machine-like skill in routine lines(it is far from being sure to do so, since it may develop distaste, aversion and carelessness), but it will be at the expense of those qualities of alert observation and coherent and ingenious planning which make an occupation intellectually rewarding. (*Vocational Aspects of Education*, Ch. 23, p. 310, Dewey, 19916 / 1944; emphasis in the original)

Reflections

In "My Pedagogic Creed" (1897), Dewey made his famous declaration concerning education. Dewey saw the kind of person emerging from education as someone prepared to learn throughout his or her life (100 years before 'lifelong learning' became fashionable) and capable of acting in the world with a sense of obligation to human society, past, present and future (Wirth, 1966).

Thus Dewey (1916 / 1944, p. 308) believed "An occupation is the only thing which balances the distinctive capacity of an individual with his social service" (1916 / 1944, p. 308). Productive and authentic pedagogies that shaped educational experiences to assist each individual realise their "right occupation" are to be encouraged because they assist each of us find a congenial calling, was well as not wasting human talent. He concluded:

> The problem is not that of making the schools an adjunct to manufacture and commerce, but of utilising the factors of industry to make school life more active, more full of immediate meaning, more connected to out-of-school experience.

WBEL, WIL… whatever we decide to call it, is a contemporary expression of exactly this point, and is exactly the same impetus for implementing broader and new intersections between work and learning at the University of Newcastle.

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Factors associated with learning outcomes from cooperative education in environmental science

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Although the role of key factors such as grade point average (GPA), evaluation, and assessment have been well documented in the literature, there appears to be limited information about other factors which can have an impact on the success or otherwise of cooperative education programs. These factors include the time in the academic program when the coop is undertaken, the size and type of organisation providing the workplace experience and the role that the workplace supervisor and co-workers play in contributing to the students learning. A survey of 131 cooperative education students examined these factors to evaluate their effect on student perceptions of learning arising from their workplace experience. The majority of students either agreed or strongly agreed that they learned skills and techniques in their placement (100%) and that those skills and techniques helped them in the workplace (94%). More than 90% of students agreed or strongly agreed that their workplace supervisor and co-workers contributed to their learning. Chi square analysis showed that factors such as the time within their studies that they undertook their co-op, the type of business where they were placed, grade point average, and if they used a university arranged position or organised their own position had no significant relationship with their learning experience.

Keywords: Host organisation size, learning outcomes, supervisor, co-workers, environmental science

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INTRODUCTION

Research into cooperative education is increasing as practitioners collect and publish data. This helps in improving the status of cooperative education research and should assist in gaining respect in the scholarly community as suggested by Bartkus and Stull (2005). The need for research into learning processes in cooperative education have been well documented in the literature. Stull et al (Stull, 1997) ranked research topics for co-op education research and the highest in the top 10 was the identification and evaluation of learning outcomes from students who participated in co-op programs.

Bulger (2006) reported that co-op programs enabled students to develop knowledge skills and abilities in the work environment, but less desirable educational outcomes could result from inadequate academic preparation and supervision and a lack of accountability. The role of supervisors was also recognized as important for facilitation of learning by Eames (2000). Forbes (2003) also found the education management of the service delivery was directly related to work-based learning. Fleming and Eames (2005) found specific learning outcomes such as communication skills, time management, reflective thinking, and research skills were obtained from cooperative education experience. They also suggested the role and the timing of the project influenced student learning.

Historically, grade point average (GPA) has been used as a predictor of success in education, but Fletcher (1988) concluded that cumulative GPA was not a useful predictor of job performance of students in cooperative education. Hackett *et. al.* (1998) found that GPA was strongly correlated with student satisfaction with cooperative learning whilst Blair & Millea (2004) also found that cooperative education had a positive effect on GPA. There does not appear to be a great deal of research on the role of GPA as a predictor of success in cooperative education.

There has been limited research on the type and size of organisations where students spend their time and the impact these might have on the learning outcomes of cooperative education. Eames (2000) found a strong link between learning and the type of organisation but also pointed out difficulties in drawing conclusions about the size of the organisation because of different interpretations by the students surveyed.

The purpose of this research report was to examine a range of independent variables and their impact on learning outcomes from co-op experiences. This report essentially draws on quantitative data, with further qualitative analysis to take place at a later date.

METHODS

Background Information

The School of Environmental Science and Management at Southern Cross University, Australia, offers students the opportunity to participate in a co-op program in which they apply for vacation volunteer work with a list of participating organizations, called 'school based positions'. Students can also organize their own placement, called 'own arranged'. The students spend a period of 8 weeks with the host organization, usually unpaid and receive course credit of one unit towards a degree program consisting of 24 units. The cooperative education unit of study is called *Internship Study*, and is an elective (non compulsory) unit. The unit is ungraded and students either satisfy requirements (pass the unit) or fail. Students applying for a 'school based position' undergo an interview for the position. All students are required to submit a work diary and complete an evaluation survey form. A host organization supervisor's evaluation form is also submitted separately.

The Evaluation Survey

The survey contains general questions about the position, the host organization, and demographics. There are evaluation questions on learning and the workplace, who they learned from and how, what did they actually learn in the workplace, and a general evaluation. The survey form, adapted from Eames (2000) was pilot tested in 2005 and results from 2006 were used by Cullen (2007a) to determine the skills and competencies learnt during their co-op experience. The survey contains a combination of open and closed response questions, and ratings of agreement with statements were obtained using a 5 point Likert scale (1 = strongly agree, 5 = strongly disagree).

The evaluation survey was completed by all 131 students who completed the Internship Study unit in 2006 and 2007. Grade point averages (GPA range 1 = lowest to 6 = highest) for all participating students were obtained from student records. Quantitative data (frequencies, means, standard deviations, and chi-square analysis) was analyzed using SPSS 13.

Research Questions

The key learning outcomes researched included:

- Skills and techniques: Were they learnt in the workplace; did they help in their work; did they build on the skills and techniques learned at University; should they be included in University studies.
- Who did they learn from: Workplace supervisor, co-workers, University Internship staff.
- Personal outcomes: Did they gain practical knowledge, written, and oral communication skills, and problem solving skills; did they face mental, physical or creative challenges; did they achieve personal growth; were they more confident about seeking employment; did their job seeking skills improve.

Five independent variables were used which were thought to be an influence on learning outcomes. These were:

- Stage in study program
- Nature of business of host organisation
- Number of staff in host organisation
- Was this a school organised or own organised position?
- Grade point average

RESULTS

Demographic Data

A total of 131 students completed the evaluation survey. Of these, 24 students (18%) had completed 16 units of study in the 24 unit degree, while 35 students (27%) had completed between 16 and 24 units. The remaining 72 students (55%) undertook the *Internship Study* as their final unit of study. Nearly two thirds of the students (90) had placements in school based positions and 41 students organised their own position. Table 1 shows the GPA distribution with almost 90% of students in the top 3 bands. Table 2 summarises the type of business and size of the host organisations. Most students were placed within State and local government organisations. Students in educational institutions are double degree students who are also enrolled in an Education Degree. Table 3 describes the student's responses to questions about workplace skills and who they gained these from.

TABLE 1
Grade Point Average of Students (2 = lowest, 6 = highest)

GPA	Number	Percent
2	6	5
3	15	12
4	48	38
5	42	33
6	16	13

TABLE 2
Type and Size of Organisation

Type of Organisation	Number	Percent
Government department (State and Federal)	48	37
Commercial	26	20
Local government	22	17
Research	12	9
Education	8	6
Other (not stated)	15	12
Size of Organisation	Number	Percent
1 – 10 staff	52	40.0
11 – 50 staff	44	33.8
51+ staff	34	26.2

TABLE 3
Descriptive Statistics: Workplace Skills and who the Students Obtained them from.

Survey Item	% Agree or Strongly Agree	Mean Score	Standard Dev.
I learnt skills and techniques in my placement	100	1.49	0.50
The skills and techniques helped me to work	94	1.56	0.61
The skills and techniques built on university study	86	1.74	0.73
The skills and techniques should be in the study program	74	2.45	0.86
My host supervisor contributed to my learning	95	1.93	0.84
My co-workers contributed to my learning	90	1.48	0.63

Table 4 presents results of the personal outcomes from the survey. Most students (93.1%) agreed they gained practical knowledge about their field of study while more (98.4%) agreed or strongly agreed they acquired new knowledge from the experience. Confidence and skills in job seeking were also a strong outcome. The nature of the work undertaken by environmental science students can be quite physical and this is reflected by the number of students who agreed or agreed strongly (70.5%) that they were physically challenged by some of their work tasks.

TABLE 4
Descriptive statistics: Personal outcomes

Survey Item	% Agree or Strongly Agree	Mean Score	Standard Dev.
I gained practical knowledge about my chosen field of academic study	93	1.48	0.73
I had the opportunity to develop written communication skills	73	1.90	1.13
I had the opportunity to develop oral communication skills	89	1.60	0.67
I acquired new knowledge from my work	98	1.30	0.49
Personal growth was an outcome of the placement	93	1.60	0.74
Some of my work tasks challenged me mentally	81	1.78	0.94
Some of my work tasks challenged me physically	70	2.14	1.25
Some of my work tasks challenged me creatively	72	2.08	1.16
I developed problem solving skills during my placement	82	1.86	0.78
I now feel more confident about seeking employment	92	1.59	0.65
My job seeking skills have been improved	88	1.71	0.67

DISCUSSION

Demographic data

The demographic data show that students undertook their co-op at various stages in their studies. Though not apparent from these results, over the 10 years of the program, more students are undertaking the *Internship Study* as their final unit of study in order to be available for any job opportunities that might arise. Further analysis is required before any effect of the co-op on the student's employment prospects or its impact on GPA can be determined. There was a fairly even distribution of the size of the organisations that hosted students. Most students were placed at either local, state or federal government departments and this tends to reflect the employment areas where graduates gain employment.

Skills and techniques

All students agreed or agreed strongly that they learnt skills and techniques in their placement, the skills they learnt helped them in their placement and they built on the skills learnt as part of their university study. This is to be expected and was reinforced by the responses in the personal outcomes (Table 4). The majority of students agreed or agreed strongly with the personal outcomes they achieved from their experience. The students gained practical and new knowledge (93%) as well as communication (>73%) and problem solving skills (82%). Because of the diversity of positions, fewer students agreed that they were challenged physically and creatively. One of the stated objectives of the *Internship Study* is that students should improve their job seeking

skills and the results support this. It was found that 58% of graduating students gained employment with either their host organisation or were working in the environmental science area, indicating a successful co-op outcome.

Who did they learn from?

The workplace supervisor is extremely important to the learning process as 95% of those surveyed agreed or agreed strongly that they contributed to their learning, and was slightly (90.0%) more important that co-workers (Table 3). These are similar results to those by Cullen (2007b), who also suggested that agreement was significantly higher in smaller organisations. The inclusion of results from a further 59 students in this report removes that significance, and there was no significant relationship when the role of co-workers was analysed. This indicates that both the supervision and the co-workers play an important role in providing learning opportunities, a similar finding to that of Eames (2000). This has implications for co-op coordinators who should ensure that workplace supervisors focus on the needs of students (Bates, *et al.* 2004), especially given the role that supervisors can have in supporting the learning that takes place (Weisz & Smith, 2005).

The type of organisation was not a significant factor with student learning, nor was the size of the organisation. This is in contrast to an earlier analysis by Cullen (2007) who found that students in smaller organisation (<10) strongly agreed they learnt skills from their placement. This change in significance is attributed to the increased sample size used in this analysis.

Personal outcomes

Chi-Square analysis using the five independent variables revealed no significant relationships between any of the learning outcomes. This does not imply that the independent variables do not have an influence on the learning outcomes. Students at smaller organisations (<10) and students who undertook a school based position tended to agree more strongly that they gained knowledge and skills from their placement. Similarly, students with a higher GPA tended to agree more strongly about the learning outcomes from the experience. This trend was not apparent when considering the stage in their study program when they undertook the placement, nor was the nature of the business where they were placed.

Implications

This study indicates that the factors which might be important for learning appear to be complex and not as straightforward as might have been thought. While the role of workplace supervisors is important, the size and type of organisation, the time when the co-op was undertaken and GPA were not significant in these results. Further evaluation incorporating more results could lead to different conclusions, and the inclusion of more qualitative analysis should enhance the research focus.

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Measuring student reflection during engineering internships

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This paper describes an approach that attempts to enable students to develop and demonstrate appropriate engineering graduate attributes through an industry internship. It also looks at some of the trials and tribulations encountered on the journey.

The School of Engineering at the University of Queensland offers a Professional Engineering Placement Scholarship program to students in their fourth year, for which students obtain full academic credit. As part of the academic element of this program, students undertake a two unit Professional Development course (ENGG 4010).

The Professional Development course uses flexible learning methods to encourage students to reflect on their own professional development throughout the placement semester. The cornerstone of the course is the Professional Development log kept by each student in which they record and report work activities whilst at the placement organisation. Each week students identify critical learning events in terms of professional development. They must then analyse the most significant of these events using a standard analysis template. For the students, the process aids them in keeping an accurate record of their time on placement as a contribution to future job applications as well as to their assessment. They are also intended to assist in each student's individual growth and learning by providing an avenue for reflexive thought.

INTRODUCTION

Engineering students at the University of Queensland are offered the opportunity to undertake an engineering internship during their first semester of fourth year. The program is small offering placements to between 10 and 20 students each year.

The program is called the Professional Engineering Placement Scholarship (PEPS), and can be described as an approach that enables students to develop and demonstrate engineering graduate attributes whilst on placement. Ideally the program duration is six months, comprising one semester of vacation work and one semester of PEPS. However, in practice the initial vacation work lasts anything from a full semester to a couple of weeks.

Students are selected via university and company interviews, and are chosen by their motivation, enthusiasm and potential to cope with independent learning and external courses, rather than on good academic performance. However, all students are generally averaging a GPA of 4.5 and above.

The PEPS program is fully accredited as students enrol on two external courses, which are assessed during the PEPS semester: one a research project, and one a professional development course.

RESEARCH PROJECT

The 6-unit research project course requires students to use their technical skills. Companies are asked to provide a project that will stretch the students, to motivate and be useful to the company. One strength of the program is the complexity and depth of these projects. Students are often completing projects that are vital to the business of the companies, and at a level to be expected of a junior graduate engineer. Students gain technical skills and experience beyond that of their peers in the lecture room.

PROFESSIONAL DEVELOPMENT COURSE

The second course that students undertake is a 2 unit professional development course, and is this aspect of the programme that creates a unique learning experience for the engineering students. Students are introduced to reflective thinking, which in almost all cases is a new and unfamiliar practice. Through her review of education literature Van Gyn (1996) finds that reflective practice is regarded as a learned skill and is most effectively introduce in conjunction with an experiential component of a curriculum. As a learned skill, necessary for its development are deliberate practice with this activity, adequate feedback and the opportunity for the transfer of the skill to a 'real' environment.

How we diagnose and construct our experience, take action, and monitor our behaviour while simultaneously achieving our goals is crucial to understanding and enhancing effectiveness. If we learn to behave differently and to make these new behaviours stick, we will begin to create a new world. (Argyris & Schon 1974).

The course seeks to encourage students to recognise the importance of professional skills and check the development of those skills through the placement in preparation for eventual preparation for professional status. The course uses reflective thinking to get students to analyse the learning incidents that have occurred each week. Central to the professional development course is the Professional Development Log or PDL.

PROFESSIONAL DEVELOPMENT LOG

The professional development log is kept by each student and submitted electronically each week. Students are asked to identify critical learning events that have happened in terms of professional development. They are asked to consider those 'Ah Ha!' moments when things have clicked into place. They then analyse the most significant of these events using a standard analysis template. Feedback to the student is critical, and so the logs are assessed by an academic and feedback given to the student within 48 hours. This allows students time to review the comments made by the marker before completing the next log.

ANALYSIS OF LEARNING INCIDENTS

Students are asked to analyse their learning incident in a very structured way by working though the incident in four stages on a standard template.

1. *Situation***:** What actually happened?
2. *Affect***:** What was its impact on *you* personally?
3. *Interpretation***:** What did you learn from the experience?
4. *Decision***:** What did you decide to do so as to become a better engineer?

Situation

In this stage, students are asked to simply state the facts of the incident without interpretation. Students are asked to be concise, but to write as much as they feel they need to. Incidents will vary in complexity and depth.

- *Student A* –   [I] was supervising a group of 30 operators with one other supervisor. I had a number of groups moving cars from one area to another. Got into a situation where two groups were moving the same cars back and forward for just over an hour until they realised and made myself aware. After investigating I found that the other supervisor organised his group to move cars from the area my group were parking them as he thought they were a part of his area. This was because I did not communicate to him what I was doing.

- *Student B* – I received a task handover for a departing colleague, but didn't look at it. This was because, as per normal, I felt rushed and like I didn't have time. When I finally got around to looking at the task handover plan, I had several questions for the departed colleague. However, I couldn't talk to him as he was on holiday. Hence, the required tasks were much more difficult and time consuming.

- *Student C* – On Wednesday, the supervisor for one of the areas in Body Build was absent. I was asked to fill in the position for the day. Due to my current workload I could not take on the task. I explained this to the manager and told him 'No'. He was able to find someone else and spread the load.

- *Student D* – Part of my job is to calculate the CO_2 emissions of various buildings. This is done via spreadsheets and computer models. As my experience grows, I'm tempted to add complexity to continually improve accuracy and keep things interesting. I've been gradually increasing modelling complexity until last week. I realised such complexity is really not necessary and is really time-consuming. Instead of adding complexity, I quickly completed the model and spent some additional time on communicating the information to the client via a better report.

Affect

In this stage, students have to set out the personal affect the situation had on them. Students initially find this phase very difficult in terms of analysing their feelings.

- *Student A* – I felt frustrated that for over an hour two groups accomplished no valuable work due to a lack of communication. I was disappointed as I did not pick up on the mistake earlier.

- *Student B* – I felt frustrated because I knew that a few simple answers would clear up my questions. I realised that I should have looked at the task list at the time, and so I was annoyed with myself.

- *Student C* – By saying 'no' I felt like I had let the team down. I was relieved when the manager accepted my comment and agreed.

- *Student D* – I felt this was a small victory against my natural tendency to greatly over-complexity things. This felt good, because previously I have – against my better judgement – continuing to obsess over the detail. It was somewhat empowering to put into action something previously planned via the PDLs.

When students can find or demonstrate a link between successive log entries, as with Student D, it enhances the reflection that is taking place, and reinforces the value of the exercise.

Interpretation

This phase is usually easier for students once they have worked through the first two. Students are asked to explain in what ways the new learning either confirms or contradicts their prior knowledge, theories, or understandings about the practice of engineering, in particular the knowledge they have gained at university.

- *Student A* – I learnt that communication between management and supervision is vital to successfully and efficiently complete a job. I have witnessed through experience the affects of poor communication at work and university. Lessons taught through studies at university have been designed to teach techniques of good communication. I will need to use these techniques and develop them throughout my career.

- *Student B* – I learnt that even if things are hectic, it is necessary to determine if it would be more efficient to have a quick look at certain tasks/documents in order to save time later.

- *Student C* – I often find it hard to say 'no' to work takes but have learnt it is sometimes necessarily to do so. Saying 'no' is a form of prioritising work, as learnt from uni. Good communications skills help make the decision easy.

- *Student D* – I learnt that I can overcome habits and temptations to become more productive. In this situation, this conformed my thinking that often the fine detail is meaningless. Rather, I saw that the communication aspect was equally important. With regards to university, this is usually not the case. That is, at university the detail is – rightly – important. I learnt that this balance, between content and presentation, sways in the direction of presentation in private industry.

Decision

This phase is usually the one that struggle with the most. Students are asked to describe how the learning that has taken place will become part of their regular professional arsenal and be routinely applied in a wider range of circumstances, not just those similar to the particular event. In order to be effective, decisions must be specific, realistic, and ideally with some time frame indicated. Decisions such as 'I will do better next time' are not helpful to the individual and shows that the student has not really thought through how the incident will affect their professional life in the future.

- *Student A* – I will be supervising similar jobs throughout next week. I will ensure I communicate with other supervisors and management using techniques I have learnt, for example, regular coordination meetings, phone calls when changes are made, or email if the required people cannot be contacted. I will review the techniques I use at the end of the week and continue to refine and develop my communication skills.

- *Student B* – It's not practical to look at everything as soon as you receive it. However, I resolved to scan my email every morning, even during busy times. When I see something that is important, I will make a conscious decision to either leave it, or have a quick look and follow it up.

- *Student C* – Being asked to do additional takes is common in the workplace. I need to continuously prioritise my tasks even if that means saying 'no'. However, saying no has to be done appropriately and with good explanation. I will continue to review and reflect on the decisions I make when dealing with tasks. Particularly how to say 'no'.

- *Student D* – This was a positive experience. I should, very simply, try to repeat it. Previously I'm mentioned various task lists, planning methods, etc which have enabled me to determine whether I should delve into the detail of a particular task. In this case, to continue this learning event, I'll continue to use these methods and follow their advice. This is somewhat hard to enforce because it's really just my choice at the time. However, one good way is to remember the positive outcome of this event, and to focus on the outcomes, not process.

Student review

Over the past two years, the professional development course and in particular the PDLs have been reviewed through written response surveys and focus groups.

Students found this type of exercise very different from the usual engineering assessments. In particular, some found the revealing or expressing of feelings a confronting experience.

> 'Don't feel completely comfortable about revealing emotions to someone I didn't know'

However, as the semester advances most students become more comfortable with the process, and are happy to reveal surprising insights into their character. Students always retain editorial rights, of course, making their own decisions about what incidents to relate, and how.

Overall, there were a pleasing number of positive comments from students.

> 'At first they were just annoying and time consuming (to a certain extent they still are). However, they made me realise the finer points of my mistakes at work and helped me correct them.'

> 'I have developed some good time management and structured problem solving skills'

> 'I never really took the time to analyse my work habits while at workplace. Therefore, PDLs gave me time to think back on the week and analyse. Even when I didn't always do my plans, I found it helpful to just think and analyse them.'

> 'It drew meaning out of my experience, if I didn't spend time reflecting, I would still have been developing, but being conscious of what I was learning helped me be more focussed with what I got out of my placement'

> PDLs helped me reflect on my mistakes to extract the learning events and reinforce them

Students agreed that the hardest part was finding or deciding on the incident to reflect on. Students found it is easy to fall into the trap of looking for mistakes or misunderstandings to report whereas learning can also occur through positive events.

> It helped me to assess what I was doing and if I was learning anything. After a while it became rather mechanical where I just wrote what I thought was what the marker wanted to hear.

> I found some of the time I was looking for bad events to make a good PDL to write about.

The veracity of incidents will always be hard to establish. Significant or amusing incidents often come up again during monitoring visits to students and placements, and in these cases learning can be reinforced. Focus group feedback showed that doubtful experiences where the student has embroidered or simply made up events do

happen but appear not to be the norm. Fabricated logs can be easy to spot through lack of detail or reference to specific people, events or times, and will usually get marked down because the development of learning through the stages is vague and unhelpful. Although all logs are marked, only the best six marks are carried forward to assessment.

The majority of students found the very structured approach helpful, as it gave them a clear direction in which to order and analyse their thoughts. They felt that without the structure they would not have known where to begin. However, some students said that they found the structured format limiting, and would have preferred more scope to develop their own process of reflection. One could argue that the students who were looking for the 'blank page' were the ones that had benefitted most, having taken the skills and starting to exercise them to their advantage. One wonders whether they would have gained this proficiency if they initially had been presented with a blank page.

CONCLUSION

Reflection and reflective practice are crucial features in developing the effectiveness of WIL (Coll & Eames 2004). For a WIL placement to be more than just an experience, a chance to learn or enhance technical skills, students must be able to take something more away with them, something that cannot be develop at university.

People do not necessarily learn from experience, particularly if they do not think about it or do not take responsibility for its creation. If co-op is only a vehicle for experience to gain information about the work place and to link technical knowledge with the work place application, then its effectiveness is not fully developed. (Van Gyn 1996)

Through the reflective thinking on this industry internship program, students are recognising their progress with skills such as communication, negotiation, leadership and networking, and gaining professional maturity before entering the workplace as graduate engineers.

The program will continue, and student feedback will be taken into consideration regarding structure. Another area for review is the decision stage. Currently there is no subsequent review of decisions made to see if they have been workable and effective, which would be the real test at to whether the reflective thinking process has been truly effective.

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Career placement program: a journey from an "empty" to a "full" resume

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Undergraduate students tend to engage in proactive learning once they realise how a learning experience will assist them in establishing successful careers upon graduation. This paper discusses the positive transition in student thinking and behaviour towards proactive learning, achieved through a career placement program; students have grown to regard the placement units as the most important units in the course, rather than just "work experience", or an irrelevant course component. The placement program in question – The Career and Professional DevelopmentProgram (CPD) – involves undergraduate students from sport and recreation courses. It is a comprehensive, holistic approach with a clear strategy to develop a career culture in the courses; it supports career placements through a combination of career education curriculum, and job and placement email alerts. The CPD is delivered through compulsory units in the second and third year of a course; each unit combines classroom contact of 12 hours with an industry placement of 70 – 380 hours (depending on the course). Students select and arrange their own placements based on their personal career aspirations, identified through prior classroom career education activities. This paper outlines the philosophies that drive the CPD program; describes the structure and management of the program, including liaison with over 600 industry organisations; reveals the pedagogical strategies used to bring students into "career maturity"; and highlights the benefits of the program as perceived by the students.

Keywords: Career education, Career maturity, Industry placements, Industry Partnerships, Pedagogical strategy, Proactive learning.

HISTORICAL BACKGROUND

The School of Human Movement Recreation and Performance (HMRP) at Victoria University (VU) has had a placement experience program as core subjects in its courses for over 30 years. In 1996 a lecturer, returning after a two year break from the university, perceived that students were now overwhelmed by the number of possible careers in the sport and recreation industry. This paralysed many of the students regarding their placement decisions. The search for an answer to the problem of career indecision led to the corporate world. It was the 90's and many companies were downsizing. Career outplacement programs were popular. An investigation of these programs and consequent transference of several activities was the beginning of the evolution of the Career and Professional Development Program (CPD). A name change for the program occurred and Fieldwork now became the Career and Professional Development Program.

Over the subsequent years the program has been built into a holistic, integrated career development system incorporating career education, career placements, a mentoring program, the development of placement contract management software program and

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students also receive several weekly email job and placement alerts throughout their 3 years at the university. After graduating the graduates may also subscribe to an alumni job alert email system.

INTRODUCTION

Generally university students have a vocational mindset and they make considerable investments in an education expecting to gain employment related to their degree when they graduate. Most university courses are focused toward helping their students prepare for a professional role and the student receives the necessary education, skills and work integrated learning to equip them to be competitive job applicants. Unfortunately there is less help for students during their studies around specific progressive career development. However for students to achieve their desired career outcome they will require a set of career development skills and knowledge as well as gaining substantial and relevant industry experience whilst a student.

To create their own career futures university students require a level of career maturity and readiness to receive and fully embrace career development opportunities and learning. "Career maturity can be defined as the extent to which an individual has acquired the necessary knowledge and skills to make intelligent, realistic career choices. It is the readiness of an individual to make an informed, age appropriate career decision and cope with appropriate career development tasks" (Luzzo, 1993: Savickas, 1984 cited in Levinson, Ohler, Caswell & Kiewra, 1998).

Many university students are not career mature and this will impact on the effectiveness of placement programs and the uptake of centralised university career services. The National Vocational Education and Training Research and Evaluation Report entitled "What Choice? An Evaluation of Career Development services for young people" by Rainey, Simons & Pudney (2008) states that "Only a small proportion of eligible TAFE and university students are accessing available career services." And that "Young people like to manage their own careers".

Unless students are supported and assisted to develop career maturity they will consider a placement program as a time consuming encumbrance to their lives! Many would rather be earning money when not in classes, socializing, relaxing or even investing more time into their academic studies. They often do not see the value to themselves and consequently look for ways to make the placement as painless as possible for example using an existing part-time job as their placement. The CPD program is deliberately planned to gradually build upon career education, career development activities and placement experiences to bring students into career maturity. Each component of the program is part of a whole system designed to support and assist students to develop by taking small achievable steps. Success creates enthusiasm, confidence in the process and career maturity.

The CPD program is effective because the program is embedded into the courses and incorporated as core curriculum. It is delivered by staff with an ongoing relationship to the student, career development expertise and a strong network and background in the sport and recreation industry.

THE HMRP CAREER AND PROFESSIONAL DEVELOPMENT PROGRAM.

The CPD program is consistent with the current model of career development theory whereby the students assess their skills, interests, values, personality and achievements to date. They are then assisted in their understanding of the information they have gathered about themselves and their experiences to ensure career information literacy and to enable them to make informed career choices and decisions. They are provided with an awareness of potential sport and recreation careers and then given the opportunity to explore selected career options via information interviews and career placements. Based on these activities students are able to make career decisions, set career goals and action plans. They are also given training in self marketing career skills (resume, interview technique, the two minute career pitch, dressing for work and networking) to ensure success in obtaining their desired jobs.

CAREER EDUCATION

The career education classes cover topics such as opportunity awareness, self-understanding, newspaper job search, understanding position descriptions, resume writing, job interview technique training, networking to access the hidden job market, regular guest speakers recruiting students for placements and students sharing career information with one another.

Opportunity awareness is provided to the students through a number of sources including 3 booklets containing over 100 real job descriptions of graduates from the courses now working in the sport and recreation industry, weekly emails throughout their course containing offers of part-time employment or placement experiences related to their study. Guest speakers' present different careers to students and lectures covering all the possible career outcomes from their course are delivered.

Self-understanding incorporates the Holland Self Directed Search, Knowdells Motivated Skills and Values Card Sorts and personality tests. Each test is explained and self administered. Once students have their personal results they are helped to analyse and understand the implications of their results in assisting them to narrow down their career choices in the sport and recreation industry. Helping students to understand and apply career information is recognized in the Guiding Principles for Career Development Services and Career Information Products in the third principle: "users / clients have access to career information and are assisted in their understanding of that information."

Students are given a newspaper job search assignment using the Age and the Australian newspapers. They collect two position descriptions. This activity is very useful for focusing students on careers, widening their perspective of the selection criteria for jobs of interest and they become aware of the need to build their skills and achievements if they are to be successful job candidates.

The empty resume writing activity involves students attempting to produce a personal achievement focused resume. It becomes very apparent to the student that they have an empty resume. This is a good thing to find out early in your university course as students become motivated to start gaining relevant industry experience.

An information interview asks the student to step out of their comfort zone to make contact with someone, they do not know, to conduct a 20 minute face to face interview about the person's job role in the sport and recreation industry. The information interview is apart of the career exploration and research phase of career development. Who to target for an interview is based on the self understanding the student has gained from previous class room activities. To gain information interviews the student must first learn and develop networking insights and skills.

The information interview activity enables students to gain realistic job insights from professionals working in roles that interest the student. "Many students know very little concerning the careers or positions they are interested in and subsequently many of them make academic and career related decisions that are not based on reality". (Laker, D. 2002)

Accessing the hidden job market via information interviews is probably the most empowering activity students learn and complete. When attending an information interview students take their resume to leave with people who may request this or who have a part time employment opportunity available. A consequence of several information interviews each year is students receive a job offer. This is a very positive example to all students of the effectiveness of networking to access the hidden job market.

The information interview activity also has rejection as one expected outcome and students are given realistic expectations about success rates before they start. Rejection is a part of many people's job hunting campaign and learning this can be very helpful for future job hunting.

SELF MANAGED AND SELF DIRECTED CAREER PLACEMENTS

The student's first and second placements require them to select and source their own placement based on their personal career goals. Students are advised that the placements are strategically placed and should be apart of the students systematic plan to explore and establish their career. Placement one assists the student to obtain part-time work in the sport and recreation industry. Fortunately for our students the sport and recreation industry has many part-time employment opportunities. The second placement occurs in the final semester of the course to enable students to gain a foot in the door and hopefully stay on at their placement once they graduate if they are offered employment.

Students use many skills to find a position that matches their career focus. They usually research organisations, make telephone calls, send emails, attend meetings, write letters of application and resumes and then negotiate a contract with their host supervisor.

During the placement students will develop work related skills, knowledge about organisations, professional insights and apply their classroom learning into the world of work. These are very valuable learning outcomes however the main emphasis for the CPD program's career placements are career exploration, possible job offer, networking and gaining valuable skills and achievements to include on the students empty resume.

PLACEMENT MANAGEMENT SYSTEM

A website and software program has been developed over many years to streamline the placement contract system and provide students with a career resource. The system manages placement contracts and also creates a database of over 600 organisations that have hosted a student on placement for that year. This information is captured and used to create directories for students to peruse when deciding on careers and where to do their placement. Students can access records that go back several years.

PARKS AND LEISURE AUSTRALIA MENTOR SCHEME

A relationship has been established with a professional body that has a pool of over 40 industry professionals who are willing to mentor recreation management students in their final semester and for twelve months after graduation to assist with their career development and transition to employment. To ensure students enter into a mentoring relationship a seminar is conducted where students hear from recent graduates and their mentors regarding how beneficial the relationship has been to the student's career development. The first mentor meeting is compulsory and a report is submitted by the student for grading.

RECREATION MANAGEMENT INTERNSHIPS

Each year an average of 7 local government recreation departments host a paid internship for third year students. They are employed for 300+ hours to complete major projects for the council. Students compete with one another for these positions via a written application including a resume and job interview. Since 2004 there have been 30 interns who have all progressed from their internship to be successfully employed in the industry.

SUMMARY

The CPD program is a three year systematic process or journey toward career maturity for the student. The program combines a number of carefully thought out progressive interrelated career activities and career education that build on and complement previous parts. A simplified diagrammatic representation is drawn on the next page.

FIGURE 1
Holistic Integrated Career Development System for University Students
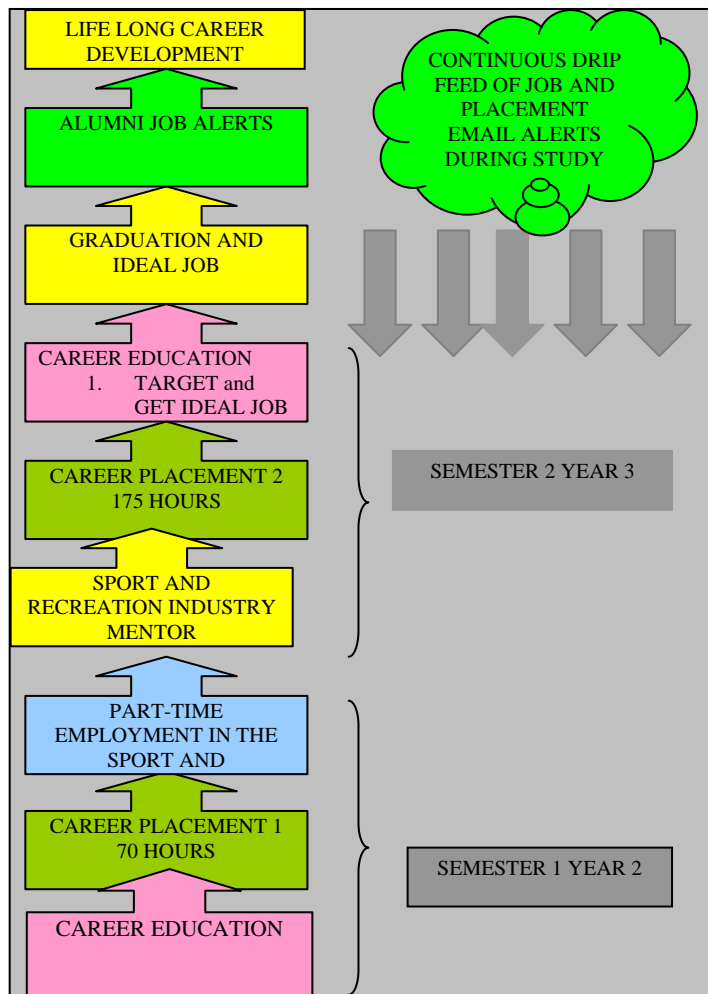
The career and professional development program outlined in this paper provides a framework for other university course providers to consider when designing courses. By building a holistic integrated career development system that incorporates embedded core career development subjects universities are giving their students the best chance to learn how to manage their future careers and gain employment when they graduate.

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Using research into how professionals learn at work for enhancing placement learning

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Previous research into early career learning in three professions found that most learning is a by-product of everyday work processes, especially participation in groups, working alongside others, consulting colleagues, tackling challenging tasks and roles, problem solving, extending and refining skills, and working with clients. This learning is enhanced by working alongside experienced workers or engaging with their expertise in a context of appropriately challenging work and supportive relationships. This paper shows how conceptual tools developed by this research can be used to enhance the quality of 6 to 10 month placements in undergraduate programmes.

The allocation of work and the contexts in which it is situated are crucial to an effective placement. So also is the personal agency of the learners in finding out what skills and situational understandings they might need and how best they might access them. Recent newcomers are invaluable guides to contexts they have just begun to understand; and mentors need to be well networked and close enough to provide ongoing formative feedback and suggest appropriate learning trajectories.
HEIs have to support their students and engage with a wide range of employers. They can make a difference through:

- Preparing students to seek advice from returning students and negotiate access to the knowledge and skills they need
- Ongoing formative evaluation of student progress, and responsive action
- Developing and negotiating modes of assessment that match the backgrounds and aspirations of their students.

Keywords: Working alongside others, Appropriately challenging work, Supportive feedback, Learning trajectories, Personal agency, Situational understanding
Key concepts: Modes of learning at work, enhancing proactive learning on placements, using typologies and learning trajectories for tracking placement learning
Literature review: see Eraut & Hirsh (2007)

The author led a four year project on Early Career Learning at Work, which studied learning during the first three years of newly recruited post graduate Chartered Accountants, graduate engineers on company schemes approved for preparing them to become Chartered Engineers, and newly qualified Nurses. The research team visited each participant 4 times and collected data through observations and interviews. The first visit engaged with 92 participants and 66 continued for the full 3 years. The aims of this project, which were identical with those of an earlier project for mid-career professionals, were to determine: What was being learned, How it was being learned, and what Factors affected the magnitude and direction of their learning. Each question

resulted in a tool to support people wanting to enhance work-based learning in their own environment. This paper reports on the use of these tools to improve the quality of 6-10 month placements in undergraduate programmes at the University of Surrey.

The first tool is a typology of learning processes, whose purpose is to make users aware of the wide range of learning modes used in workplaces. This is important because most workplace learning is not recognised as learning, which in most students' minds is still linked to classrooms. The categories were derived from learning events elicited by indirect methods, primarily changes in the work capability of participants between visits. These were then sorted by two principles. First, did they describe the event as a working process or a learning process (Eraut et al 2005; Eraut 2007)? Thus processes in the left column of Table 1 below were judged to be *working processes* with *learning* as a *by-product*, while those in the right column are clearly recognizable as *learning processes*.

TABLE 1
A Typology of Early Career Learning

Work Processes with learning as a by-product	Learning Activities located within work or learning processes	Learning Processes at or near the workplace
Working alongside others *Working with clients* *Participation in groups* *Consultation* Tackling challenging tasks and roles Problem solving Trying things out Consolidating, extending and refining skills	Asking questions Getting information Locating resource people Listening and observing Reflecting Learning from mistakes Giving and receiving feedback Use of mediating artefacts	Being supervised Being coached Being mentored Shadowing Visiting other sites Conferences Short courses Working for a qualification Independent study

Second, *processes* which were clearly bounded and relatively time consuming were separated from comparatively short *activities*, such as asking questions, observing or reflecting. These *activities*, which could occur many times in a single process, were moved into a different category in the central column of Table 1.

Work processes with learning as a by-product accounted for a high proportion of the learning events of participants. Their success depended both on the available opportunities and on the quality of relationships in the workplace. Hence the amount of learning reported varied significantly with person and context. One reason for this is that the majority of this learning through working involved other people. The first four entries in the left column (in italics) *required* the presence of other people; and the second four *often involved* other people. The main reason for this is that on-the-spot communication is simpler, shorter and more natural.

Working alongside others allows people to observe and listen to others at work and to participate in activities; and hence to learn some new practices and new perspectives, to become aware of different kinds of knowledge and expertise, and to gain some sense of other people's tacit knowledge. This mode of learning, which includes a lot

of observation as well as discussion, is extremely important for learning the tacit knowledge that underpins routines and intuitive decisions and is difficult to explain. When people see what is being said and done, explanations can be much shorter and the fine detail of incidents is still in people's minds. Clues to situational recognition may not be remembered, unless they are picked up on-the-spot by questions or comments. Moreover, multi-sensory engagement over some time enables the gradual development of tacit as well as explicit situational understanding.

Working with clients also entails learning (1) about the client, (2) from any novel aspects of each client's problem or request and (3) from any new ideas that arise from the encounter. Some workers have daily experiences of working with clients, which may or may not be recognized as learning opportunities. Some progress from less to more important clients, or from those with simple needs to those with more complex needs. There can also be a strong *emotional dimension*, when a client arrives in a distressed state or is about to receive bad news. This is a context where sharing experiences can be helpful. Another factor is the extent to which client contact gives the work meaning and value, and thus enhances workers' sense of collective purpose.

Consultation within or outside the working group or even outside the organisation, is used to co-ordinate activities or to get advice. The act of initiating a consultation, however, depends on the relationships between the parties, the extent of a worker's network and the culture of the workplace. For newcomers the distinction between a consultation and being mentored or supervised is not always clear, as part of a mentor's or supervisor's role is making oneself available for consultation. *Mentoring* is often limited by lack of informal opportunities to develop an appropriate relationship. In many situations mentoring is provided by helpful others, who are not designated mentors, and this is often better for mutual on-the-spot support and feedback.

Tackling challenging tasks and roles requires on-the job learning and, if successful, leads to increased motivation and confidence. However, people are less inclined to take on challenges unless they feel confident both in their ability to succeed as a result of previous experience and in the support of their manager and/or colleagues. Without such previous experience and support, challenges pose too high a risk. *Problem solving, individually or in groups*, necessarily entails learning; otherwise there would be no problem. Such problems are not just technical, they may require new knowledge, searching for informants, imagination, persistence and interpersonal negotiation.

Trying things out is distinguished from less purposeful behaviour by the intention to learn from the experience. It requires some prior assessment of risk, especially where other people might be affected, and may require special arrangements for getting feedback, as well as time for subsequent reflection and evaluation. *Consolidating, extending and refining skills* are sometimes supported by episodes of supervision, coaching or feedback; and is greatly helped by informal personal support and some sense of an onward learning trajectory (see below).

IMPLICATIONS FOR STUDENTS ON PLACEMENT

The following discussion of how students on placement might best access these learning opportunities is based on lengthy conversations with faculty in twelve disciplines. This will be followed by discussions with post-placement students in Autumn 2008. The key issues for students on placement are (1) getting access to workplace learning opportunities, (2) making good use of their mentors and, where necessary, (3) finding informal mentors prepared to offer help or suggest someone else who might be helpful. This usually means engaging proactively in activities placed in the central column of Table 1. *Asking questions and getting information* are important, proactive activities; but many novices feel diffident about asking questions of senior colleagues unless they are working together and the question is spontaneous. They feel that asking a "silly" question would reflect badly on their reputation and are afraid of being prematurely labelled as ineffective. This constraint, however, does not apply to talking to peers or novices a year or less ahead of them who still remember what it was like at their stage; and this should be considered when allocating and supporting newcomers.

Locating resource people also requires confidence and social understanding. Some students are very proactive in seeking out and developing relationships with a wider network of knowledge resource people, while others gave it little attention, often because they did not appreciate its potential value. Resource people may be gatekeepers and/or guides to who knows what and who is prepared to support newcomers. Progression routes to more ambitious tasks may depend on whom you get to know; and willingness to engage in routine work may earn you the right to get access to more challenging work.

Listening and observing activities are very dependent on what the observer/listener is able to grasp and comprehend; and comprehension depends on awareness of the significance of what has been said and/or done. Such awareness and understanding is developed through discussion and *reflection*. Much is learned through watching other people communicating with colleagues, clients or subordinates. However, it should be noted that our previous research found as much learning from bad examples as from good! Sometimes the best role models are among the support staff. Reflection also plays an important role in *learning from mistakes,* both one's own mistakes and those of others.

Giving and receiving feedback are both important, often vital, for most learning processes. The easiest, most natural feedback is given *on-the-spot* or soon after the event by a co-participant or witness. *Informal conversations away from the job* often convey indirect and/or unintended messages as well as intended advice, and second hand messages often misinterpret what was said. *Formal roles such as mentor or supervisor* involve some responsibility for a learner's short to medium term progress and an obligation to provide formative feedback on a regular basis; but this may not happen in practice. *Appraisal* is a process where designated appraisers are expected, but rarely succeed in, giving normative feedback on personal strengths and weaknesses and ascertaining views on learning opportunities and meeting expectations. Most people at work get too little feedback; so being proactive can be very important. In the early stages it is best for newcomers to try and get some feedback from people just ahead of them. Later, they can get a lot of feedback by

asking about their performance in particular situations; and it is more useful to them and easier for those asked if they seek advice on how they could improve rather than how good it was.

Placement learning is most likely to occur from appropriately challenging work, because this develops confidence and proactive behaviour. However, confidence is relational as well as personal. People avoid challenges if difficulties are treated by critical bystanders as failures rather than opportunities to learn from mistakes. Thus the allocation of work and the contexts in which it is situated are crucial to an effective placement, because it encompasses the need for both challenging work and relationships which support the challenges and provide appropriate feedback. This has to be complemented by the personal agency of the learners in finding out what skills and situational understandings they might need and how best they might access them. Recent newcomers are invaluable guides to contexts they have just begun to understand; and mentors need to be well networked and close enough to provide ongoing formative feedback and suggest appropriate learning trajectories.

The second tool developed from the previous project was a typology of what was being learned. This had 8 headings and 53 sub-headings, each of which use language found to be meaningful for a large range of professions. The 8 main headings are:

Academic knowledge and skills	Awareness and understanding
Task performance	Personal development
Role performance	Teamwork
Decision making & problem solving	Judgement

Two sets of sub-headings are presented in Table 2 below. *Awareness and Understanding* was found to be one of the most neglected areas in business and management, as well as in some professions; and it is particularly challenging for students on placements who have little time to develop this important aspect of their work. The priority given to action and decision making often leads to the neglect of situational factors, even though failure to understand the situations you encounter and the contexts in which they arise is a common mistake at all levels of seniority and experience. Consider, for example, the number of business leaders who publicly assert that new recruits should be able to perform on Day 1, before they have had any chance to understand the context of their new workplace. Similarly, *Decision-making and Problem-solving* are often pursued in academic contexts without ensuring that the approach taken matches the priorities, the conditions and the time available before the deadline.

TABLE 2
Two sets of sub-headings

Awareness and Understanding of	Decision making and Problem solving
Colleagues, customers, managers, etc.	When to seek expert help
Contexts and situations	Dealing with complexity
One's own organization	Group decision making
Problems and risks	Problem analysis
Priorities and strategic issues	Formulating and evaluating options
Value issues	Managing the process in time
	Decision making under pressure

Students on placement and early career professionals are primarily concerned with continuing progression and mid-career professionals with having to adapt or replace current practices as improvements become available (Eraut & Hirsh 2007). Hence, instead of treating these headings as static outcomes or competences, we chose to adopt a *lifelong learning perspective* and treat them as *learning trajectories*. This takes into account discontinuities of learning so that at any one time:

- *Explicit progress* is being made on several trajectories
- *Implicit progress* can be inferred and later acknowledged on other trajectories
- Progress on yet other trajectories is *stalling* or *regressing* through lack of use.

The proposal is that (1) each sub-heading in this typology is a candidate for being a separate learning trajectory, to which some attention will be given during the placement period, (2) trajectories should be defined by a series of performances, described by the intern and witnessed or validated by an appropriate member of the host organisation, and (3) the performance evidence should be a holistic description of the performance, so that the nature and integration of all its main aspects can be covered. Within the time constraints of a placement, particular attention should be given to a small but flexible selection of learning trajectories.

The third tool developed from the original research projects concerned a two triangle model of factors affecting learning, which suggested how informal workplace learning might be enhanced. Both looked at interactions between work, relationships and individual students: the first focused on learning factors, the second on organizational factors that affected the learning factors. These have been used throughout this paper, with particular attention to the allocation of work (Fuller & Unwin 2003), support for learning (Eraut & Hirsh 2007) and individual agency (Billett 2006).

The role of Higher Education is to support their students and engage with a wide range of suitable employers. They can make a difference through:

- Preparing students to seek advice from returning students about learning opportunities, how to negotiate access to the knowledge and skills they need and resource people who might help them directly or through useful introductions
- Ongoing formative evaluation of student progress and access to learning opportunities, followed by responsive action
- Developing and negotiating modes of assessment that match the backgrounds and aspirations of their students, as agreed through their choice of learning trajectories.

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Bridging the gap: competencies students should focus on during their cooperative experience to enhance employability

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Cooperative education programmes aim to prepare students for the workplace by developing both generic and specific competencies that will enhance employability. Researchers have investigated the competencies relevant to business, science and technology graduates (Coll & Zegward, 2006; Hodges & Burchell, 2003). However, there is little published research on the perceptions of the skills or graduate competencies that employers desire of sport and recreation graduates entering the workforce.

The aims of the study were to identify key competencies needed by third year sport and recreation degree students entering their cooperative placement as well as to identify the difference between student and graduate competencies. An online survey of sport and recreation industry supervisors was conducted. For comparison the survey was also completed by academic supervisors from AUT University. Supervisors were asked to rate the importance of specific competencies (adapted from Coll & Zegward, 2006) for the cooperative student and for the graduate.

To enhance employability in the sport and recreation industry, academic programmes within a university need to ensure that students are provided with opportunities to facilitate the development of competencies including the ability and willingness to learn, the use of initiative and personal organisational skills. Cooperative education experiences should be designed to provide opportunities for students to develop in the areas of relationship building as well as teamwork and cooperation in order to increase their likelihood of employment as graduates. It is important to identify and communicate to the tertiary education providers the needs of the industry in order to create successful cooperative education partnerships.

Keywords: competencies, cooperative education, sport

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INTRODUCTION

In a study examining New Zealand job advertisements during a three –month period, Wiersma and Bradbury, (2004) identified the 'soft skills' such as communication, customer service, motivation, passion and enthusiasm, as well as practical work experience as being important requirements for employability in the sport and recreation industry. A report on graduate recruitment in the leisure industry in Australia highlighted that a strong knowledge base alone does not guarantee a new graduate employment and that personal attributes and capabilities of the graduate are considered to have a greater influence on success in the workplace (Bell, Grebert, Partrick, Bates & Cragnolini, 2003).

Sleap and Reed, (2006) and Bell et al., (2003) highlight the importance of work placements in developing appropriate competencies for the graduate in the sport science and leisure management areas, respectively. To maximise the learning opportunities, students need to be capable of contributing to the workplace environment. A search of the literature failed to identify any research that described the competencies that students should have developed through their university studies to enable them to undertake a successful cooperative education or work placement experience in the sport and recreation industry. Therefore, the aims of this study were to identify key competencies needed by sport and recreation students entering their cooperative placement as well as to identify the difference between student and graduate competencies.

CONTEXT

The research was undertaken within the context of the Bachelor of Sport and Recreation (BSR) at AUT University. The BSR is a three-year programme designed to prepare students for careers in the areas of sport science, sport and recreation management, coaching, physical activity, nutrition and health, physical education, and outdoor education. The cooperative education component of the BSR involves final year students completing 350 hours in a sport or recreation organisation over two semesters as well as undertaking a project for the organisation. The learning experience is facilitated and supported by an industry supervisor from the placement organisation as well as by an academic supervisor from the University.

METHOD

A quantitative research approach was used in this study. Forty-five industry supervisors and 15 academic supervisors of sport and recreation cooperative education students (in 2006 and 2007) were invited by e-mail to complete an on-line survey. Seventeen industry supervisors (response rate 38%) and 12 academic supervisors (response rate 80%) participated in the survey. Supervisors were asked to rate the importance of a list of 24 specific competencies (adapted from previous research by Burchell, Hodges & Rainsbury, 2000; Coll & Zegward, 2006) for the cooperative student and for the graduate using a seven-point likert scale (1= unimportant; 7 = important). Each competency was defined to try and ensure that a similar meaning was given to each term (Appendix A). Participants were prompted to add any further competencies if they deemed it appropriate.

Mean values and standard deviations were calculated for all competencies. The analysis assumes that the scale is linear with equal intervals. Chi-squared analysis was applied to determine significant differences between competencies required of cooperative education students and graduates. Non-parametric statistics were used, as this was deemed more appropriate for the small sample size and non-normality in the data.

RESULTS

Industry supervisors responded from the following sport or recreation organisations: Regional sports organisations (4), schools (4), recreation centres (2), sport performance centres (2), regional councils (2), sports club (1), physical activity and health promotion agency (1), outdoor recreation (1). Three years was the average length of time participants had been involved as industry supervisors for BSR cooperative education students. Only one participant had been in the role of industry supervisor for one year.

The results from the industry perspective (see Appendix B) indicate that the five most important competencies for a student to have developed prior to starting their cooperative education placement were: Ability and willingness to learn (mean 6.18); initiative (5.59); personal planning and organisational skills (5.35); interpersonal understanding (5.12) and concern for order, quality and accuracy (5.00). Similarly the top three competencies were rated in the same order for the graduate as for the student: Ability and willingness to learn (6.88); initiative (6.76); personal planning and organisational skills (6.53). Relationship building (6.53) and teamwork and cooperation (6.35) were also rated in the top five for importance for the graduate.

From the academic supervisor perspective (see Appendix C) the cooperative education student's, ability and willingness to learn (5.75) was ranked the highest followed by interpersonal understanding (4.75), computer literacy (4.67) written communication (4.58), personal planning and organisational skills (4.42) and initiative (4.25). For the graduate the top four competencies were the same as the industry supervisor perspective. However, conceptual thinking (6.33) was ranked in the top five by the academic supervisors.

Mean values for all competencies from the industry perspective were above five (out of a possible seven) for the graduate. However, only six competencies had a mean value above five for the student. Similar trends were found from the academic supervisors' perspective. Industry supervisors rated the least important competencies for a student to have prior to starting their cooperative education experience as: Directiveness (2.94); impact and influence on others (3.06); developing others (3.05); team leadership (3.05) and organisational awareness (3.41). The least important competencies for graduates were impact and influence on others (5.06), written communication (5.06) and information seeking (5.12). When the data was separated into behavioural versus cognitive competencies (for categories see Appendix A), the behavioural competencies had higher average mean values for both students and graduates when compared to the cognitive values.

From the industry data, when analysing the number of responses for a rating of seven (important) there was a significant correlation between the responses for the student and for the graduate (correlation coefficient = 0.74). Chi-squared analysis compared the proportions of ratings of the competency as seven between student and graduate. The null hypothesis was that there was no significant difference between the proportions for students compared to graduates. For the competencies teamwork and cooperation and analytical thinking the Chi-squared values exceeded the critical value of 3.841 with one degree of freedom, therefore it is concluded that the proportion was significantly higher at the 5% level of significance for the graduate.

DISCUSSION

The findings of this study highlight that personnel within the sport and recreation industry and AUT academic supervisors believe that the most important competencies, (i.e., ability and willingness to learn, initiative and personal planning, and organisational skills) are needed by both a cooperative education student and a graduate. To enhance employability, these competencies need to be supported and reinforced throughout the student's undergraduate programme in addition to being emphasised during the cooperative education experience.

In order to create willingness and ability to learn, students need to be exposed to new, exciting and authentic experiences relevant to their discipline of study (Coll & Zegward, 2006). In the university setting, this can be achieved by lecturers sharing industry relevant experiences to inspire students and create enthusiasm for the discipline. In the industry setting the student experience needs to be meaningful, have clear objectives, and the nature of the tasks carried out by the student need to be challenging while attainable. In order to foster a sense of achievement students need to be encouraged to reflect on their experiences in order to acknowledge that new learning has occurred (Ferkins & Fleming, 2007).

Development of initiative and personal organisational skills can be facilitated through learning strategies such as project work, which occurs in both the university and industry settings. Undertaking a project for the organisation during the BSR cooperative experience has been reported by students to develop initiative and time management skills as well as providing opportunities for increased responsibility and the development of confidence (Fleming & Eames, 2005). While personal organisational skills are constantly reinforced through their programme of study, it is during the industry experience where the students develop the confidence necessary to not only develop initiative but to also use that initiative within their practice.

Academic supervisors ranked computer literacy and written communication in the top five for the students to have developed prior to starting their cooperative experience. This may be a reflection on the requirements for students to complete the academic assessments related to the cooperative experience (e.g., the final project report). The work activities undertaken by students during their cooperative experience may not necessarily require these competencies and this may account for the different focus in the ranking for these competencies by industry and academic supervisors.

It is important to note that supervisors considered all competencies listed in the survey to be relatively important for a graduate but overall not as important for a student. This reinforces the importance of the development and ongoing active utilisation of these competencies throughout the cooperative education experience. Furthermore, students should focus on the competencies of relationship building and developing teamwork and cooperation during their industry placement, as these were ranked within the top five desired of the graduate but not of the student. Previous research within the BSR programme has highlighted that the amount of time (350 hours) spent during the cooperative education experience is important for relationship building and enculturation into the community of practice (Fleming & Eames, 2005). From the industry perspective, the biggest gap between student and graduate competencies was identified statistically as teamwork and cooperation and analytical thinking. These are

competencies that are needed for solving problems and creating solutions in collaboration with others in the workplace context. Therefore these competencies are likely to be considered more important for a graduate than a student who is new to the workplace setting.

The findings of this study are consistent with those identified by Coll and Zegwaard (2006) where science and technology, and business sector employer cohorts ranked willingness to learn as the top desired competency. Initiative was also identified as one of the top five competencies by both groups. Customer service skills are highlighted as a key competency by the business sector, correlating with the outcomes reported by Wiersma and Bradbury, (2004). However the findings of the current study align more closely to those of the science and technology sector in that customer service skills were not ranked among the top five competencies. This could be due to the diverse range of organisations within the sport and recreation industry where a customer service approach is not considered essential to the core business. Also consistent with Coll and Zegwaard (2006) are the findings of the least important competencies required by graduates, which included directiveness, organisational awareness, developing others, and impact and influence on others.

As employment opportunities in some areas of sport are limited, i.e. sport performance and exercise science, transferable skills are essential for creating expanded opportunities in related vocations. In addition there is considerable diversity within the sport and recreation industry such that a full range of skills can not be covered in any one degree structure. A graduate with specific knowledge may be considered an advantage to some employers but more often this knowledge is better learned within the specific work context where it will be utilised. This is supported by the findings of this study that indicate that technical skills and competence were ranked fourteenth out of twenty four in importance for a graduate. This is further illustrated when the importance of behavioural skills is compared to cognitive skills (often referred to as the soft and hard skills, repectively). The supervisors rated the behavioural skills of greater importance than cognitive skills for both students and graduates. It is frequently reported in the literature that universities do not emphasize the development of the behavioural skills and that the focus is more on the cognitive skills (Coll & Zegward, 2006; Wiersma & Bradbury, 2003). However cooperative education experiences included within the curriculum have been shown to support the development of behavioural competencies (Dressler & Keeling, 2005). The findings of this study highlight that students need a certain level of behavioural competencies prior to starting their cooperative experience and that it can not be assumed that the development of such competencies can be left entirely for the work integrated learning component of a degree in sport and recreation.

CONCLUSION/IMPLICATIONS

To enhance employability in the sport and recreation industry, academic programmes within a university need to be designed so that students are provided with opportunities to facilitate the development of competencies including the ability and willingness to learn, the use of initiative and personal organisational skills. Cooperative education experiences should be designed to provide opportunities for students to develop in the areas of relationship building as well as teamwork and cooperation.

The sport and recreation sector is relatively underdeveloped and therefore it is important to identify and communicate to the tertiary education providers the needs of the industry in order to create successful cooperative education partnerships. The findings of this study therefore will assist in curriculum design as well as determining what competencies students should focus on developing and enhancing throughout their cooperative education experience in order to increase the likelihood of employment as graduates.

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Appendix A: Definitions of competencies (Coll & Zegward, 2006 from Spencer & Spencer, 1993). Behavioural competencies (as categorised by Coll & Zegward, 2006) are indicated by*.

Teamwork & cooperation * (fosters group facilitation and management, conflict resolution, motivation of others, creating a good workplace climate)
Flexibility * (adaptability, perceptual objectivity, staying objective, resilience, behaviour is contingent on the situation)
Relationship building * (networking, establish rapport, use of contacts, concern for stakeholders e.g. clients)
Computer literacy (able to operate a number of packages and has information management awareness)
Conceptual thinking (pattern recognition, insight, critical thinking, problem definition, can generate hypotheses, linking)
Technical expertise (job related technical knowledge and skills, depth and breadth, acquires expertise, donates expertise)
Organisational awareness (understands organisation, knows constraints, power and political astuteness, cultural knowledge)
Concern for order, quality & accuracy * (monitoring, concern for clarity, reduces uncertainty, keeping track of events and issues)
Impact & influence on others * (strategic influence, impression management, showmanship, persuasion, collaborative influence)
Initiative * (bias for action, decisiveness, strategic orientation, proactive, seizes opportunities, self motivation, persistence)
Customer service orientation * (helping and service orientation, focus on client needs, actively solves client problems)
Developing others * (training, developing others, coaching, mentoring, providing support, positive regard)
Directiveness * (assertiveness, decisiveness, use of power, taking charge, firmness of standards, group control and discipline)
Team leadership * (being in charge, vision, concern for subordinates, builds a sense of group purpose)
Analytical thinking (thinking for self, reasoning, practical intelligence, planning skills, problem analysing, systematic)
Self control * (stamina, resistance to stress, staying calm, high Emotional Quotient, resists temptation, not impulsive, can calm others)
Organisational commitment * (align self and others to organisational needs, business-mindedness, self sacrifice)
Ability and willingness to learn * (desire and aptitude for learning, learning as a basis for action)
Interpersonal understanding * (empathy, listening, sensitivity to others, diagnostic understanding, awareness of others' feelings)
Self confidence * (strong self concept, internal locus of control, independence, positive ego strength, decisive, accepts responsibility)
Personal planning and organisational skills
Written communication
Information seeking * (problem definition, diagnostic focus, looking deeper, contextual sensitivity)
Achievement orientation * (task accomplishment, seeks results, employs innovation, has competitiveness, seeks impact, aims for standards and efficiency)

Appendix B: Industry supervisor ratings of the importance of competencies for the student prior to starting their cooperative education experience and the graduate.

	STUDENT		GRADUATE	
	mean(sd)	ranking	mean (sd)	ranking
Teamwork & cooperation	4.35 (1.32)	10	6.35 (1.06)	5
Flexibility	5.0 (1.37)	5	6.05 (1.20)	10
Relationship building	3.52 (1.94)	18	6.52 (0.87)	4
Computer literacy	4.52 (1.62)	9	5.35 (1.58)	18
Conceptual	4.11 (1.83)	12	5.41 (1.58)	16
Technical expertise	3.47 (1.97)	19	5.58 (1.33)	14
Organisational awareness	3.41 (1.97)	20	5.35 (1.41)	17
Concern for order, quality & accuracy	5.0 (1.70)	6	6.23 (1.09)	6
Impact influence on others	3.05 (1.68)	21	5.05 (1.25)	24
Initiative	5.58 (1.33)	2	6.76 (0.66)	2
Customer service	4.11 (1.76)	13	5.94 (1.20)	11
Developing others	3.05 (2.33)	22	5.29 (1.45)	20
Directiveness	2.94 (1.75)	24	5.29 (1.05)	19
Team leadership	3.05 (2.11)	23	5.23 (1.30)	21
Analytical thinking	3.76 (1.75)	17	5.88 (1.27)	13
Self control	4.75 (1.81)	15	5.88 (1.11)	12
Organisational commitment	4.11 (2.26)	14	5.47 (1.42)	15
Ability, willingness to learn	6.17 (1.38)	1	6.88 (0.49)	1
Interpersonal understanding	5.11 (1.90)	4	6.05 (1.20)	9
Self confidence	4.05 (1.75)	8	6.05 (1.20)	8
Personal planning, org skills	5.35 (1.58)	3	6.529 0.87)	3
Written communication	3.82 (1.88)	16	5.05 (1.60)	23
Information seeking	4.17 (1.47)	11	5.11 (1.27)	22
Achievement orientation	4.76 (1.71)	7	6.05 (1.39)	7

Appendix C: Academic supervisor ratings of the importance of competencies for the student prior to starting their cooperative education experience and the graduate.

	STUDENT		GRADUATE	
	mean(sd)	ranking	mean (sd)	ranking
Teamwork & cooperation	3.83 (1.47)	9	6.25 (1.14)	6
Flexibility	3.83 (1.11)	11	6.08 (1.16)	9
Relationship building	3.17 (1.80)	17	6.42 (1.08)	4
Computer literacy	4.67 (1.67)	3	5.50 (1.57)	16
Conceptual	3.33 (1.50)	16	6.33 (0.98)	5
Technical expertise	2.75 (1.86)	19	5.00 (2.04)	20
Organisational awareness	2.42 (1.38)	22	5.00 (2.04)	19
Concern for order, quality & accuracy	3.58 (1.51)	12	5.92 (1.16)	11
Impact influence on others	2.50 (1.83)	21	4.08 (1.56)	23
Initiative	4.25 (1.29)	6	6.67 (0.78)	2
Customer service	3.33 (1.67)	14	6.17 (1.27)	8
Developing others	1.92 (1.38)	24	4.25 (1.14)	22
Directiveness	2.58 (1.62)	20	4.42 (1.38)	21
Team leadership	2.08 (1.51)	23	3.92 (1.31)	24
Analytical thinking	3.58 (1.44)	13	6.17 (1.27)	7
Self control	3.83 (1.34)	10	5.50 (1.17)	15
Organisational commitment	3.08 (1.68)	18	5.17 (1.47)	17
Ability, willingness to learn	5.75 (1.42)	1	6.67 (0.78)	1
Interpersonal understanding	4.75 (1.96)	2	5.92 (1.16)	10
Self confidence	3.33 (1.50)	15	5.00 (1.35)	18
Personal planning, org skills	4.42 (1.38)	5	6.42 (1.05)	3
Written communication	4.58 (1.68)	4	5.58 (2.02)	14
Information seeking	3.83 (1.47)	8	5.67 (1.30)	13
Achievement orientation	4.08 (1.16)	7	5.75 (1.14)	12

A pedagogical model of higher education/industry engagement for enhancing employability and professional practice

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This paper reports on the development to date of a pedagogical model of higher education/industry engagement aimed at enhancing employability and professional practice in selected built environment disciplines. In particular, it focuses on the conceptualisation informing the development of the model; a model in which work integrated learning (WIL) plays a significant role.

In the discussion, specific attention is given to the nature of professional knowledge and the role and responsibilities of academia and practice in the development of this knowledge. From a collaborative, transformative stakeholder (Orrell, 2004) frame of reference, the paper proposes a conceptual framework based on Boyer's integration of scholarship (1999) where, for this project, teaching, learning, research and application are understood to be integrally entwined at an undergraduate, not just post graduate level.

In all, the paper makes a contribution through its consideration of 'practice', 'pedagogy' and 'partnership' as mutually inclusive concepts central to the issue of employability and the continuing relevance of professional education.

Keywords: Employability; higher education; work integrated learning

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INTRODUCTION

The paper commences with a description of employability as it has evolved in recent times. In an Australian context experiencing a severe skills shortage, employability is attracting increasing attention from industry, students and government. Some of the factors informing this are considered, together with approaches adopted by the Higher Education sector in response to the pressure being placed on it to improve the employability of its graduates. This then provides the context for describing a work integrated learning program that is integrative, cooperative, and underpinned by action-based methodology and pedagogy; a pedagogy concerned with enhancing professional practice as well as employability.

WHAT IS EMPLOYABILITY?

In a general sense, 'employability' relates to a person's ability to gain employment. However, when used by government and industry in discussions to do with Australia's capacity to effectively operate in a 'global knowledge-based economy' (Australian Chamber of Commerce and Industry, 2002, p. 1), it is often referred to in association with 'skills' and the ability to get the most out of employment both for the employee as well as the employer. According to the Department of Education,

Employment and Workplace Relations (2002), 'employability skills' are the "skills required not only to gain employment, but also to progress within an enterprise so as to achieve one's potential and contribute successfully to enterprise strategic directions".

The notion of employability presented above represents a move away from skills in a technical sense to an appreciation of skills in the generic sense. Indeed, several reports and papers differentiate between the two making reference to "employability and technical skills" (Department of Education, Employment and Workplace Relations, 2005, p. 1). In nomenclature terms, technical skills are now labelled 'discipline specific skills' or 'hard skills', and other 'soft skills' as 'employability skills'. At the very least, the 'soft skills' include generic capabilities such as: initiative/enterprise; communication; teamwork; technology; problem solving; self-management; planning and organisation; learning (that is, the capacity to learn new things and the preparedness for continuing professional development (Department of Education, Science and Training (DEST), the Business Council of Australia (BCA); the Australian Chamber of Commerce and Industry (ACCI)). More recently, these have been extended to include personal attributes, such as: loyalty; commitment; honesty and integrity; enthusiasm; reliability; personal presentation; commonsense; positive self-esteem; motivation; sense of humour; balanced attitude to work and home life; ability to deal with pressure; adaptability (Australian Government, 2008).

The consideration of generic capabilities as employability skills reflects a growing acceptance of their contribution to the improved matching of jobs to employee, increased job satisfaction, increased productivity (Australian Government, 2008), transferability to different work and personal environments and situations, and flexibility in dealing with a highly dynamic and changing world. Currently, then, generic skills are grouped into the following categories: basic/fundamental skills; people-related skills; conceptual/thinking skills; personal skills and attributes; business skills; and community skills (Gibb, 2004 in DEST, 2006, p. 8).

THE HIGHER EDUCATION SECTOR'S RESPONSE TO THE ISSUE OF EMPLOYABILITY

There is increasing pressure on Australian universities (by students paying for their education as well as by government and industry for the reasons previously highlighted) to give greater emphasis and accept more responsibility for 'graduate employability'. Systems currently in place hold universities accountable for their graduates' success in gaining employment. The Graduate Destination Survey is one instrument used nationally to measure and report on this.

One of the main ways universities have responded to these demands has been to include some form of work placement during or at the end of the student's course of study. Citing Harvey et al (1997), Orrell (2004) describes how recent research "...illustrates that students who had undertaken a work-integrated learning experience or a skill-development component during their course of study were more likely than others to have reflected positively on their university experience and to have achieved employment within their chosen field" (p. 1). The way in which work-based learning has been implemented varies from university to university and course to course. Some professions such as architecture, engineering, medicine, teaching, for example, have a

long history of requiring students to undertake and complete a component or components of work practice; developing in the process their own descriptors, such as practicum, internships, work experience, to mention a few. How students undertake their work-based learning also varies. In Australia, work-based learning can occur through programs that include: recognition of prior work experience; independent work-based modules; stand-alone work experience awards; sandwich degree programs; work-based learning degree programs; corporate degrees; and graduate work-based learning (Hunt, 2006, p. 266).

Work-based learning, whatever the form, is not an end in itself (Orrell, 2004). "The continuing use of work-based learning by universities may be explained by its value as a learning tool. However, like any other teaching and learning tool, work-based learning is not in itself valuable. The full potential of work-based learning is only realised by the pedagogy that informs its application" (Hunt, 2006, p. 263) and by the operational and support infrastructure put in place at the organisational level (Orrell, 2004; Hunt, 2006).

LEARNING IN THE WORKPLACE

Because the workplace is the context of practice, learning in the workplace is considered a form of authentic learning informed by real contexts, activities, and best practice. Associated with this are opportunities to experience multiple roles and perspectives, to work collaboratively and reflectively in the construction of knowledge, to apply theory to 'real' problems reinforcing and consolidating learning at university (Hunt 2006), to develop generic skills, and among other things, to start to understand the culture and to learn the discourse of the profession. Such opportunities for authentic learning are not available in the same way in the academic environment at university. For Hunt (2006), authentic learning is an eclectic pedagogy incorporating elements of experiential learning, problem-based learning, flexible learning, situated learning, and action learning. Other pedagogies that also have relevance are cooperative learning and reflective learning.

Further to this, Duignan (2002) differentiates between behavioural theories of learning and cognitive theories of learning. While he proposes that learning in the workplace tends to be behaviourally driven in that it emphasises stimulus-response relationships, he also recognises the role of cognitive structures which encourage reflection and self-knowledge, especially where situations and tasks become more complex and ill-defined. It stands to reason then that a pedagogically driven work-based program should attempt to integrate the two. It is in this sense that work-based learning becomes 'work-integrated learning', not just in the sense of work placement units incorporated in a student's academic course, which is the usual meaning attributed to the term.

The project described in this paper accepts this notion of integration as its basic premise, and of the associated need to better understand the nature of knowledge developed in academia, the nature of knowledge developed in the workplace and how the two can complement each other in more relevant, efficient and mutually beneficial ways. Several researchers point to distinct differences between 'academic knowledge' and 'professional practice knowledge'. The act of differentiation has its roots in the belief emerging in the 19th century that universities taught the knowledge (the theory)

that was to be applied later in practice (Savage, 2005), in the process denying, or at the very least, devaluing the role of practice as a learning environment. In recent years, this understanding is changing to one that accepts both as learning environments.

While some view work places as environments where the knowledge developed in the university is extended and consolidated (particularly procedural knowledge, for example, practical and technical skills), others differentiate in terms of the type of knowledge that can be developed in each. According to Gibbons et al (1994) (in Savage, 2005), Mode 1 knowledge is developed in universities and Mode 2 knowledge is developed in practice. Mode 1 knowledge is "homogeneous, academic, fixed and hierarchical"; Mode 2 knowledge is "heterogeneous, transient, socially accountable, reflexive, and localised" (Savage, 2005, p. 4). Reinforcing this distinction, Orrell (2007) describes academic knowledge as "predictable, intentional, replicable, prolonged and student-focussed", and professional practice knowledge as "unpredictable, immediate, unique, transient". Implicit in this is an awareness of the contexuality of learning rather than the content of learning per se. For example, while work placements also provide students with the opportunity to learn 'academic' substantive and procedural knowledge (theory of structures, for instance, or the process of design), this substantive or procedural learning happens in a context (physical, cultural and experiential) that affords, even necessitates, other forms of learning not available or possible in a non-practice environment. The shift to regard generic capabilities and personal attributes as employability skills described in a previous section is an attempt to recognise and address this. Several questions remain unanswered however, including:

- Does our current understanding adequately represent the potential of the work place as a learning environment, in other words, is there more to know especially when business and work environments are rapidly changing?
- If there is, what can we do as educators and researchers to develop a more comprehensive understanding and remain up-to-date with the emerging demands and possibilities of practice?
- Are our current academic systems, approaches and academic/practice relationships adequate in realising the potential of work environments as learning environments?
- If not, how can we respond to this perceived need?

TOWARDS A MORE INTEGRATIVE, COOPERATIVE, ACTION PEDAGOGY FOR WORK-BASED LEARNING

The preceding section highlights issues and questions that this section now attempts to address through a description of a project currently underway in the Faculty of Built Environment & Engineering (BEE), Queensland University of Technology (QUT). The project is research informed and practice-based. It underpins the development and implementation of a faculty-wide work-integrated learning (WIL) program. In the context of this paper, it represents a position from which to view employability and develop possible responses to its increasing emphasis by students, practice and the government. It should be said, however, that the impetus for undertaking the project was not exclusively that of enhancing employability. Overall, the project is driven by the desire to be more collaborative and holistic in attempts to improve professional practice and its capacity to enhance outcomes individually and collectively. The WIL

program was viewed as a primary vehicle in laying the ground work for facilitating the formation of different types of partnerships, and through them, highly responsive and sustainable practice.

Accepting the contextualised or situated nature of learning and the uniquely authentic context of practice for learning, the approach adopted in developing the curricula and implementation strategies for the BEE WIL program was one informed by the notion of context (particularly, cultural context) and integrative and inclusive engagement by the main stakeholders (Franz, 2007). Orrell (2004) describes this as reflecting a 'transformative stakeholder ethos'; an ethos that seeks benefits for all parties and that views learning in the workplace as "...holistic, rather than task focused, [where] students are encouraged to develop new ideas through the exploration of subject matter and the actual workplace". Drawing on the work of Harvey et al (1997), Orrell goes on to describe how this ethos "...epitomises *Learning Organisations* and leads to authentic, ongoing, transformative partnerships integrating work, curriculum and research".

The idea of integrating teaching and research is particularly relevant in the current Higher Education context where there is a tendency for research and teaching to be seen as discrete even competing activities. Grigg (2005, p. 4) argues that more than anything, combining teaching and research enables graduates to participate actively in knowledge creation and practices of learning within their own discipline and work environments (in Franz, 2007). While Grigg discusses this in relation to the graduate context, the BEE model is also exploring its relevance in informing learning and producing mutual benefits at the undergraduate level while the student is undertaking a work placement as a formal component of their course. The WIL student's simultaneous connection with academia in the context of transformative engagement enables iterative relationships to develop for research, teaching and application advancing at the macro level the scholarship of integration as presented by Boyer (1990). Inherent in this is reconsideration of the student as a novice researcher as well as a learning practitioner; of the employer as a researcher and practitioner educator; of the practice organisation as an academy in practice; and of educators as teaching researchers. To facilitate this, the project is in the process of establishing professional, industry and educational networks to cooperatively develop the WIL curricula as well as share the responsibility for its implementation, evaluation and on-going development; curricula which gives students, practitioners and educators the opportunity to learn how to learn from and through practice, and how this can be integrated with learning at and through university. The process as a whole is guided by action research methodology which also involves practitioners in a continuing study of the current and likely issues/challenges for practice. Developing an evolving mutually shared understanding of the nature of practice and its issues and challenges is crucial to the use of the practice environment as an effective learning environment. This action research methodology is also used to pedagogically inform WIL teaching and learning. "The action learning approach suggests that people learn best about work, at work and through work, within a structure which encourages learning" (Koo, 1999 in Hunt, 2006, p. 272).

CONCLUSION

This paper has reported on a project which explores the issue of employability and the necessity for an integrative, cooperative, transformative work integrated learning (WIL) model in helping to prepare students (in this case, built environment students) for professional practice. The decision to adopt an action research approach connected integrally to a work placement program acknowledges the continually changing and challenging nature of professional practice and the need to work collaboratively with practice in understanding the nature of practice and the implications for professional education as a whole. In addition, it presupposes a role for the work environment as a learning environment that currently is largely unrealised. Overall, the paper makes an argument for the consideration of 'practice', pedagogy', and 'partnership' as mutually inclusive concepts central to the issue of employability and the continuing relevance of professional education.

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It's all about 'I': Implementing 'integration' into a WIL program

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In recent years concerns have been raised about a gap emerging between graduate attributes and what industry requires (Yap, 1997; Albrecht and Sack, 2000). This is often referred to as a lack of 'employment readiness' of students and the need to engage industry with students and the curriculum. Such a concern was highlighted in the 2007 report titled 'Graduate Employability Skills' prepared for the Business, Industry and Higher Education Collaboration Council. While work integrated learning attempts to address this issue, it is questionable how successful this is if students are not adequately prepared prior to their placement.

In an attempt to address this concern a Professional Development Program (the 'PDP') was developed. The PDP is integrated into the degree program and is designed to systematically develop students' learning, employment and generic skills and supplements their theoretical studies. It is argued that this integration of the PDP permeating the Degree enhances students' employment readiness. In addition, the PDP created other tangential benefits to the students and the university in terms of student engagement and motivation.

This paper details the procedures that have been developed, and provides preliminary evidence on the impact of the first part of the PDP. It will be argued by the authors that to attain the possible benefits of a WIL program it is critical that practices and support mechanisms are adopted to emphases the 'I – that is, the integration of work and learning.

Keywords: Work Integrated Learning, Employment, Professional Development, Graduate Outcomes.

INTRODUCTION

The rapid pace of change in the modern business environment, driven by the global economic environment, technological advances and market, political and environmental instability, has placed increased pressure on professional services organisations to maintain their expertise advantage to enable them to deliver their product to clients. This dynamic environment has heightened the need for 'work ready' graduates with attributes beyond baseline technical capabilities. Indeed, these are largely assumed, with recruiters seeking graduates with high level 'generic' skills such as communication and professional skills, and professional awareness. There is, however, debate about the effectiveness with which this is occurring in degree programs, leading to the suggestion of a gap between education and practice in terms

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of attributes that tertiary institutions are developing in students and what professional services firms require (Crebbin, 1997; Yap, 1997; Albrecht and Sack, 2000). This concern has been exacerbated by the general skills shortage.

The two key issues that flow from this relate to what skills are required to develop 'employment ready' graduates in a professional services context and how these can be integrated into curricula. On the former, there has been much debate about the balance and mix of generic, technical and professional skills that should be built into degree programs (Asbaugh and Johnstone, 2000; Crebert, 2002; Kavanagh and Drennen, 2008). The importance of this 'workplace application' is critical as numerous reports have recognised that a strong disciplinary knowledge does not of itself guarantee graduate employment (Crebert, Bates, Bell, Patrick and Cragnolini, 2004, p. 148). Graduate skills demanded by employers include being confident communicators, team players, critical thinkers, problem solvers and having initiative (Harvey, Moon and Geall, 1997). In some cases professional bodies have developed accreditation programs that explicitly require universities to include generic skills development in their programs (such as the CPA and ICAA through the work of Birkett, 1993).

In relation to the integration of these non-technical attributes into degree programs, there is also much debate. Some argue that current educational strategies are biased towards technical knowledge and procedural application, with insufficient use of learning strategies that would support generic skills development such as case-studies, industry based assignments, work-integrated learning, research based learning and simulations/role plays (International Federation of Accountants, 1996; Adler and Milne, 1997; Albrecht and Sack, 2000).

A recent study by Kavanagh and Drennen (2008) examined the perceptions of employers and students in accounting of the importance of various graduate skills and attributes. They found that while employers still expect a base level of technical skills, they require 'business awareness' and an understanding of the 'real world'. They conclude that both employers and students believe that tertiary programs in accounting are failing to sufficiently develop the non-technical and professional skills of students. [*]

A further dimension of this issue is the importance of professional contextualisation for students in terms of careers choice. For students to make a 'meaningful' choice in terms of career (and hence program of study) they need an understanding of the profession that they have initially chosen to enter. As Dewey (1916, p. 308) points out, "there is nothing worse than being forced by circumstances into an uncongenial calling." Dewey (1916) argued that education for vocation is to assist individuals to identify what occupation they are suited to and develop their capacity to realise their vocation. In the modern environment, a lack of this can be related to student retention issues and many students transferring programs.

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[*] Other industry reports that have reiterated a similar theme include Business/Higher Education Round Table, 1991, 1992, 1993; Association of Graduate Recruiters, 1993, 1995; Sausman & Steel, 1997; Coopers & Lybrand, 1998; AC Nielsen Research Services, 2000.

One technique that could assist in improving students' ability to both transfer theory to practice and develop professional skills/understanding is work integrated learning ('WIL'). WIL[*] programmes are typically described as "educational programs which combine and integrate learning and its workplace application, regardless of whether this integration occurs in industry or whether it is real or simulated" (Atchison, Pollock, Reeders and Rizzetti, 2002, p. 3).[†] WIL programmes are receiving increased attention in Australia with universities encouraged to implement them (Jancauskas, Atchison, Murphy and Rose, 1999; Precision Consultancy, 2007). One of the reasons for this greater attention is that "WIL has provided universities with an opportunity to offer a better product that students will appreciate as a pay-off for their investment" (Abeysekera, 2006, p 7). Research on WIL programmes has demonstrated increases in student job knowledge and skills, and importantly improved attitudes and behaviours towards work readiness (Hughes and Moore, 1999), substantial personal development by students (Day, Kelly, Parker and Parr, 1982), positive effects on students' learning, including identifying the relevance of theoretical concepts taught in class, putting theory into practice, appreciation that academic success is not the only attribute for career success, and the development of communicative abilities. This suggests that WIL activities may help address concerns regarding graduate employment readiness as discussed above.

Informed by the above discussion, a Professional Development Program (PDP), is developed to provide students with industry knowledge, professional skills and exposure to industry. This is operationalised within a new Bachelor of Commerce (Professional) program that includes the accounting and financial planning disciplines and is delivered through a PD week at the start of each trimester, analogous to a continuing orientation program that all students (commencing and continuing) participate in each trimester. Various activities facilitated by university staff (academic and non-academic), industry representatives (practitioners, recruitment/HR staff, recent graduates) and professional bodies are incorporated into the program.[‡] The PD program aims to provide students with an understanding of the profession and professional practice within the fields which they are studying including the types of roles they are likely to fill as graduates (not just the profession in general but precise roles). This paper offers preliminary analysis of the first two iterations of the PD program relying on self-reported measures of student development.

The remainder of the paper is structured as follows. The next section examines the research methodology adopted, followed by a discussion of the results. The final section concludes the paper and considers the limitations and the potential for future research.

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[*] There are a number of terminologies used to describe WIL, including cooperative learning and service learning, however the term WIL is used in this paper for consistency.

[†] There are a number of possible models for a WIL programme, such as Mentored Employment, University/Industry Research; Supervised Work Experience, Customised Accredited Workplace Learning, Enterprise Development and Entrepreneurial Programs, and Simulations (Atchison et al., 2002).

[‡] The strategy adopted is to utilise industry and professional body representatives to deliver this in conjunction with the university staff to maximise the credibility of the program (in the eyes of the students) and engagement of students.

RESEARCH METHODOLOGY

The first PD week involved three days of activities in the week prior to trimester one and included a range of activities with nine industry presentations/workshops. In addition, both formal (a professional networking breakfast for which students wore professional attire and engaged with more than 50 industry representatives, and the Pod mentoring program) and informal (refers to discussion) opportunities for networking with industry representatives were included in the program.

Knowledge areas addressed included understanding the profession, roles in industry, roles of the professional bodies, what professional services is about, what it takes to be a successful professional and what graduate recruiters look for. Skill areas addressed include professional networking skills (leading into the networking functions), professional attire, oral communication skills, research skills, time management, personal planning and goal setting, spread sheeting skills and professional software. In addition, a mentoring program was established with students at all year levels formed into a mentoring 'Pod' and allocated an academic and industry members.

All commencing and continuing (transfer) students in the degree were encouraged to participate in the program and approximately 120 students participated. Of these 40% were female, 40% less than 20 years old (30 percent were school leavers), 86% had not studied at a university before and 57% did not have 'professional' work experience. These demographics, we contend, are reasonably representative of commencing cohorts for the relevant disciplines, perhaps with the exception of the male bias, however this, we suggest, is driven by the financial planning program which has been male dominated in recent years.

To assess the preliminary impact of the PDP on student participants, a survey was developed which includes standard demographic questions and a series of 20 questions relating to students perceptions of their development of various professional skills and awareness (see table 1 for these). The survey was administered at the beginning of trimester two to allow students time to reflect on PD1 and their experience in the first trimester of study.

RESULTS AND DISCUSSION

In overall terms student participants rated the PDP very highly (4.48/5) and believed that it was highly relevant to their professional needs and vocational decision making (4.63/5) (see table 1). They also believed that the program was effective in integrating study with the profession (4.70/5). These results are taken as very strong initial support for the PDP concept and suggest some initial success in developing student professional skills and awareness. For questions 1-14 in table 1 control group data* is also provided and compared to students who completed the PDP. Overall, the results indicate that the students who participated in the PDP report improvements across all measures except written communication skills and general information literacy. Regarding the latter we point out that these were not specific targets in

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* These students are in the same program (the Bachelor of Commerce) on another campus and did not participate in the PDP, however did have a 'standard' orientation process.

PDP1, but were incorporated in to PDP2. However this has been noted and will be addressed in future activities. Regarding the 12 other measures, the largest differences in scores are for items 3 (confidence in beginning a career) and 11 (career and vocational skills). This suggests that the PDP has assisted students in clarifying their career choice and provided some motivation for students to work towards achieving this. This is important in terms of student engagement, retention and academic performance.* This, importantly, may also influence student self-efficacy, which has been argued to be a key determinant of students' ability to develop these employability skills. That is, students' belief about their personal capabilities (Bandura, 1977), for example self confidence, has been identified as critical in the development of students' communication skills (Reinsch and Shelby, 1996). Other significant skills differences arise for team skills (perhaps related to the Pods mentoring program), self management skills and initiative, all of which are relevant professional skills.

Overall, this is taken as preliminary evidence to suggest that an integrated WIL model that engages students, industry and the university will provide benefits for stakeholders in terms of the development of student professional skills and awareness. In addition, the second and third largest differences between the PDP students and the control group were for questions two (satisfied with my choice of degree) and three (looking forward to continuing my studies) respectively. Given the importance of student engagement and retention, this, we suggest, is also an important outcome for universities as they consider investing in WIL activities.

TABLE 1
Student Survey Responses

Item	Question	Avg Score	Avg Score (Control)
1	I am looking forward to continuing my studies with Griffith University.	4.70	4.14
2	I am satisfied with my choice of Degree.	4.70	4.08
3	*Since January* my confidence in beginning a career in the Degree I am studying has improved.	4.43	3.76
4	*Since January* my confidence in accomplishing difficult tasks when faced with them, has improved.	4.13	3.63
5	*Since January* my interpersonal skills (assertion, listening, conflict management and helping others) has improved.	4.03	3.83
6	*Since January* my self management skills (self awareness, self organized, resourceful, responsible) have improved.	4.33	3.86
7	*Since January* my learning skills (learning from experience, learning strategies, self regulated, adaptable) have improved.	4.27	3.82
8	*Since January* my problem solving skills (research, decision making) have improved.	3.97	3.78
9	*Since January* my initiative skills (evaluating others' arguments, own experiences, linking ideas) have improved.	4.13	3.66
10	*Since January* my oral communication skills (explaining, presenting, and persuasion) have improved.	3.83	3.62

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* Indeed this may have been a key influence in the better than average performance of the cohort in terms of their marks in trimester 1.

Item	Question	Avg Score	Avg Score (Control)
11	*Since January* my team skills (task direction, team membership, relationship and support) have improved.	4.23	3.71
12	*Since January* my information literacy skills (identifying when I need info, computer skills and reading) have improved.	3.87	3.92
13	*Since January* my written communication skills have improved.	3.77	3.82
14	*Since January* my career and vocational skills (career direction, employment, application and self presentation) have improved.	4.33	3.66
15	I have stayed in contact with some of my Pod/Group members during the semester.	4.07	N/A
16	Overall the Professional Development Program was…	4.48	N/A
17	Overall, the relevance of the Professional Development Program to my vocational / professional / employment needs was….	4.63	N/A
18	Overall, the Professional Development Program gave the following impression of Griffith University….	4.60	N/A
19	How effective is the Professional Development Program with integrating your university study with your future profession?	4.70	N/A
20	The organisation of the Professional Development Program was…	4.17	N/A

This table presents summary results from student surveys of the PDP. Column three presents the average score for each measure, scored on a five point scale where 5 = strongly agree and 1 = strongly disagree for questions 1-15. For questions 16-20 the scale was excellent (5) to very poor (1) Column four presents results of a control group of students on another campus in the same curriculum that did not benefit from the PDP.

Apart from the student self-reported evidence, it is also important to consider the views of industry participants, particularly as they are the stakeholder who holds the concerns regarding the attributes of graduates and are hence in a prime position to assess whether the PDP will mitigate these. To examine this, a short evaluation was sent to industry participants and this, in summary, also provided very positive results. Overall, the PDP was rated 4.78/5 (5 being excellent and 1 being very poor). The relevance of the PDP with students vocational and professional needs 4.9/5 and success in integrating university and the profession 4.78/5. This is argued to be strong initial evidence of the PDP concept addressing the concerns raised by the education/practice gap. Indeed, the PDP also gave industry a very positive impression of the university (4.9/5), its staff (4.63/5) and students (4.586/5) all of which is further evidence in support of WIL programs in terms of a number of university performance criteria.

CONCLUSION

In light of the evidence of an educational/practice gap vis-à-vis the 'employment readiness' of students, a professional development program was designed to systematically expose commencing students in a commerce undergraduate degree to industry and professional body representatives in an attempt to develop their professional skills and awareness. This paper describes this program and reports on preliminary evidence of its impact on students that participated in it. The views of industry participants are also provided. Overall, we conclude that the initial stages of the PDP project have been successful in developing the professional skills and awareness of students, a view strongly endorsed by industry participants. This suggests that WIL models may be useful in responding to the educational/practice gap

and hence universities should consider further investment in such initiatives. We argue however that the initial success of this project relates to the integration of the degree program and industry, and through this approach the student participants are able to see the linkages between their academic studies and their desired professional employment outcomes.

In addition, we find that the program has had a positive impact on student and industry satisfaction with the university and has raised their impressions of the institution. This provides further justification for investment in such programmes due to the importance of student and industry engagement/retention. Finally, the evidence of students clarifying their degree/career choice is also relevant in terms of Dewey's 'vocational calling', which we suggest is likely to lead to improved student engagement, motivation and self-efficacy and, therefore, better outcomes for all stakeholders.

The findings of this study should be viewed in light of several limitations including the preliminary nature of the evidence, its case study nature in terms of its external validity, and the short-time frame of the analysis. These issues also lead to further research opportunities including examining the impact of such programmes with a larger student cohort, in different disciplines and over longer timeframes. The issue of student self-efficacy as a determinant of the acquisition of professional skills, and whether a PDP style program impacts on this, is also worthy of further investigation.

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Work-integrated learning and international students: the value of experience

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The Industrial Affiliates Program (IAP) was established at Griffith University in 1993 to enable engineering honours students to complete a thesis based on an industry project, and to provide all final year students with a Work Integrated Learning (WIL) experience. Since its inception, the IAP has facilitated in excess of 1000 placements, including mandatory placements for civil, electronic, coastal and environmental engineering students, and elective placements for students in science, information technology and multimedia disciplines.

As the reputation of Griffith's WIL expertise grows in Australia, so too does its international following. Offering some of the more robust project-based learning experiences, Griffith University has become the first choice for many international students seeking to enhance their workplace readiness.

Research indicates that for many multinational companies, the global skills shortage has made it difficult to attract competent workers to some international locations. They cite poor business acumen and little real-world experience as serious shortcomings in the domestic pool of applicants. However, with programs such as Griffith's IAP, there may be opportunities for Australian tertiary institutions to work with these organisations to produce graduates who possess the desired attributes.

This paper examines the long-term implications and opportunities for international partnerships between Australian universities, international students and multinational organisations, including internationally recognised qualifications for overseas program participants. Case studies are discussed which highlight the successes of international students who have participated in Griffith's IAP, and industry data is presented to demonstrate the significance of business skills acquired through a project-based WIL experience.

Keywords: IAP, industrial affiliates program, global skills shortage, international students, placement, WIL, work-integrated learning, work placement

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Of all the challenges confronting multinational organisations, perhaps the most critical is the attraction and retention of skilled university graduates. It has long been recognised that the world economy is in the midst of a skills shortage, and this epidemic appears to have a greater impact on businesses with sites in developing economies, particularly in Asia. In this context, there are a number of distinctive issues that impede the successful implementation of graduate recruitment programs. Not that there is any shortage of graduates – in fact, quite the contrary. In 2006, for example, China produced nearly five million university graduates (China Daily, 2008), and India almost 10 million (Nadu, 2007). But there *is* a shortage of *talent* – in India, just 25 percent of graduates are considered 'employable' by large organisations (Nadu, 2007)), and in China, that figure falls to 10 percent (Farrell and Grant, 2005).

Work-integrated learning (WIL) is one option that tertiary institutions the world over are now exploring as a potential solution to this problem. WIL is an educational phenomenon that began in the United States of America early in the 20th century as a means of providing technical students with more than just the traditional classroom learning experience (Smollins, 1999), thereby enhancing their graduate employability skills. Over the last century, this concept has been recognised internationally, and is slowly embedding itself in the Australian tertiary education system.

So is there an opportunity for Australian universities to support graduate skill development in companies with international operations? What can they do locally, and what can they do globally? Can work-integrated learning programs that are running successfully in Australia be implemented in an international environment? If so, what are the considerations and implications? And what does the process involve?

International students have been involved with Griffith University's Industrial Affiliates Program (IAP) for many years now. This is a robust WIL model with a number of in-built support mechanisms that enable students to complete a work-based project in a secure and nurturing environment. Student participants acquire new skills in project management, and enhance existing skills including communication skills, presentation skills and teamwork skills. Statistics from 2007 indicate that more than 70% of IAP students were employed as a direct result of their IAP project experience.

From an international student perspective, the opportunity to study and gain experience overseas is fundamental to their professional success. Sixty-five percent of multinational employers believe that relevant overseas study experience makes graduates more employable (McKillop, 2008), as it develops their understanding of cultural diversity and different workplace practices. Studies show that these graduates are more willing and better equipped to move into roles with overseas operations, and will consider the positive outcomes associated with such an experience.

In addition to the value associated with an international study experience, professional workplace experience with an international organisation adds a wealth of value to a student portfolio. For this reason, many of the international students who enrol in Griffith University's Science, Environment, Engineering and Technology disciplines undertake an IAP project either as a core or an elective component of their degree. The following case studies demonstrate the value that Griffith University's IAP offers to international students:

Christophe Louis is from New Caledonia, and undertook an elective Industrial Affiliates Program (IAP) placement with Software Design Consultants (SDC) in the final year of his Bachelor of Information Technology degree in 2007. His task was to create a dynamic website that would allow SDC's clients to access customised information, and would also act as a marketing tool for new clients. Christophe noted that his IAP experience substantially developed his self management, conceptual and analytical skills, as well as his personal and professional effectiveness. It also contributed significantly to his communication and problem solving skills, and his workplace flexibility. Christophe stated that simply having some professional work experience in Australia added significantly to his employability.

Rakitha Tui Appu Arachilage Don is a Bachelor of Electronic Engineering student from Sri Lanka. He worked with Monduran Pty Ltd in 2008 to design a methane gas detector for an underground mining vehicle. Rakitha identified a range of professional attributes that were developed significantly during his IAP project, including project management skills, and his professional effectiveness. Additionally, Rakitha improved his interpersonal and communication skills, problem solving, conceptual and analytical skills, and his adaptability. He wrote that his project has made him more employable, "because it provided practical knowledge not available in other courses". Rakitha also stated that the real advantage comes in interviews when he can talk about his personal involvement with a, "real life project with real outcomes, which can mean more than just having a good GPA."

But what specifically makes WIL programs attractive to international students? Patrick and Crebert (2004) compared graduate perceptions and outcomes from students who completed a WIL placement as part of their engineering degree with engineering students who didn't complete a WIL placement, and found that students with WIL not only demonstrated enhanced generic skills, but also had a greater awareness of the value of those soft skills for themselves and for their employers (see Table 1 for figures). This is exactly what international students need.

TABLE 1
The contribution of work-integrated learning to generic skills development (taken from Patrick and Crebert, 2003)

Statement	WIL participants (% agreed)	Other graduates (% agreed)
University teaching staff made me aware of the importance of generic skills and abilities for my future career	57.5	39
At university it seemed more important for career prospects to acquire content knowledge than generic skills	43.6	63.4
My university undergraduate degree did provide sufficient opportunities to develop generic skills and abilities	87.5	51.2
Employer creates sufficient opportunities to further develop generic skills and abilities in the workplace after graduation	82.8	85.4
The workplace was so different from university that it was hard to transfer generic skills and abilities when I started employment	25.8	46.4
Development of generic skills and abilities during university work placement gave me, or would have given me, a definite advantage when it came to finding employment after graduation	56.5	58.5
Participation in work placement contributed to (or would have contributed) to advancement in career	71	82

And what are the multinational organisations looking for from their graduates? When it comes to employing new graduates, multinational organisations are typically looking for the same things as local companies – they are looking for demonstrable soft skills, with communication and teamwork skills considered the most valuable (Archer and Davison, 2008; QETI and IEAA, 2006). But they want something better. Archer and Davison (2008) found that 65% of international employers believe that overseas work experience makes graduates more attractive. Further, the multinationals place a greater emphasis on teamwork and analytical skills, and 70% are more inclined to consider the quality of the individual's qualifications, versus just 52% of local companies. Multinational businesses are generally seeking a higher calibre graduate.

When the requirements of the multinational organisations are considered, it is immediately apparent that there is a real need for work-integrated learning. WIL programs are producing better graduates with the skills that multinational employers are looking for. Hence as WIL programs are developed and expanded in Australia, they should be considering the global market.

There are a number of established initiatives already in place in Australian universities specifically for international students. For example, the University of Western Sydney has had great success with an internship program where students come to Australia specifically to undertake an internship with a large organisation hand-picked by the Careers and Cooperative Education staff. The international students pay for the opportunity to work internationally in an area aligned with their qualifications, and there are no fees charged to the sponsoring businesses. For the University, this is an opportunity to develop new relationships with the organisations the students are placed in, which in turn can lead to joint research ventures, more opportunities for UWS graduates, and a multitude of other possibilities. The ongoing collaboration and research opportunities available through WIL have also been demonstrated through Griffith University's IAP. Other initiatives have stemmed from the Thailand-Australia Science and Engineering Program (TASEAP), which saw a number of strategic alliances formed between Australian and Thai universities.

Australian universities could be working directly to provide scholarship opportunities for students from developing economies with the backing of multinational employers with a contingency for the student to return to the home country as an employee of the MNC on completion of their study. Such schemes would be attractive to potential students because their study is funded and they have excellent job opportunities with their employer of choice. And such a program should be attractive to the multinational companies because they gain a graduate with both international study experience and international work experience who can undertake a role in their organisation immediately upon their return. Studies indicate that students who study internationally are more likely to be bilingual (QETI and IEAA, 2006), which is an important consideration for businesses with international operations. Twenty-six percent of multinational organisations openly source graduates with this attribute, compared with just 21% of local companies (Archer and Davison, 2008). From the multinational employer's perspective, it is a small financial outlay for a great return on their investment, and bottom line is always a priority for any business.

However, there are a number of issues associated with inbound programs that Australian universities must take into consideration. The greatest obstacle is associated with student visas, especially if students are receiving payment for the placement. Student visas in Australia limit students to a maximum of 20 hours of paid work per week during semester.

The alternative is to take the best practice WIL programs from Australia and to find an effective means of delivering the programs offshore. For example, Griffith University offers a Master of Drama Education with Honours as an offshore program in conjunction with the Hong Kong Art School, and has included a WIL component in the program. This program targets teachers, social workers and dramatic artists, and the WIL aspect of this program is designed to enhance their capacity to devise educational theatre programs and to project manage in the applied theatre industry.

Most tertiary institutions in Australia have rigorous controls around the establishment of an offshore program – it is no easy task. The greatest problem is assimilating a program designed for Australian students and Australian workplaces into another culture. Forming a partnership with an international university helps somewhat, but often there will be a requirement to factor in a large component of change to the

original WIL program, both from the student learning perspective and from the international work culture perspective. The age-old adage, 'you can't fit a square peg in a round hole' really applies in this case.

In addition to what may be perceived as the obvious problems, such as language deficits for programs delivered in English, there are a number of other factors to consider when preparing any program with an international audience. For example, Parsons and Dowling (2004) examined the delivery of engineering programs to Asian students, and identified four areas for consideration. Their findings are as follows:

1. A culture of individuality imbues the Australian education system, versus a stronger culture of group support as evidenced in many Asian cultures. In Australia, students are expected to be self-sufficient,
2. Engineering educators in Australia anticipate that all of their students will have some 'hands-on' skills, or are at the very least inclined to develop them, when this in fact is not the case. Many Asian students have little or no experience outside the classroom, as their domestic environment minimise the likelihood of exposure to machinery.
3. Common sense is highly valued in the Australian culture, but not necessarily in other cultures. Here, students develop the capacity to prioritise, and to ignore things that seem unimportant, whereas many international students struggle to differentiate between what is and what isn't imperative.
4. Diversity of skill is assumed – here, we anticipate that students are able to manage different facets of a project, whereas in some Asian cultures, the range of duties associated with a particular role is considerably narrow.

It is of paramount importance to develop strategies to effectively counter these risks before WIL programs for international students are implemented, or the failure rate – both of students and of programs – will undoubtedly be very high. The negative impact this can have on the reputation of the institution is vast in a sector as competitive as tertiary education, where student perceptions largely account for their choice of where to enrol.

So with the global skills deficit the way it is, and with the capabilities that are so obvious in Australian WIL programs, there is plenty of opportunity for local universities to partner with multinational organisations to produce graduates from developing countries with the capabilities that are in demand. The next step is to devise WIL curricula that will support international students as they make the transition from the classroom to the workforce. For the multinationals, it is the attraction and retention of appropriately skilled graduates that poses the biggest threat in developing countries – by demonstrating their support for international students and WIL programs, they may be able to reduce the impact of this issue. Once this is under control, some headway can be made into reducing the global skills shortage.

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Academic practice: conceptualising professional development for pedagological innovation

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It is well recognised that the concept of work based learning challenges understandings about what it is to be an academic (Barnett 1997; Boud & Soloman 2001; Boud & Symes 2000). Academic identities and the concept of academic professionalism are put into question as pedagogic innovations required to deal with the concept bring academics into new ways of thinking about knowledge itself (Boud & Symes Ibid; Chappell 2000). Academics now encounter new forms of knowledge and are required to engage in different types of research 'games' and pedagogic practices (Stonarch & MacLure 1997).

This research-based paper draws on the findings of a study investigating the working knowledge of academics at Victoria University. A series of phenomenographic analyses identified different knowledges that were in use in everyday practice, and secondly, academic identities derived from how these are brought together in everyday practice. Identified Pseudo, Adopting, Adapting (ideas), Adapting (problems), Defending and Rethinking identities showed variation in the ways that knowledge per se is understood and enacted in everyday practice. These understandings ranged from knowledge as stable, knowable and finite to it as contradictory, unstable, and negotiable. These were related to how teaching and research are understood and embodied in everyday practice.

This paper explores the implications of this research for professional development approaches that support academics to respond to demands for pedagogic innovation to support learning in the workplace. It suggests that approaches need to conceptualise the relationship that academics have with knowledge per se.

Keywords: Academic practice, pedagogy, knowledge, professional development, work based learning.

INTRODUCTION

This paper focuses on the findings of a study investigating academics' experiences of their working knowledge at Victoria University (VU) in Melbourne Victoria. It argues that conceptions of knowledge itself underpin how pedagological innovations associated with work based learning (WBL) are understood and implemented. In this argument conceptions of knowledge are related to academic identities and the ways that academics approach their practice. The argument made here is that particular academic identities are founded on understandings of knowledge that are conducive to the implementation of WBL teaching practices. The challenge for professional development is to therefore develop processes and practices that support the development of academic identities that embody these understandings of knowledge. This, it is argued, is achieved in professional development practice by conceptualising pedagological innovation associated with WBL in terms of the knowledge/identity nexus.

The argument made about the knowledge/identity nexus draws on a study investigating the working knowledge of academics at VU. Working knowledge is knowledge that is 'put to work' (Barnett, 2000:x). Moreover, the term has come to refer to a conceptualisation of knowledge that brings the interface between work, learning and knowledge into sharp focus (Ibid). A key idea underpinning the concept is that it is knowledge produced at work through the process of work based learning (Boud 2001). An investigation into the working knowledge of academics is therefore an investigation into the interface between academic work, learning and knowledge. The VU study of working knowledge explored these aspects in detail using a phenomenographic approach.

A series of phenomenographic analyses of transcription data collected from 20 academics at VU was used to explore experiences of working knowledge. The main objective of phenomenographic research is to describe the variation in experiences of a phenomenon within a given population (Marton & Booth 1997). The aim is to analytically describe the qualitatively different ways that a phenomenon is experienced so that the structural relationships linking the different ways of experiencing are clear. The relationships between different ways of experiencing a phenomenon are understood as logically related to one another and are typically described as hierarchically inclusive relationships (Ibid). The key task of the researcher is to thus describe the experiences by showing the logical relationships between the descriptions as a structured set – or an 'outcome space'.

The logical relationships in the outcome space are understood as representing all the experiences of a phenomenon within a group and are arranged hierarchically. The outcome space comprises a matrix that describes the 'how' and 'what' of the phenomenon (referred to as the structural and referential aspects respectively) in each of the experiences in the hierarchy. It is also analytically represented as 'categories of description' that describe the qualitatively different ways the phenomenon is experienced in the group. The categories of description focus on describing the variation in experiences of the phenomenon. The variation between more or less 'complete' experiences is in the 'what' and 'how' of each experience –what is understood as the meaning of the phenomenon and what is done on the basis of that meaning. The focus in descriptions is on the collective rather than individual experience. The descriptions of the phenomenon therefore do not capture all of the individual experiences in the group but the range of meanings across the group.

The range of meanings of the phenomenon of working knowledge across the group of 20 VU academics was described in the study with an outcome space and categories of description. These descriptions resulted from a synthesis of three outcome spaces describing variations in experiences of the phenomena of teaching, research and institutional administration across the group. A preliminary analysis of data identified knowledge of teaching, research and institutional administration as the focus of working knowledge for academics in the study.

THE FINDINGS

The outcome space representing all the experiences of the phenomenon of working knowledge in the group of VU academics in the study is shown below.

Six different categories of working knowledge are described. Each experience of working knowledge includes knowledge of teaching, research and institutional administration. In each experience this knowledge is related to academic identities or ways of being an academic. There is thus variation in the knowledge underpinning the six academic identities identified in the study.

TABLE 1
Variation in experiences of working knowledge

Referential (What*)	Structural (How*)					
	Group 1 Information	Group 2 Application		Group 3 Knowledge		
	Pieces of information	Structured information	Ad hoc ideas	Issues, problems & Solutions	Theories & concepts	Multiple theories & concepts
Imitate	A					
Adopt		B				
Adapt			C	D		
Defend					E	
Challenge						F

*What- what use the knowledge is put to.
*How- what actions are focused on.

The working knowledge underpinning the identities (described as imitating, adopting, adapting defending and challenging identities) varied from knowledge understood as information and facts unconnected from discipline structures and boundaries (category A) to knowledge understood as theories and concepts in the context of disciplines and fields of practice (category F). These understandings of knowledge were found to underpin understandings about teaching, research and institutional administration in each category. In categories A and B (Imitating and Adopting identities) teaching, research and institutional administration were found to have an orientation to facts and structured information, while categories C and D (Adapting identities) were found to have an orientation to ideas, and the application of solutions to problems, and categories D and E (Defending and Challenging identities) were found to have an orientation to theories and conceptual frameworks.

Teaching, research and institutional administration were found to be present in all experiences of working knowledge and integral to identities. This applied where either teaching or research was absent from everyday practice: the idea of teaching and/or research was integral to identities even if one of the aspects was missing in practice. Institutional administration was evident in practice in all categories but

absent in identities across all categories. Teaching was evident in practice in all categories and in all identities across all categories. Teaching was thus found to be a key academic practice that underpinned identities of academics in the study.

The working knowledge underpinning teaching was identified as influential in academic identity formation and maintenance because of its centrality in the work of all academics in the study. This knowledge varied from a focus on facts and information that could be used for teaching content (category A); to syllabi and other structured information that could be used to organise and structure teaching (category B); to ideas and strategies that could ensure that teaching is efficient and well organised (category C); to strategies and ideas that could be used to solve issues and problems that arise in teaching (category D); to theories and concepts that could frame the learning for students (category E); to multiple theoretical frameworks and concepts (disciplinary and other) that could focus student learning (category F).

The variation in working knowledge for teaching was found to relate to variations in how academics approached their teaching and this in turn was related to how academics approached their work as academics. Variations in working knowledge for teaching were found to reflect either teacher or student-centred approaches to teaching. These findings correspond with prior phenomenographic research about academics' experiences of teaching (Prosser M. 1999; Samuelowicz 2001; Trigwell, K& Prosser, M. 1996; Martin etal, 2001). However, as a result of the meta analysis of all aspects of work, extra dimensions of the experience of teaching emerged in experiences of working knowledge. The same dimensions were also found in the working knowledge of research and institutional administration. The extra dimensions were found to be related to academic identities. However the dimension in experiences of working knowledge for teaching was found to be the primary indicator of identity.

The extra dimensions of experiences of working knowledge for teaching were found to indicate understandings about the meaning and purpose of knowledge in academic work itself. In categories A and B the meaning of knowledge was found to be related to understandings of teaching as the transmission of information. Teaching was approached with the intent of conveying information and was teacher-focused: therefore confirming the findings of prior phenomenographic studies about academics' experiences of teaching. However, the intent was to also 'keep ahead', 'survive' and appear competent to students and peers. In categories C & D the focus was on strategies, ideas and issues with the intent of making it easier to manage the demands of teaching. These were also identified as teacher-centred approaches in line with findings from prior phenomenographic studies. In these cases the additional dimension was the intent to appear adaptable, flexible and in control. In the final categories, D &E, the intent of teaching was to improve student learning, so these were identifiable as student centred approaches to teaching in line with prior studies. The additional dimension in this case was the intent to contribute beyond the immediate context, and to take a global view of knowledge and its application to teaching and learning and other aspects of work. These extra dimensions of were found to be indicative of orientations to knowledge and were thus related to identity formation and maintenance.

DISCUSSION

It is argued here that is that orientations to knowledge have a predictive function in determining readiness to adopt innovative pedagogic practices associated with WBL. Further, it is argued that academic identities underpinned by understandings of knowledge as theoretical and conceptual embody practices that have high potential for incorporating of WBL practices into day to day work.

The argument is based on the view that pedagological innovation for WBL is challenging for academics because it is at its core about coming to terms with new epistemological foundations of knowledge. (Boud et al 2001). In this argument, WBL challenges what counts as knowledge for academics. It requires a shift from understandings of knowledge as bound by discipline codes to knowledge that is ' specific, applied, pragmatic and certainly neither generated by nor only responsible to the academic community.' (Boud & Solomon 2001: 31). WBL it is argued, challenges academics to adopt new teaching practices because learning itself is reconceptualised as a fluid, negotiated, student-centred process involving multiple participants (Boud 2001). The challenges are also linked in these arguments as a challenge to academic identity; as new ways of learning reposition academics as process rather than content experts (Chappell *et al* 2000). Further, it is also argued that although WBL is giving impetus to these changes in academic practice, the epistemological foundations of knowledge are in the process of shifting as a result of the combined effects of globalisation (Symes & McIntyre 2000). These arguments suggest that practices associated with pedagogical innovations are most likely to be embodied in academic identities underpinned by relatively sophisticated understandings of knowledge itself.

The study's findings identified varying levels of sophistication in understandings about knowledge. This variation suggests that different identities are at different levels of preparedness for changing practices to accommodate pedagological innovations. In the case of categories D and E, changing practice is about a change of focus: teaching practices are already student centred and founded on a view of disciplinary knowledge as interconnected with other disciplines and fields. These identities, it is argued are the most prepared to adopt different practices. In the case of categories C and D, teaching practices are focused on strategies and techniques. However, WBL approaches require understandings about educational process: techniques and strategies are not the focus of these practices. In these cases, changing practice could begin by contextualising strategies and techniques within a framework that acknowledges disciplinary and other knowledge constructs. Changing practice in categories A and B would also include this focus. However, these identities are in a state of least preparedness because of the discipline itself is not 'in view', and strategies and techniques are not contextualised to any knowledge codes. In this approach to changing practice, the proposal is to build awareness of disciplinary knowledge codes and practices, and from that, build awareness of other modes of knowledge production and its dissemination.

Building awareness of other modes of knowledge production and its dissemination will, it is argued, build different academic identities. The construction of identity is understood in this proposal as something that academics are engaged in continuously (Archer 2000). It is built on the argument that academic identities are ' expanding and proliferating, and that there are possibilities for valorising difference.', especially in

non traditional universities (Clegg 2008:343). It refers to research that has found the emergence of 'hybridised' identities that were 'shaped not by reference to nostalgia for an elitist past, but were based on different epistemological assumptions derived from other professional and practice based loyalties.' (Ibid: 340). These new identities were interpreted in this research as a reinvigoration of academia and not the demise of academic identity itself (Ibid). It is argued here that the variation in academic identities in the study demonstrates varying responses to multiple institutional and external factors on practice. It is suggested that professional development processes can both shape and accelerate identity formation through attention to different epistemological assumptions underpinning both the disciplines and other areas of knowledge generation.

Professional development processes that attend to identity should it is argued, attend to the variation in understandings about what pedagogical innovation in WBL means. Martin (1998) has shown that academics have different conceptions of work place placements and that these have a relationship to the quality of the student learning experience in these cases. She found that more complete conceptions of work placements were related to high quality learning experiences. In line with other phenomenographic studies, it is suggested that the way to build better quality learning experiences for students is to support academics to develop more complete conceptions; in this case, more complete understandings of the meaning of work placements in the learning process. The findings of the present study suggest that a similar approach to building understandings about the meaning of knowledge itself would improve the quality of student learning by positioning innovation within a wider context. They also suggest that the meaning of WBL innovations such as work placements need to be contextualised in terms of understandings about their connection to knowledge production and dissemination in the learning process.

CONCLUSION

This paper has argued that conceptions of knowledge itself underpin how pedagological innovations associated with work based learning (WBL) are understood and implemented. On the basis of a study of VU academics' experiences of working knowledge it is further argued that these understandings of knowledge are related to academic identities and the ways that academics approach their practice. The study suggests that the different academic identities are in different states of preparedness for adopting practices associated with pedagogic innovations. It is argued that professional development approaches should take account of this variation and attend to identity construction through a focus on the epistemological foundations of knowledge itself, starting with discipline codes and practices.

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Building innovative partnerships for work integrated learning: observations from a community services initiative

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As interest in work integrated learning (WIL) grows, both universities and host organisations seek sustainable models for WIL that promise desired benefits for them and rich learning experiences for students. Adopting a 'stakeholder ethos' (Harvey, 1997) provides one framework for developing such models. Attention is focussed on creating arrangements that will enhance the capacities of all key parties – host organisations, students and universities – in the context of an evolving set of partnership relations.

This paper reports on an Australian initiative within the community services industry designed to build a Student Placement Program (SPP) responsive to stakeholder goals and values. The initiative involved a non-government human service organisation (Salvation Army Crisis Services, Melbourne) and a university School (Global Studies, Social Science and Planning, RMIT University). The SPP represented intent to develop a coordinated model for work placements that was multi-student and cross-disciplinary. It was designed to contribute to the learning, practice and workforce agendas of the host organisation; to provide a high quality placement resource for the School that would inform its own curricula and pedagogy; and to nurture learning communities and social networks for students across professional boundaries within and beyond placement. In addition, the SPP was seen as initial scaffolding for more elaborate, multi-faceted partnership activities relevant to the strategic goals of the host organisation and university.

The paper draws on evaluations and insights from the first three years of the stakeholder model. It highlights critical success factors and areas for improvement. The paper also describes the action learning process that underpins a dynamic and sustainable stakeholder ethos for WIL.

Keywords: work integrated learning, placements, stakeholder, partnership, community services

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INTRODUCTION

Balancing the needs of students, employers and universities engaged in work integrated learning (WIL) can be complex and time consuming for all involved (Orrell, 2004). As the importance of a WIL opportunity within a degree program is gaining wider acceptance as one factor in preparing students for the world of work, it is useful to examine and question some of the common models used by universities and employers, and to explore how we might improve the outcomes for students and the opportunities these type of industry/university engagements provide. This paper explores the development and implementation of a multi-student, cross-disciplinary

model of placement. Using Harvey and colleagues' (1997) idea of 'stakeholder ethos' as a framework for developing the Student Placement Program (SPP), the partner organisations – The Salvation Army Crisis Services (TSACS) and the School of Global Studies, Social Science and Planning at RMIT University (GSSSP) – aimed to enhance the capacities and opportunities for students on placement, and to further enrich the evolving partnership between the organisation and the university. Informed by evaluations and insights from the first three years of this program, the paper will describe the action learning process that underpinned the development process of the model and highlight the critical success factors and challenges for the future.

WHY THE CHANGE? - PROBLEMS WITH THE PREVIOUS MODEL

Traditional models of student placement, such as those found in many social work, youth work and policy programs, rely on a singleton approach. This model usually involves a single student being placed in an organisation with a supervisor. From a stakeholder perspective this model can be critiqued in a number of ways. It is resource intensive for universities, requiring the coordination of large numbers of students, organisations and individual supervisors, and the development of individual site-relevant learning contracts and individual site visit plans. From an employers' perspective there can be a significant drain on resources for the individual supervisor as it often left to the supervisor to negotiate with the university about the placement, its timing and the learning requirements.

The singleton model can become a very closed system. It doesn't readily allow for an organisation to locate the 'activity of student placement' within a wider organisational context. Conceptually, the singleton model is more closely aligned with the 'added value' approach to WIL (Harvey, Moon, Geall & Bower, 1997). It may enhance adaptability to the work environment, provide additional capacity for discrete tasks of organisational value, and represent a recruitment strategy. However, the opportunity to expand student placements into a learning opportunity for the organisation and the university can be missed. Moreover, from a student's perspective, placement can be an isolating experience (Cooper & Briggs, 2000) as they negotiate the world of work in their chosen profession for the first time and move towards bridging theory and practice. While, for many students, placement is where they first glimpse what it means to 'be a …', for those in less well organised or less well designed placements it can be a frustrating, debilitating or disengaging process.

GSSSP and TSACS set about developing a student placement model that would redress some of these problematic placement issues. At the same time GSSP and TSACS identified an opportunity to enhance their existing research partnership and develop a SPP model that was a catalyst for multi-level learning and collaborative capacity building for all stakeholders, including but not limited to students. In that sense, the partner organisations were mindful of Harvey et al's (1997) notion of 'stakeholder ethos', one that is associated with 'transformative' as well as 'adaptive' learning by individuals and organisations, and which draws heavily on (non-commercial) partnership principles.

Whilst partnerships may flourish on the enthusiasm and commitment of founding members, it was presumed early on that long term sustainability would rely heavily on aligning processes and outcomes with the strategic goals and underpinning values of

both organisations. GSSSP, in its strategic plan for example, had endorsed the higher education agenda of engaging with communities for mutual benefit (as advocated by the Australian Universities Community Engagement Alliance). An assumption of 'distributed expertise' supported this agenda, in its recognition of knowledge held by those outside the university domain (Nowotny, Scott & Gibbons, 2001). This offered common ground with the aspirations of TSACS to respect the practice knowledge of its staff and the lived experience of its clients as rich sources of learning not only for participating students but also for the policies and programs of the partner organisations.

THE PROCESS OF EXPLORATION, DEVELOPMENT, AND IMPLEMENTATION OF THE SPP

TSACS and GSSSP agreed that they would aim for a SPP that would challenge them as organisations to be reflective and to embark on an action learning development process. This required both organisations to define what they wanted from the SPP and collaboratively outline what they wanted to achieve. The very process of interrogating mutual conceptions of workplace learning was seen as an important early phase in setting the climate for the student experience (Martin, 1998).

From the university school perspective, the aims of the SPP were to provide a multi-student placement; to represent a form of community engagement for both the university and the students; to expand the existing research partnership with TSACS[*]; and, to provide a reliable source of student placements for many of the programs within the school[†]. It was also hoped that once this model was developed, the participating degree programs within the school would engage in a reflective process around curriculum design which would take into account students' and industry partners' perspectives. TSACS also wanted to further develop its partnership relationships with RMIT and other universities, and wanted to provide a range of placements that represented the cross-disciplinary nature of their organisation[‡].

While TSACS had recruited heavily from past student placements, the organisation found that students often lacked some of the skills, knowledge and theoretical frameworks relevant to its understanding of what's needed for working in the community sector. For example, while students were often 'discipline theory rich', many appeared to lack a developed theoretical understanding of the nature of power and, perhaps more saliently, how it operates within worker/client interactions; some lacked the strong gender analysis capacity required in social services; others might struggle with organisational aspects of the world of work. While it is reasonable to argue that students are on placement to learn these knowledge and skills, TSACS wanted to provide a consistent student experience that ensured students would gain these on placement.

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[*] GSSSP and TSACS partnership to date has included research, consulting, Masters and PhD student engagement, undergraduate classes taught on site at TSACS, SPP and TSACS staff providing practice related lectures to specific programs within GSSSP and participating in Program Advisory Groups.
[†] The school of GSSSP at RMIT University has 13 undergraduate programs all of which has at least one formal placement requirement.
[‡] TSACS has crisis response, housing, family violence, youth refuge, family accommodation, young women's programs and primary health care services.

From the organisation's perspective, creating the SPP was also an opportunity to engage the entire workforce in a reflective practice process. The SPP required all programs to incorporate one or two students into their team, to explicitly define how their practice would be shared with students and to identify what contribution the team would make to the SPP overall. There is a strong culture of peer support in the organisation, both in teams and across programs, and TSACS want to ensure that the SPP was imbued with this culture in a way that would ensure a level of peer support between students as well. TSACS also hoped having a group of students, resident in the organisation at the one time, would provide an influx of energy and enthusiasm for both the students and their co-workers. This energy and enthusiasm would provide a valuable opportunity for the organisation to reflect on its own practice through the observations from the students' theory rich, 'fresh eyes'. The imperative of transformative learning and practice was well understood by TSACS as a community service agency operating in an extremely turbulent and uncertain environment.

Both organisations came together to work through what they perceived to be important issues from a student stakeholder perspective. They wanted to create a broad based learning environment that challenged the segregated way education tended to define learning (ie youth work, social work, policy work) and enhanced opportunities for students to experience working across a range of fields with a range of staff, including students from other universities. In order to provide an open and consistent WIL experience it was important to maintain a level of one-on-one support, but responsibility for the students' learning now became a team responsibility, with a level of cross-team accountability. Finally it was hoped the SPP would ultimately develop into a community of practice for the students and the organisation (Wenger, 1998) – providing strong peer and professional networks that would extend beyond their placement (Boud & Middleton, 2003).

This process resulted in a visioning document that included principles, broad objectives and an outline of a process for developing the SPP. In designing the SPP it was agreed that primarily we were designing a learning environment and as such we needed to engage with the notion of aligned curriculum and what that might look like outside of a classroom. The foundation stone or anchoring point for the program would be a weekly meeting of the students and SPP coordinator which would include: a group catch up and time for debriefing on the week (sharing tales from the front line); a weekly topic session; a formal SPP team meeting with an agenda and minutes[*] compiled and completed by the students on a rotational basis; followed by a lunch with the SPP team and any staff members available from the programs. The design and delivery of the weekly sessions became the responsibility of the various program teams with the assistance of an academic from RMIT University.

The SPP challenged existing notions of supervision (Jones, 2004). In effect the SPP created three layers of supervision and support for students. Students had a day-to-day practice supervisor, a placement supervisor and the SPP coordinator (with at least one of these staff members being social work trained in order to meet AASW requirements). Importantly the weekly SPP meetings also created a form of group supervision where students could receive feedback from their peers and discuss

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[*] These minutes were circulated through the agency as a way of connecting all the staff with the exploits and reflections of the students.

practice issues. Their practice became highly transparent, fostering an appreciation of professional accountability in their work. In order to ensure a consistent experience for students, RMIT University and TSACS offered supervisor-training workshops which explored the objectives of the SPP and provided staff, many of who hadn't formally supervised students previously, with information and guidelines.

THE STORY SO FAR…

The SPP has been conducted for three years. The initial program ran with social work and youth work students from RMIT University and social work and occupational therapy students from La Trobe University. Subsequent programs have run with a mix of students from a variety disciplines and universities[*]. Following each iteration, TSACS staff have revised the program, altering things such as the order of session topics, timing of the SPP meetings, supervisor training and student selection processes.

Evaluations to date have been very positive from students, staff, management and the tertiary institutions. Students report the benefit of peer support, and peer reflection, particularly early on in their placements when they are new to the environment. Students also report positively on the value of the structured learning sessions – both the content and the opportunity to hear from a broad range of practitioners from the organisation. Supervisors identify peer support and shared responsibility as important elements of the SPP. They also indicated that they valued the professional development opportunity that being involved with the SPP provided through the initial training and the program itself. Program areas and management consistently reported the value of theory rich students, with fresh eyes that really provided an opportunity to scrutinise, question and explore current practice.

CRITICAL ELEMENTS OF SUCCESS

There are some generally understood elements of successful field / academic partnerships, summarised for example by Anscombe (2001) arising from his case study, that are borne out by the TSACS / GSSSP initiative. They concern the importance of: vision, goals, membership, commitment, action plan, roles and responsibilities, communication, resourcing, evaluation, revision and closing. Beyond these generic considerations, there are certain aspects and issues that the action learning process of this SPP initiative has highlighted.

Establishing a culture where student placements are embraced, in an environment where crisis and case management services are stretched and staff are busy, takes ongoing effort and leadership. Strong direction and commitment from the General Manager (TSACS) has been critical in maintaining momentum and providing resource allocations to ensure the success of the SPP. These resources have included formally incorporating responsibility for the SPP into a TSACS program manager position description (0.6 equivalent full-time). The position coordinates all the activity relating to the SPP including negotiating with the tertiary institutions, training supervisors, facilitating the development of training sessions, administrative functions such as email and computer access for the students, and the formal evaluation after

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[*] In 2008 the SPP will have students from RMIT, La Trobe, Monash and Melbourne universities.

each SPP. The organisation has also committed significant resources in the form of staffing (relief from other duties in order to attend training, develop and run sessions, provide supervision) as well as access to computers, desk space and vehicles. Genuine organisational commitment to student workplace learning backed up by financial and human resources are two critical elements for a successful Student Placement Program.

A third element is the ongoing relationship between TSACS and GSSSP. In many respects, cultural change within universities seems to be a much slower and less nimble process. During the formation of the partnership, GSSSP dedicated staff time to building a shared understanding of goals and working processes, and to the design and implementation of the SPP. Within an institution that is largely structured around disciplinary academic programs, staff positions that span separate program areas can help support the development of cross-disciplinary, multi-level activities. Yet many benefits of such arrangements take time to come to fruition, and there are strongly competing demands on staff resources. Significant personnel changes at RMIT University, together with the often highly casualised nature of student placement coordination in many universities, has often led to a 'ground hog day' type of experience, requiring the SPP coordinator to regularly explain the program to universities contacting for single student placements. However this ongoing relationship is critical to ensuring students recruited to the program are suited to the environment and organisational culture of TSACS, and to reaping the broader benefits of the stakeholder model.

CHALLENGES FOR THE FUTURE

In its fourth year, TSACS will conduct two SPPs (one in the first half of the year and one in the second). It is hoped this will provide a number of opportunities to improve the program, especially as it more fully integrates the SPP into the life of TSACS. TSACS will engage in an ongoing process of evaluation, redesign, student recruitment, program delivery, evaluation, and so on. This continuing process will also provide TSACS with the opportunity to work towards achieving aims of the SPP that haven't been realised as yet. These include widening the spectrum of student involvement across a greater range of programs, universities and student careers (postgraduate as well as undergraduate); being properly included in processes of curriculum review and development; and, developing more opportunities for practitioner based research conducted collaboratively with universities.

Enlarging the SPP represents an important stage of evolution for TSACS and for its relationship with external stakeholders. The SPP was never intended to be based upon an exclusive relationship with one university, though it may not have come about without an intensive collaboration between the two initiating partners. The organisational development that has subsequently occurred within TSACS as a learning and knowledge creation organisation has tilted its power relations in progressing future arrangements with other higher education providers. Simply, it is better placed to 'call the tune' as to what constitutes quality student workplace learning and productive community engagement. This behoves responsiveness in universities, and those who position themselves accordingly are more likely to become future preferred partners.

One of the clear aims of the SPP program was to formally influence university program curriculum design. Although TSACS staff have provided specific lectures on Family Violence in the Social Work program, to date this has not occurred to any significant degree. Beyond local factors such as personnel changes and the low status afforded placement coordination activities within some disciplines and universities, there are systemic questions regarding openness to outside influence on academic matters such as curriculum development. Whilst various forms of Program Advisory Committees are commonplace requirements in higher education, their role is primarily advisory and consultative. The 'stakeholder ethos' permeating the SPP model suggests something more than this. Expanding partnership principles into curriculum development challenges the guardedness of universities and exposes the lack of infrastructure through which external stakeholders could effectively engage. Running the SPP twice yearly may be a small step towards providing more detailed evaluation and feedback of curriculum relevant evaluation data to the respective Heads of academic programs which will be increasingly compelling.

CONCLUSION

The initiative strongly suggests that the Student Placement Program holds significant benefits for stakeholders prepared to commit to innovative models of student workplace learning that provide transformative as well as adaptive learning environments. Benefits ripple out to the host organisation, building their capacity and confidence in knowledge creating activity, and to the university, engaging them closely in the working realities and practice imperatives emerging from the field. Moreover, the student experience is enriched through the safe but immensely challenging arena the program provides. The initiative also demonstrates the investment required to ensure the program is successful and sustainable, when at the same time it confronts embedded assumptions about knowledge, learning and practice. Given the fast changing contexts of community services and higher education, the unsettling nature of the initiative is perhaps what makes it so valuable.

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Enhancing student engagement with industry: a curriculum approach to scaffolding employability skills

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Many universities have underpinned their curricula with statements of graduate skills and the aim that their graduates will possess attributes which will make them professionally ready for the workforce. Victoria University (VU) is undergoing a process of reflection and restructuring to better engage with stakeholders, such as employers. The 'Making VU' project has five commitments; one of which is for all courses to have 25% of assessment linked to workplace activities as a tangible means of increasing students' employment prospects.

While the endpoint is graduate employability, many students in the Faculty of Business and Law complete a work placement program between second and third year. Students are engaged in employment appropriate for their degree specialisation and at the same time reflect, theorize and evaluate their practical experience against their academic knowledge.

For the program to be successful and graduate employability to improve, there needs to be constant growth and reinforcement of the identified employability skills. This is a course and subject level responsibility. One of the core subjects undertaken before the work placement is Management and Organisation Behaviour (M&OB). The focus of this paper is the development of one particular assessment task within M&OB that requires students to start making authentic connections between theory and practice and the relationship between that assessment task and assessment tasks in a subsequent subject, Co-Operative Education, completed concurrently with the work placement program. In addition, the paper explores ways to develop students from being self-directed learners to self-directed reflective learners.

Key words: graduate employability, graduate attributes, profession-ready

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INTRODUCTION

Many universities have had longstanding and formally structured programs for work-integrated learning in their vocationally specific courses such as teaching and health. For students in these courses the transition from the theoretical knowledge to the practical skills may be technically difficult but cognitively obvious, that is, links are explicitly and consistently made within curricula. As workplace experiences have become more widespread, students from less vocationally linked courses seem to have struggled more when the theories and practices are less connected, less tangible, and often quite subtle (Boud and Solomon 2001).

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In May 2008 Universities Australia (UA) released a discussion paper that argued strongly for a National Internship Scheme in order to improve the work readiness of Australian university graduates. The background to this paper is a skills shortage within Australia that is argued to be hindering economic growth and international competitiveness. This is a macro level focus with a whole of nation view.

At the micro level, a practical response has been Victoria University's positioning in the local tertiary education market. In order to differentiate itself from other universities, to be of value to and to meet the future employment needs of its student population, VU has stated that all its courses will have 25% of assessment linked to workplace activities. This has been embodied in a Learning in the Workplace and Community (LiWC) policy (Victoria University 2008). For the significant cohort within VU's student population which consists of students from the lower socio-economic suburbs of Melbourne and who are first-in-family to go beyond the compulsory education level, enhancing employment prospects is a high priority (Victoria University 2008a).

Whether the issue of skill development is approached from a macro perspective or from a micro level of individual personal need, the aim to maximise any workplace learning is a critical success factor for employment outcomes. Furthermore the skills need to be developed over time in a supported environment (Fiocco 1996). Employability skills are generally regarded as a subset of what most Australian universities have constructed as graduate skills (Bowden, Hart et al. 2000) and many Australian universities now market themselves on the skills or attributes that their courses develop (Charles Darwin University 2007).

In an Australian Council for Education Research (ACER) study, reported on by UA, the importance of various job skills such as communication, teamwork, problem solving, initiative, planning and self-management was acknowledged by graduates as high. Retrospectively, graduates have been quite favourable about the degree to which university studies have developed these same skills and prepared students for work (Universities Australia (UA) 2008). One aspect however, with which students have been less satisfied, has been the work experience component of their studies (UA 2008, p.4).

The premise of this paper is that students are often inadequately prepared for their workplace learning, hence student satisfaction, and employer satisfaction, with the experience may be low. To improve the satisfaction levels of all concerned, the subjects to be completed by students prior to, and during, their formal workplace experience must take more responsibility for the systematic and structured development of workplace skills. The approach of designing a curriculum which integrates and assesses employability skills was endorsed by the Business, Industry and Higher Education Collaboration Council (Business Industry and Higher Education Collaboration Council (BIHECC) 2007).

This paper uses examples of LiWC assessment tasks from two subjects that endeavour to make explicit the connection between the skills being utilised and developed while investigating authentic management and business practices.

CONTEXT

To achieve the aim of making a minimum of 25% of course assessment apply to learning in the workplace and community (LiWC), VU will embed LiWC learning and assessment activities in all courses as an integral part of the educational process. However, the developing policy stresses that rather than focussing on a precise quantification of LiWC a more flexible interpretation is proposed which ensures that quality teaching and learning is paramount. The staging of LiWC across a course and the overall time devoted to learning in the workplace and/or community activities will vary greatly depending upon choice of approaches, professional accreditation requirements and regulations.

Within the approach adopted by VU, LiWC is deemed to be learning and assessment activities that occur in, for and through the workplace, including in the community, as a site for teaching and learning. In this interpretation of LiWC "workplace" may be any place where individuals (paid or voluntary) conduct real or simulated work activities or research. Hence workplaces may be real, simulated or virtual, in the private, public or community sectors, and range from multi-nationals and government agencies, to small to medium enterprises (SMEs) and community-based agencies.

Thus, LiWC activities may take place across a broad range of settings, including: in the workplace or community enterprise, in the classroom (where projects are being completed for a workplace or community enterprise), and within the VU workplace and learning community. The range of activities might include assignments that require students to visit an organisation for the purpose of observation, data gathering or interviewing employees; an assignment entailing a workplace visit represents an "entry level" LiWC activity. At the other end of the continuum of LiWC activities are internships and Co-Operative Education work placements (Keating 2006).

This paper presents information about both ends of the LiWC assessment spectrum at VU, namely a task within the first-year subject and how it is constructively aligned with the other end of the spectrum, Co-Operative Education (Co-Op). The Co-Op year is twelve months of full-time paid employment, normally taken at the end of the second year of a three-year degree.

Parallel to the LiWC initiative is the ePortfolio project at VU which is a process leading students to collect career information about the skills, specialist knowledge, achievements and experiences they have acquired during their studies and other activities while at university. Personal career information collected is stored online and can be downloaded by the student to present to potential employers or to other academic institutions as a portfolio. Students are brought to an understanding of VU's graduate attributes via engagement, from first year, and continued systematically throughout their whole course, with the ePortfolio.

The career ePortfolio is presented to students as a powerful marketing tool which will enable them to prepare more effectively for the purposes of applying for work experience, vacation work, graduate programs or promotions in their current workplace. Students are also shown how portfolios are used in a number of industries.

FIRST YEAR

One of the core subjects undertaken by Bachelor of Business students at VU before the work placement is Management and Organisation Behaviour (M&OB). This is a compulsory core unit for Bachelor of Business (B. Bus) students and is usually undertaken during the first year. The subject, as part of the B. Bus compulsory core, is not only taught in Melbourne but also in Beijing and Hong Kong in China, Kuala Lumpur and Johor Bahru in Malaysia and in Thailand at Kasetsart University in Bangkok. From a pedagogical perspective the range of social and educational contexts makes it difficult to meet the needs of an extraordinarily diverse student cohort. In addition, within the context of transnational education, it is also critical to maintain comparability of learning outcomes (DEST 2005).

The majority of students taking M&OB have entered their degree course directly from secondary school. While many have part time work to support their studies, the anticipated outcome of their degree, professional employment, is not yet fully appreciated by them from an academic learning perspective. Some students would be able to argue the basic assumption that having had a job helps them to get another job but these students still need to be encouraged to identify and reflect upon the skills that they have acquired. These students are also as yet largely unable to demonstrate a longitudinal career development perspective (O'Mahony, McWilliams & Whitelaw, 2001).

As a starting point for students to make more significant connections between their academic learning and the workplace, the M&OB assessment tasks have been reviewed by the teaching team and past students. The result is a better alignment of the learning objectives with the learning outcomes of the assessment tasks and a more supported developmental approach to learning (Biggs 2003). One assessment task in particular has been reworked and resourced to facilitate early growth of job skills and is consistent with the VU LiWC policy. This task, worth 20% of the subject, is a "field work" assignment that sits at the entry-level point of the VU LiWC range of assessment activities. In groups of three, students are required to interview a manager. The aim of the interview is to find out how managers typically spend their day, week, month, or year. To assist students with writing questions and interviewing techniques a CD ROM of manager interviews provides a range of 'model interviews'. Students are then required to write a report comparing the answers they receive to their interview questions and their observations of the manager interviewed with current management theory.

Students are told that their comparison should lead them to being able to make informed comments about the role of the manager in the workplace. By comparing actual managers in the workplace with the theoretical "ideal best practice" described in textbooks, lectures and other sources, students are expected to be able to see how theory relates to practice. The process of comparing information and observations with theory is the basis of much of the academic writing that students will engage with in their studies at university. The setting for this assignment and the aim of comparing theory with practice is intended to model for students an analytical method and approach to learning in the workplace that can be built upon in subsequent subjects within their university studies.

The assignment in M&OB is intended to give students a professional preview of workplace management practices; it is primarily focused on the discipline specific aim of comparing theory with practice. However, students are also asked to work in groups and, as part of the formal reporting requirement of the assignment, to reflect on their group processes using the Core Graduate Attributes (CGAs) as a framework for this reflection. Through this aspect of the assignment students are introduced to reflective practice using the core graduate attributes, which in the Co-Operative Education subjects is the focus rather than the discipline itself.

Many of the prior tutorial activities but in particular one structured resource, the VU ePortfolio introduction module, assists the students with this first piece of reflective writing. By working through the scenarios and worksheets in this module students are required to document and identify their current skills against the core graduate attributes, learn to value additional skills and start a career development plan. The capacity for self-reflection is formally introduced in M&OB as the starting point for future independent reflective learning in subsequent subjects. The skill of self reflection developed in M&OB is further refined and utilised in Co-Operative Education.

POST SECOND YEAR

Bachelor of Business students at VU also have the option of undertaking a Co-Operative Education year (Co-Op) as part of their degree studies. While students are off campus for their Co-Op year they are enrolled in two semester-long subjects, Co-Op Education 1 and 2, and are required to submit assignments for these subjects.

The VU Co-Op subjects' assessment tasks are designed to guide students towards a reflection on the integration of their academic and workplace learning. The VU Co-Op subjects' aims are to have students explore their workplace context by examining the organisational structure and identifying and defining their individual roles as active and accountable employees within the organisation as well as that organisation's position within the respective profession and/or industry. Furthermore the Co-Op subject seeks to facilitate the development of an understanding of the key issues relating to the students' transition to the professional workplace, including workplace culture, professional etiquette and communications (Kimber 1996). The Co-Op subjects also encourage an exploration of key processes such as employment legislation and industrial relations, reporting accountabilities and performance appraisals; identify the key generic skills required by their employer/industry, and their relationship to Victoria University's Core Graduate Attributes (Victoria University 2005; Victoria University 2005a).

The assessment tasks in the current VU Co-Op education subjects are structured around student reflection on their workplace experiences. This reflection requires more analysis than earlier ePortfolio work and is framed within the VU CGAs. Assessment tasks comprise, amongst other things, a series of reflective journals, a self-appraisal report and, based on the self-appraisal report, a realistic career plan with timelines. Each of these assignments requires students to understand the CGAs and to interpret and discuss their workplace experiences through the prism of the CGA

framework and employer requirements. The skill of self reflection and the use of the VU CGAs build upon the assessment tasks in the first year subject M&OB, where these concepts were initially introduced.

RESULTS

The use of core graduate attributes as a framework for reflection and self-appraisal has a particular focus on teaching and learning issues in that it supports students transiting into different levels of Higher Education degrees from both Vocational Education and secondary school. Different levels of academic and professional readiness can be read in the excerpts below.

In structured student feedback on subject sessions, one first year M&OB student reflecting on her performance in the assignment group said:

> "This report has enabled me to highlight the areas that are opportunities for myself… I once believed that it was my responsibility to have all tasks done by myself but I now know it's my responsibility to ensure they are done, but not physically take part in each one. I need to involve my whole team…"

Another first year student from M&OB has articulated in her group assignment report conclusion the value of the ePortfolio as a planning tool:

> "I evaluated how my group assignment skills have improved and developed using the group development model in the textbook and the core graduate attributes. I will go ahead and plan a long-term goal using the ePortfolio that will help me achieve a top position with a leading company."

In student subject evaluation feedback, third year student A reflecting on her Co-Op year, said:

> "… studying at university gave me a profound theoretical basis … also … the five core graduate attributes …helped me to improve these skills and apply some of my theoretical knowledge …"

While the following Co-Op student, third year student B, is a little short on detail, B has acknowledged that some strengths and weaknesses exist:

> Over the past two semesters I have developed all 5 CGAs and I will continue to do so during my career. As CGA 3 and 4 were my strongest workplace skills after semester 1, my aim was to improve the remaining three over the second period of Coop. After measuring all CGAs once again I have proven to myself that the weaker three have indeed improved and I have developed all five dramatically since I began my Coop experience.

And, on a positive note, this Co-Op student, third year student C, has realised the value of good marks:

> My CoOp experience has allowed me to consider some academic goals for the remainder of my university course. I have only three subjects until I complete my degree and I am more motivated than ever to do well. These are all events-related subjects so I should perform well but I would like to achieve excellent results because it will reflect on what I have learned during my CoOp – which has been a great deal!

DISCUSSION

The assessment tasks discussed are constructively and explicitly aligned with the learning objectives of the units of study and Bachelor of Business degree. The academic skills, knowledge and abilities developed as students undertake the first year assessment task provide scaffolding for the ongoing development of ever more sophisticated employability and academic skills that students need to be successful in later year units of study.

The CD ROM of interviews with business managers supports students by providing models of interview techniques required by many Higher Education assignments; adds to the internationalisation of the curriculum by providing Australian, Malaysian and Chinese management perspectives; and works to ensure equity in assessment outcomes by providing all students with access to resources for successful completion of the assignment. As Hicks, Reid and George argue, the broad aim of learning support should be "to assist students to maximise the opportunities of the environment they are learning in" (1999, p.4).

Many VU's students are from low socio-economic homes and very keen to improve their employment prospects which is one reason why "profession readiness" is being added to the existing CGAs. At the micro level, 'It is agreed that graduate employability concerns should not and cannot be matters for university action alone. This said, the need for universities to embed employability skills as part of the graduate skill set through curriculum design, course content and delivery is fully endorsed' (UA 2008, p.15). However, at the macro level, given the importance placed on work readiness amongst students Universities Australia has also conceded that "The issue of work-readiness is not easily solved by higher education institutions on their own. Their responsibility and expertise lie in providing general, flexible education, training and professional skills development, i.e. education that encompasses inquiry, teaching, research and community engagement, not vocational preparation and skills alone (UA 2008 p.6)"; VU has publicly made commitments to this end.

CONCLUSION

Achieving student support for the Co-Op subjects has been perceived as an additional burden on curriculum and assessment design. This paper has presented evidence demonstrating that with minor review and revision and some resource development, often existing assessment tasks can be modified to fit with a longitudinal approach to constructively aligning assessment across a degree program so that students can see and value the strategic outcome. The authors of this paper believe that similar opportunities exist in other first and second year subjects to modify assessment tasks such that they scaffold student learning for effective LiWC and ultimately employability skills.

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Growing work-integrated learning programmes in a New Zealand educational institution: the influence of faculty views

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This paper reports on a change process involving the expansion of work-integrated learning (WIL) programmes within an Auckland educational institution. Particular attention is given to the views of academic staff (faculty) and how this may influence subsequent development and growth of WIL programmes.

The value students derive from their work experiences is very apparent to those involved in supporting and managing student placements. However, faculty who have no involvement in WIL programmes do not have the benefit of witnessing first hand the typical enthusiasm and 'change in being' of students returning from placement. They are also likely to be less convinced about the educational value of WIL programmes. As a result, faculty with no WIL experience may be less supportive of this form of learning, making it difficult to introduce any significant change across the institution.

The focus of this paper is on the first part of the change process. This involved an audit of current WIL activity within the institution, followed by an analysis of the different pedagogical models operating. This provided valuable background information for a subsequent questionnaire survey of nearly 600 faculty staff across 16 schools. The findings of this survey are presented and the implications for WIL growth are discussed.

While this WIL development process is contextualised within the author's own institution, it will be of relevance to others who have an interest in expanding WIL programmes in their own institutions.

BACKGROUND

Cooperative education, as it is understood today, originated in North America in the early 1900s through the pioneering work of Hermann Schneider (Heermann, 1973). This form of education didn't expand further until the mid 1960s when the US federal government provided relevant funding (Branton, 2003). While co-operative education is now practised around the world (Wilson, 1997) it is a relatively recent phenomenon outside the teaching and medicine disciplines. However, in these other disciplines, for example in science, business and the humanities, many academics have reservations about the principle of including work-based learning within the curricula (Challis, 1995; Chivers & Nixen, 1993; Eames *et al*, 1996). It has been identified that the support of faculty staff is an important element in the success of co-op programmes (Loken, 1997; Ricks, 1996; Van Gyn, 1994). However, according to Zegwaard, McCurdy & Paku (2007) research into the benefits of cooperative education has

generally focused on educational institutions, rather than the benefits perceived by faculty staff. McCurdy, Zegwaard & Lay (2007) highlight the work of Grossman-Garber et al. who identified the influence of faculty staff in gaining institutional support and legitimacy for co-op programmes.

This paper reports on the first part of a change process involving the expansion of work-integrated learning (WIL) programmes within an Auckland educational institution. Attention is given to the types of WIL models operating, together with the views of faculty staff on the value and relative importance of WIL within the wider curricula.

CONTEXT

Unitec Institute of Technology ('Unitec') is a large *dual-sector**[*]* tertiary education provider located in Auckland. It has a matrix structure involving three divisions – vocational education and training (VET), undergraduate (UG), and postgraduate (PG) – and 17 schools, operating across three campuses. The institute has an applied, practice-focus, with work-integrated learning (WIL) being a key component of a number of its undergraduate programmes, providing support to the broader institutional strategy of ensuring students 'experience real world learning'. In describing work-integrated learning, Unitec has adopted the term 'practice-based learning', which it defines as:

> …a structured educational strategy integrating classroom studies with learning through productive work experience in a field related to the student's academic or career goals. It provides students with the opportunity to integrate theory and practice, while acknowledging the socio-cultural impact on learning of the workplace…

This definition is largely derived from the definition given to *cooperative education* in the United States of America (National Commission for Cooperative Education, 2002). In practice, the Unitec definition is quite broad in scope and may accommodate a variety of ways in which the institution's students might engage with work practice. The nature of these engagements has largely been determined by the historical and contextual influences of the programme disciplines.

In late 2006, the Unitec Academic Board set up a practice-based learning (PbL) committee to develop an institutional vision and strategic direction for PbL. Recognising its importance to the institution's broader academic strategy, it was keen to expand and enhance its support for PbL. This paper reports on an initial investigation into the types of PbL models operating within the institution. This provided useful background information for a subsequent survey of staff views on the value of PbL and its importance relative to classroom-based learning. The level of staff support would influence the next stage of the process. For example, if support wasn't high then attention would need to be focused on strategies to communicate the key benefits of PbL and its linkages to Unitec's broad academic strategy. This paper reports on key aspects of the survey results.

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[*] 'Dual-sector' refers to the nature of the provision with a focus on both vocational and professional education, offering qualifications in many disciplines from pre-degree certificates through to doctorates

PRACTICE-BASED LEARNING ACTIVITY

In order to establish the extent to which some form of PbL was operating, a review of the regulations of all Unitec programmes in the VET and UG Divisions (73 in total) was undertaken. Postgraduate (PG) programmes were excluded as these are predominantly aimed at work-experienced students. Information gathered from this review was then used as the basis for (extensive) follow up telephone calls of relevant staff.

Table 1 shows the level of PbL activity by division, broken down by the size of the programme (determined by credit value, with 120 credits equivalent to one year's study). Across the VET and UG divisions, nearly half (47%) of all programmes have a PbL component. The level of PbL activity tends to correspond with the programme's size, as determined by its credit value - the higher the credit value the higher the level of PbL activity. Not surprisingly, there is far more PbL activity in the undergraduate division, with 71% of its programmes providing PbL opportunities for students. Given most VET programmes have less than 120 credits, many of which are focused on providing a pathway for further study, its low level of PbL activity (26%) is not unexpected.

TABLE 1
PbL activity at Unitec by programme credit value

Division	# of Prog's <120 credits		# of Prog's 120 credits		# of Prog's 240 credits		# of Prog's 360 credits		All Programmes			
	PbL	No PbL	PbL	No PbL	PbL	No PbL	PbL	No PbL	PbL	No PbL	TOTALS #	%
VET	2	16	7	8	0	2	0	0	9	26	35	26%
Undergrad	0	2	5	5	4	0	18	4	27	11	38	71%
TOTAL (#)	2	18	12	13	4	2	18	4	36	37	73	49%
TOTAL (%)	10%		48%		66%		82%					

PRACTICE-BASED LEARNING ACTIVITY BY MODEL-TYPE

From the data gathered, it was apparent that the PbL activity took on various modes of operation across the institution. In order to gain a better understanding of these different forms of PbL, it was decided to group 'like' activities into categories or models. The terminology used for describing workplace learning internationally varies considerably (Groenewald, 2004). However, two generally accepted terms used are *cooperative education* and *internships.* According to the National Commission for Cooperative Education (2002), the key features of a cooperative education programme are that: there are *multiple work terms* integrated throughout the curricula and that they are *progressive in nature*; the work is arranged within *appropriate learning environments* and involves *productive work*; there is *formal recognition of the work* in the curricula (e.g. credits, grades); appropriate *preparation for the work* is provided; *remuneration* is given for the work; and that there is provision for *stakeholder evaluation*. While internships can share some of these characteristics, Dressler (2003) considers that the key difference between them is that cooperative education is an integrated aspect of the whole programme in which student learning is seen as a

structured, progressive development, whereas internships are usually one-off in nature for a specified and more limited duration of time, and that usually occur towards the end of the programme.

When relating these definitions to Unitec practice, many PbL activities could be categorised in one of these two ways, although no practices could be said to completely meet the *remuneration* criteria (in New Zealand, *compulsory* payment is considered to be impractical). There were a number of practices that didn't fit into either of these two traditional models. Firstly, some programmes had a *work experience* component in which students were required to spend a specified number of hours in the workplace, usually outside of term time, before they could graduate. While this was usually done throughout the duration of the programme, it had no formal integration with the programme and was usually developed to meet the relevant industry or professional body accreditation 'practical' requirements for registration. The second type involved students undertaking work-related projects as part of individual coursework requirements. In this model, one or more workplaces provided the context for a major project / investigation (for example, using the workplace as a case study) or in some cases mini-consultancy-type work. This type of PbL activity is referred to here as *work-contextualised learning*.

TABLE 2
PbL activity at Unitec by model

PbL Model	# of PbL programmes (VET Division)	# of PbL programmes (UGRD Division)	Totals
Cooperative education	2	6	**8**
Internships	5*	12	**17**
Work contextualised learning	2*	5	**7**
Work experience	1	4	**5**
Totals	**10**	**27**	**37**

* one programme has both a WCL and an INT component

Table 2 identifies the number of programmes within each of these four PbL models by division. The review of PbL activity appeared to highlight the different values attached to this form of learning. All the models, except the *work experience* model, were considered by the PbL Committee to have some value, depending upon its relative significance to the overall learning experiences within the programme. The low number of co-op models adopted was not unexpected. This is because virtually all programmes at Unitec are of three years duration or less, with the curricula of many of the professional degree programmes heavily influenced by industry/professional *curricula* requirements. Much less value was attributed to the *work experience* model, which fell outside the Unitec PbL definition of being 'a structured *educational* strategy'. The key difference between this model and others is that the learning was not integrated with the curricula, by means of embedding PbL in one or more *credit bearing* courses. This was identified as an area to explore with staff along with the relative importance of PbL.

Views of faculty

Method

A questionnaire was developed providing a number of PbL value statements and inviting respondents to indicate their level of agreement. The questionnaire was broadly based on the instrument used in a similar and prior survey of faculty members in science and technology (McCurdy, Zegwaard and Lay, 2007; Zegwaard, McCurdy & Paku, 2007). The statements were separated into two sections – the *value to faculty and/or the institution and the value to students*. A section was also added to capture faculty views on the *value* of PbL *relative to the size and level* of the qualification. Given the institution's espoused commitment to 'real world learning', it was anticipated that responses might be generally supportive, resulting in a left 'skew'. However, of importance to the PbL Committee was the extent of this likely support. Therefore, a modified seven point Likert scale was adopted (1 = 'strongly disagree' and 7 = 'strongly agree'). Comments were also requested on any perceived barriers to maintaining or enhancing PbL at Unitec.

The questionnaire survey was distributed to staff largely via internal mail. Two follow-up email reminders were also sent out. According to a study undertaken by Converse, Wolfe, Huang & Oswald (2008), this hard copy mail/email follow-up approach can result in improved response rates. A total of 230 questionnaires were completed and returned by the 588 faculty staff, giving a 39% response rate. The data was analysed using standard statistical tools on Microsoft Excel. It is recognised that while the data is ordinal an assumption cannot be made that the data intervals are equidistant. However, for the purpose of providing a descriptive overview, estimated means have been used.

Findings

The following tables (3-5) provide a summary of faculty responses.

TABLE 3
Value of PbL to faculty and the Institution

	Mean	% who agree (5-7)
PbL is valuable.	6.33	96%
PbL activities enhance interaction between Unitec and professional practice.	6.14	94%
Involvement with PbL activities helps faculty maintain their practice currency	5.93	90%
Having PbL in a programme strengthens the programme.	6.01	89%
PbL can influence the taught course component in the programme.	5.68	84%
PbL is a good HR and financial investment for Unitec	5.63	82%
Having a PbL component in a programme can enhance student retention.	5.42	74%
Involvement with PbL activities can lead to joint research ventures with industry	5.20	65%

Table 3 shows the value of PbL to faculty and the institution, listed in descending order of agreement. This indicates that there is strong faculty support for PbL, with all statements achieving mean response rates above five. The level of agreement with the general statement that 'practice-based learning is valuable' had a mean response of 6.33, with 96% of faculty indicating some level of agreement (i.e. ratings between 5 and 7).

TABLE 4
Value of PbL to students:

	Mean	% who agree
PbL helps students better understand work realities and expectations	6.24	97%
Students who experience PbL are more work-ready than those not who do not	6.14	95%
PbL develops students personal & interpersonal skills (e.g. communication, teamwork, relationship building, time and self mgmnt)	5.92	92%
PbL develops students professional skills (e.g. practice competence, attitude, adaptability, initiative, work ethic, client focus)	5.90	91%
PbL enables students to learn skills that are not taught at Unitec.	5.86	90%
PbL helps students focus their career paths / intentions.	5.76	89%
PbL is a maturing process for many students	5.91	89%
Graduates who had a PbL component in their study programme are likely to be more employable than those who did not.	5.73	82%
Students are the main beneficiaries in PbL partnerships	5.28	77%
PbL develops students cognitive skills (e.g. analytical skills, problem solving, critical thinking)	5.29	75%

Staff were also asked to consider the value of PbL for students (see Table 4). Again, there were high levels of agreement given by staff. Also of note, is staff agreement with the view that, *"Graduates who had a practice-based learning component in their study programme are likely to be more employable than those who did not"*. In fact, this view concurs with recent graduates' views (Unitec, 2008). In addition, most staff views on the value of PbL coincided with similar benefits that graduates identified.

TABLE 5
Value of PbL relative to the overall programme

	Mean	Neutral / unsure	% who agree
Scale	1-7	4	5-7
Where PbL is part of a programme it should be **credit bearing**	5.76	11%	82%
PbL is important in **Undergraduate** programmes	5.70	11%	84%
Practice-based learning is important in **VET** programmes	5.60	17%	78%
There should be a PbL component in all programmes of **360 credits**	4.53	34%	50%
There should be a PbL component in all programmes of **240 credits**	4.45	35%	48%
There should be a PbL component in all programmes of **120 credits**	4.42	35%	46%
There should be a PbL component in all programmes of **60 credits**	4.31	38%	40%

When asked to comment on the value of PbL relative to the overall programme, staff expressed a strong preference for all PbL activities to be *credit bearing* (Table 5). This would seem to indicate that there is little support for the *work experience* model. Strong support was expressed for having PbL in both VET and UG programmes. However, when asked whether there should be a PbL component in *all* programmes (against a range of programme sizes) 50% or less of respondents were in agreement, with a large number of staff being ambivalent. While this might be expected for the lower credit value programmes which tend to be focused primarily on preparing graduates for the further study rather than employment, it was surprising to get similar responses for the larger programmes (240 and 360 credits). In effect, while faculty can see the value and importance of PbL, there is far less support for having this as a required component in all programmes. A possible reason for the apparent discrepancy in faculty views might be that some faculty consider that PbL is not appropriate in *some* programmes.

Further explanations may be found in the comments responding to the question asking if there were any barriers in maintaining and enhancing PbL. Key themes from these comments included: time and resources (e.g. adequate recognition of faculty workloads); sourcing sufficient and suitable work placements; faculty capability; and (local) management commitment to PbL. A few comments were also made about the risk of making PbL compulsory which may expose some weaker, unmotivated students to industry and subsequently have a negative impact on Unitec's reputation.

CONCLUSION

The PbL Committee's view - that there was less value in the work experience model - was endorsed by faculty staff, a large proportion of whom indicating that PbL should be credit bearing. The survey results indicated that staff largely agreed that PbL has value to staff, the institution and to students, and that it is important in VET and UG programmes. Of particular interest though was the lower support given by faculty to having PbL as a component in all VET and UG programmes. It is likely that faculty reservations on adopting a commitment to PbL within all programmes may stem from some very practical reasons such as resource constraints and availability of placements in some programme areas. It may also be that there is 'no one size that fits all'.

Overall, the review team can take heart from the general support that is evident for PbL across the institution Obtaining staff views has been a valuable first stage in this change process. It has highlighted the need for further engagement with staff, particularly influential senior staff. Understanding and allowing for contextual differences will be an important aspect of this. Given Unitec undergraduate degrees are three years in length, enhancing PbL in some programmes may require making space in an already crowded curricula, requiring careful consideration in the subsequent stages of the change process.

The findings from this review will hopefully be of value to other educational institutions looking to expand WIL programmes, particularly where similar contextual constraints and influences apply. Institutions wishing to develop WIL programmes must decide whether to adopt an incremental, 'engagement' approach to change, as is the case here, or whether to adopt a more 'top down' policy-driven approach, as has sometimes been adopted by others. The jury is out on which one produces the more successful outcome.

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Building Innovative Partnerships Develops Future Leaders in Healthcare

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A collaboration between St Vincent's and Mater Health Sydney (SVMHS) and two arms of the University of New England (UNE), UNE Partnerships and the Graduate School of Business (GSB) has resulted in the development of a program for leaders at SVMHS who are leading, or will lead the organisation into the future. It represents a model of partnership between a large organisation, an RTO and a university that provides many benefits.

Keywords: Work-integrated learning, Partnerships, Health, Management training.

OVERVIEW OF PROGRAM

The Graduate Leadership Program ("the Program") caters for leaders at SVMHS, and builds on an existing leadership training framework within SVMHS.

The Program is practical, workplace-focussed, and delivered in a blended learning mode by UNE Partnerships, incorporating graduate units from UNE's GSB. The Program is designed around themes of People, Strategy, Systems and Practice, encompassing foundation leadership and management modules from the Advanced Diploma of Business Management, and two graduate units from the GSB. It is conducted over a 24 month period, and consists of a one-day orientation, followed by eight 2-day enrichment workshops, with further study by distance learning mode. Participants create individual and group projects that apply learning to their immediate workplace context and contribute to the strategic directions of SVMHS.

Phase One consists of a two year program of study leading to dual qualifications in Advanced Diploma of Business Management, and Graduate Certificate of Management. The UNE Partnerships Advanced Diploma provides two units of credit to the Graduate Certificate, and an additional unit of credit is carried forward into the

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Graduate Diploma of Management in Phase Two. Final progression occurs in Phase Three to a full Masters in Business Administration (MBA). The first cohort of students will finish at the end of 2008.

THE PARTNERS

St Vincent's & Mater Health Sydney (SVMHS) is part of the national Sisters of Charity Health Service, Australia's largest non-government, not-for-profit health care provider. The key facilities comprising SVMHS include St Vincent's Hospital and Community Health Services, Sacred Heart Hospice and St Vincent's Private Hospital (Darlinghurst campus in inner city Sydney); the Mater Hospital (North Sydney); and St Joseph's Hospital and St Joseph's Village (Auburn).

Collectively, the SVMHS Group employs 6,000 staff and provides a comprehensive range of acute and sub acute health and aged care services from primary prevention through to tertiary level care across community, outpatient and inpatient settings. SVMHS facilities are also committed to a strong tradition of compassionate response to community need. Work in health and aged care is supported by a significant investment in teaching and research in partnership with Universities and affiliated research institutes.

UNE Partnerships, the education and training company of the University of New England, is a registered training organisation, providing professional and vocational training and development. UNE Partnerships concentrates on two specialities for the attainment of qualifications – the development of customised learning and development programs for public and private sectors, and distance learning. Its methodology emphasises practical learning which can be applied in the workplace. Flexible delivery options allow educational modalities to be blended to suit individual organisations and their employee groups. These include programs designed to meet accreditation and recognised qualification requirements, and to carry credit into higher education.

The University of New England (UNE), located in Armidale NSW, has a well-earned reputation as one of Australia's leading teaching, training and research universities. UNE is now Australia's longest continuous provider of distance education, and with more than 15,000 external students, is still one of Australia 's major providers of awards to off-campus students. Its graduates consistently rate their experience at UNE highly, a reflection of the University's commitment to student support.

UNE has a strong reputation in nursing and post graduate management education. From 2008, UNE offers the Bachelor of Medicine - Joint Medical Program offered by the University of Newcastle and the University of New England, in partnership with the Hunter New England (HNEAHS) and Northern Sydney Central Coast Area Health Services (NSCCAHS).

DEVELOPMENT OF THE PROGRAM

The Executive Leadership Program was developed in discussions over two years between Kerrie Field, representatives of UNE Partnerships, and UNE. Strategies, processes and milestones for marketing, providing information, coordinating dual enrolment, tracking progress, evaluating and reporting were established with three key personnel from the partner institutions liaising and providing feedback to continuously evolve and improve the program.

SVMHS had undergone a period of intense change with the amalgamation of four public and private institutions. It has invested heavily in strengthening the over-arching culture and mission of the new organisation. SVMHS sought to extend the leadership and management capability of its people by building on existing successful internal staff development programs.

Workplace learning integrates learning with longer term goals which focus on results, performance, outputs, and productivity (Rothwell & Sredl, 2000) and balances human, ethical, technological and operational considerations (Rothwell, Sanders, & Soper, 1999). SVMHS looked to promote leadership and management education within this broader context and address human and organisational needs.

Individual needs were met through expanding skills sets, assisting managers' career development and providing a funded pathway to a MBA. The program also implements practical strategies for succession planning by identifying, supporting and retaining high potential leaders. It addressed the goals of promoting the organisation's strategic plan; reinforcing the culture of learning and commitment to shared values; and forging networks of managers from across the diverse clinical and operational areas of the organisation. This program, as distinct from external MBA studies undertaken by distance learning, utilises and embeds new skills and knowledge into individual behaviours and management practices across the organisation. The program achieves dual outcomes of improved capability and capacity for individuals and the organisation in a changing environment.

METHODOLOGY: ACTION LEARNING AND PROJECT-BASED LEARNING

This form of reflective learning, whilst engaged in meaningful productive work, is often called action learning – essentially, learning from action or concrete experience, as well as taking action from that experience. Learning is not a passive process, but requires work and commitment by participants. It is also results or outcomes focussed, an ideal methodology for workplace learning.

Evaluation of the program is ongoing. An action learning model encourages the learner, the organisation and the program facilitators to reflect, review, and modify assumptions and actions.

Participants give honest feedback on the content of workshops and their engagement in the learning process. The program utilises various inventories which measure change in individuals' perceptions and behaviour, and actions in the workplace. These

could be qualitative and subtle changes such as shifts in culture and values, improvement in management practices, increased engagement with team members, empowerment and in the effectiveness of mentoring.

The assessment process asks participants to reflect on the learning, and link theory to workplace practices. Participants will be observers and reporters on how their learning is impacting on their capability and capacity to positively influence the workplace environment. This process helps to build a critical, empowered workforce that is engaged creatively in the dynamic journey of whole transforming the organisation (Cady & Dannemiller, 2005)

PROGRAM DETAILS

The program integrates facilitated face to face workshops and distance learning modes, which are outlined in the attached Program Schedule. The great strength of the program is the structure involving a series of intensive, linked workshops that focus on topics within the four themes. Between these workshops participants have the opportunity to read, research, communicate with peers, reflect on theory and discussion, apply the learning in the workplace, and report on its validity at the next workshop. Distance learning materials provided by UNE Partnerships and UNE's GSB provide further resources and stimulus for learning, while students are encouraged to maintain high levels of communication by a range of modes.

The timetable caters for the existing trimester systems at UNE, and the workshops occur on Fridays and Saturdays, providing workplace and personal time input. Beginning with individual leadership styles and strengths, the participants build a personal leadership plan, which also considers the impact on co-workers and development of teams in their clinical area. The program then moves through the remaining topics that contribute new elements to the personal, team and organisation perspectives. See Table 1 for the full program schedule.

The theme of People deals with Leadership and People Management. Strategy links Strategic Direction and Planning with Managing Business Plans, Managing Change, and Innovation and Continuous Improvement. The Systems theme covers Organisational Behaviour (GSB unit); and Organisational Development. Practice involves a Special Topic in Organisational Action Learning (GSB unit) which provides a systematic framework for students to undertake action learning projects; and Decision Making and Knowledge Management.

The assessment process looks for evidence of critical analysis, reflection, action, communication, problem solving, planning, research, recommendations and evaluation. Formal assessment includes a combination of assignments, an exam, and group and individual projects which integrate learning from various topics. All these are focussed on the practices and behaviours of the participant in the workplace environment of SVMHS. Assessment is conducted by UNE Partnership academic staff, or by UNE academics, depending on topics. As success in the program can carry credit into post graduate degree programs such as the MBA, the assessment standards are rigorous, but the criteria are flexible to allow for the many different projects and contexts the students choose.

In the action learning methodology, participants choose a study group, an inter-organisational team, whose members bring different perspectives, challenge the thinking of others and increase participant's involvement in the creation and application of knowledge about themselves and about their organisation (Reason, 2001). Groups work on an integrated, action learning project focused on strategic issues, needs and directions applicable to SVMHS. Presentations of projects are reviewed by the hospital board and have the potential to be implemented by the organisation. Hence assessment tasks are a valuable learning experience for the individual, build important relationships and communities across the organisation, and contribute to the organisation's implementation of its strategic plan.

THE LEARNING MODEL

The learning model used in this program seeks to address some of the concerns expressed by the Australian Industry Group, who, in their 2005 report, criticised Government for funding primarily providers of education who focus on those individuals not yet in work, while not providing opportunities for those in work who need further learning opportunities (p.92). The report called for: "Easing time arrangements and providing flexible alternatives for learning… and… effective delivery of training in the workplace [that] can also contribute to raising overall participation" (p.27).

The model acknowledges the importance of communities of practice in not only storing and sharing knowledge, but being fundamentally important to the individual in understanding what s/he knows, and when to use it effectively (Lave & Wengen, 1991). A community of practice is 'an intrinsic condition for the existence of knowledge, not least because it provides the interpretive support necessary for making sense of its heritage' (p. 98). By situating learning in a community of practice the knowledge is both learned more effectively and simultaneously more useful and available.

FURTHER DEVELOPMENT

A major outcome of the Graduate Leadership Program is the attainment of a MBA from UNE. The first cohort of the Graduate Leadership Program is nearing the end of the first phase: achieving the Graduate Certificate in Management. Plans are now underway for the intake of a second group, whose learning will dovetail with the participants continuing into phase two of the program, the Graduate Diploma in Management. The combined groups in the program will cut costs for the organisation and further develop the networks across the organisation.

The partners have demonstrated the flexibility of the program by re-organising the topics to align with evolving needs of the organisation, and indicate the willingness of the partners to continuously develop and improve delivery in alignment with key objectives and with participant and organisational feedback.

UNE Partnerships can now access the UNE Learning Management Systems for all its own programs, allowing use of the powerful Sakai system with its complement of communication and collaboration tools. Students will be able to access a wide range of electronic resources and use a variety of discussion, chat, forum, blogging and wiki

tools to work together, via any internet enabled computer. Electronic submission, marking and return of assignments will also be available.

The Graduate School of Business at UNE is collaborating with SVMHS to develop a new unit on Workforce Planning. This unit is of great utilitarian interest to SVMHS, to develop understanding and skills in retaining and developing staff in an era of staff and skills shortage in the health industry. The collaboration will contribute industry based knowledge to teaching and learning strategies at UNE, while the new unit will expand the offering of units in the field of human resource and organisational development in the UNE graduate school.

CONCLUDING REMARKS

The program has successfully blended the organisational needs of SVMHS for staff leadership development, with an academically rigorous Higher Education qualification. The flexible delivery mode has not only limited the disruption to the workplace, but has enhanced the quality of the learning for the participants in ways not achievable in more conventional distance education modes. The program continues to improve and expand.

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TABLE 1
Program Schedule.

Week 1:	Orientation session.
Week 2:	Mentoring day.
Week 3:	Workshop 1. Leadership and People Management Part 1
Week 6:	Workshop 2. Leadership and People Management Part 2
Weeks 7-11:	Continued study.
Week 11:	Submit Project 1: Leadership Action Plan. Receipt of study materials: Organisational Behaviour.
Week 15:	Workshop 3. Organisational Behaviour (GSB unit, 3rd trimester).
Weeks 16-27:	Study period continues and assessment submitted
Week 27:	Exam: Organisational Behaviour.
Week 27-28:	Receipt of study material: Special Topic in Organisational Action Learning (GSB unit 3rd trimester).
Week 30:	Workshop 4. Special Topic in Organisational Action Learning.
Weeks 30-43:	Study period continues and assessments submitted.
Week 32:	Receipt of study material: Organisational Development; Strategic Planning & Business Planning.
Week 39:	Workshop 5. Organisational Development; Action Learning Projects.
Week 46:	Study period continues and assessments submitted.
Week 52:	Workshop 6. Strategic Planning; Business Planning; Action Learning Projects.
Week 56:	Study period continues. Receipt of study materials: Manage Change, Innovation and Continuous Improvement; Decision Making & Knowledge Management.
Week 58:	Submit project 2 Strategic Plan
Week 62:	Workshop 7. Manage Change. Innovation and Continuous Improvement; Action Learning Projects.
Week 63:	Study period continues. Project group meetings.
Week 68:	Workshop 8. Decision Making & Knowledge Management; Action Learning Projects.
Week 69:	Study period continues. Project group meetings
Week 72:	Submit Project 3: Operational Plan
Week 73:	Study period continues. Project group meetings.
Week 85:	Major Group Project 4 submitted.
Week 90:	Project presentations.

From WIL to WOW – transforming Work Integrated Learning into a skill orientated World of Work

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An African proverb states that it takes a village to raise a child and one could loosely apply it as a need for all involved in Work Integrated Learning to put all their efforts together to ensure a global village of skilled students. The South African government strives towards training and education programmes aimed at the improvement of service delivery programmes. Workers at entry level need basic skills to support adaptability in the workplace as well as higher skills levels. Various programmes should be in line with Human Resource Development and Skills Development Strategies as stipulated by the South African government.

The focus of this paper will be on the contributions made by the so-called universities of technology and comprehensive universities in South Africa and various practical examples will be shared in this paper. Work Integrated Learning is a compulsory module on the National Diploma in Public Management. It not only complies with a statutory provision that state departments must apply in terms of learnerships and internships, but grants Public Management students valuable industry experience and enhances their likelihood of gaining employment after completion of their studies.

The idea is that students can learn more effectively through direct participation, but in order for the process to be successful, the different experiences must be well structured and facilitated in a proper manner. In order to find the best possible candidates for the public sector, all relevant stakeholders, including government and the tertiary sector, must align their missions, education and training programmes so that a quality programme can be achieved. It is imperative that all the relevant stakeholders coordinate their efforts to ensure that skills shortages, both nationally and globally be correctly identified and addressed.

Keywords: Public Management, skills shortage, strategies

INTRODUCTION

Work integrated learning is a compulsory module on the National Diploma in Public Administration and Management for the South African universities of technologies, formerly known as technikons as well as for comprehensive universities. It not only complies with a statutory provision that state departments must apply in terms of learnerships and internships, but grants Public Management students valuable industry experience and enhances their chances of gaining employment after completion of their studies. The South African public sector calls for more skilled graduates and through the process of work integrated learning, also known as work integrated learning, the universities of technologies and comprehensive universities are attempting to prepare students for future challenges and experiences. The tertiary section in South Africa has gone through a merger process and in some case former

technikons merged with technikons (such as Tshwane University of Technology) and in other instances traditional universities merged with technikons to become known as a comprehensive university (for example the University of South Africa).

The idea is that students can learn more effectively through direct participation, but in order for the process to be successful, the different experiences must be well structured and facilitated in a proper manner. In search for the best possible candidates for the public sector, all relevant stakeholders, including government and the tertiary sector, must align their missions, education and training programmes so that a quality programme can be achieved that will be a true reflection of the World of Work.

CONCEPT CLARIFICATION

In order to fully comprehend this paper, a few relevant concepts must be defined.

Experience refers to the nature of the events someone or something has undergone (Neill, 2004).

Internships are a Public Service Graduate Work Experience Programme targeting unemployed graduates which expose unemployed graduates to assignments and work in the public service (DPSA, 2006 (a)).

Learnerships are theory and practical experience given to the youth with a minimum of a level 4 qualification that culminates in a credit towards a qualification and it combines theory and work experience (DPSA, 2006 (a)).

A *mentor* is an experienced public servant who is able to provide guidance to the intern about the public service and how one can manage his or her work and balance it with personal life. The mentor must be somebody whom the intern will feel comfortable with (DPSA, 2006 (a)).

Exit Strategy can be defined as the process of phasing out the intern from the programme and preparing him or her for employment within the workplace environment.

Work Integrated Learning (WIL) is refers to learning in the workplace to provide students with relevant business and work experience. Experiential learning is often also referred to as work integrated learning.

Work Integrated learning explores the cyclical pattern of all learning from *experience* to *reflection* and *conceptualisation* to *action* and to further *experience* (Pickles, 2006). There is mixed evidence in terms of the best length for WIL programmes, and in general it is stated that both short-term (e.g. a 1 week residential programme) and longer-term (1 hour per week over many weeks) can be effective (Leberman and Martin, 2002).

Smith (2001) state that the learning cycle can begin at any of the above identified four points and that in essence it is a continuous spiral. It is however perceived that the learning process begins when a person carries out a specific action and sees the effect

of this action in the situation. The next step would be to understand the effects in the particular case so that if the same actions were undertaken in the same circumstances it would be possible to anticipate from the action what would follow. In the third step the general principle under which the particular instance fell would be understood (thus the ability to see a connection between actions and effects). The last step calls for the application through action in a new circumstance within the range of generalization.

Work integrated learning is a reflection of planned for experience or simulated experience and students should be able to apply acquired knowledge in future situations. The next section of this paper focus on the South African experience.

THE SOUTH AFRICAN EXPERIENCE

South Africa is faced with a major problem of unemployment especially among the youth and there is a need to alleviate high levels of unemployment among young graduates. Research indicates that by the year 2021 the South African population will be approximately 50 million (currently it is 48 million) and the current unemployment rate is estimated at 26,2% There is a perception from the South African public sector that higher education institutions do not appear to prepare students adequately for the world of work.

These challenges are being addressed through a range of government programmes such as the Internships programme and by the tertiary institutions by incorporating work integrated learning in the core programme.

In 2002 the South African Cabinet approved the Human Resource Development (HRD) Strategy for the Public Service, which included an internship framework that seeks to establish an effective and efficient internship programme aimed at bridging the gap between academic studying and competent performance in the workplace by offering a structured internship opportunity to students and unemployed youths to gain practical work experience for a maximum of 12 months (DPSA 2006 (a and b)). The internships vary from 3 to 12 months.

Various pieces of legislation and policies pertain to the framework for the development and implementation of WIL, such as the Skills Development Act, 1998; White Paper on Affirmative Action in the Public Service, 1998; the White Paper on Human Resource Development in the Public Service, 1998 and the Internship Framework for the Public Service, 2001

The National Human Resource Development Strategy and the National Skills Development Strategy informs the HRD Strategy that introduces learnerships as a mechanism to address the skills scarcity and unemployment. Cabinet decided that over a five year period, the number of young people involved in Internship and Learnerships programmes should be numerically equivalent to 5% of the establishment of government departments (DPSA 2006 (a and b)).

It is expected that the public service as the single largest employer in South Africa and stands to gain directly by improving on the quality of the skills pool from which it can draw future employees. It is also hoped that through positive internship experience a cadre of committed, service orientated potential public sector employees will emerge(DPSA 2006 (a and b)).

An integrated part of work integrated learning lies in the process of mentoring. Although government is committed to using mentorships as a vehicle for capacity development, there is some subjective evidence that the mentorship as a form of capacity development is not well understood in all government departments and therefore not truly functional as originally intended. This means that those who implement mentorships must take into account the possibility that some public servants will be suspicious of the mentorship process and fear that gaps in their skills will be uncovered, or that the mentor will usurp their position. Mentorship programme managers must therefore be sensitive to the need to promote mentorships as a legitimate and supportive approach to learning (DPSA 2006 (a)).

As mentioned earlier, work integrated learning is a key component in the National Diploma in Public Administration and Management at the universities of technology and comprehensive universities. To shed some further light on the practicalities of work integrated learning, the general experiences from the universities of technology and comprehensive universities, as well as the experiences by a working committee on work integrated learning will be elaborated on in the next section of this paper.

The process commences where students must submit a full academic record to determine if they qualify for work integrated learning, which is a subject in the third year in the second semester called Public Management Practice and students therefore pay the full subject fee that are utilized for example printing and travel costs. Students qualify for the subject if they can obtain their diploma at the end of the semester. Students are allowed to partake in work integrated learning outside the different university geographical borders.

The logbook must be completed by the onsite/departmental supervisor and include timesheets as well. The identified unit standards (with the explanations) must be evaluated by the onsite/departmental supervisor. Some of the onsite/departmental supervisors seem to have difficulty in completing the logbook and this should perhaps be included in the mentorship programme briefing. In the logbook provision is also made for concluding remarks focusing on the leadership potential, personal deportment, communication skills, interpersonal relationships, organizational skills and potential as well as the interpretation of and response to instructions. It is also a requirement that the student must keep a Portfolio of Evidence during the time spent in the work environment.

There are specific campus coordinators that works on the administrative processes involved. It should be mentioned that some of the tertiary institutions have a Co-op section that takes care of the whole work integrated learning process-from placement to assessment. It is required that campus supervisors visit the student at the place of learning and monitor the students' progress.

Students that do not receive relevant exposure can fail this subject, but provision is being made to allow students to complete outstanding unit standards or basically they qualify for a second opportunity. Students that do not find placement pose a problem. Some of the South African tertiary institutions allow these students to submit a comprehensive assignment although this defies the whole purpose of work integrated learning.

DEVELOPMENTS/FINDINGS BY THE WORKING COMMITTEE

As work integrated learning is a part of the curriculum of the National diploma in Public Administration and Management, a working committee, representing most of the South African tertiary institutions, was established to find a common understanding on work integrated learning. This working committee also includes representation from industry such as DPSA and the local government authorities. The tertiary institutions aim to develop a uniform logbook, establish quality control, determine assessment criteria and also take industry requirements into consideration. At previous workshops, positive and useful contributions were received from municipalities, academics, students and other roleplayers (e.g. non-governmental organisations). The expertise at the tertiary institutions such as the Curriculum Development Support is also incorporated into the process. It has also been suggested by the working committee that the qualification needs to be revised to make provision for a six (6) month work integrated learning period which would be more in line with requirements set by the South African government.

The work integrated learning process poses a number of challenges and these are:

    a. No placement of the students.
    b. Evaluation of working students.
    c. Understanding of the logbook.
    d. Communication between the supervisors is sometimes poor as well as between the student and the campus supervisor.
    e. Time to visit the students on site is limited due to a heavy workload.
    f. The lack of placements in the public sector.
    g. The preference for internships over work integrated learning.
    h. Assessment methods.
    i. Incorrect exposure in the working environment.
    j. Mentorship programme must be properly implemented.

There are also a number of positive aspects that can be highlighted. These are as follow:

    a. Willingness from officials to help and to become involved in tertiary structures such as advisory committees.
    b. Feedback through interviews and questionnaires.
    c. Student development.
    d. Networks are established.
    e. Collaboration with departments, professional bodies and other tertiary institutions nationally and internationally.
    f. An increase in the involvement of fully employed students in the Public Management Practice Programme-'adopt a student-programme.'
    g. Providing access to employment for students through work integrated learning.

John Dewey (1938) stated that "there is an intimate and necessary relation between the processes of actual experience and education" and this is definitely true in terms of work integrated learning. Students are better equipped and show a better understanding of the public sector environment after the completion of the work integrated learning component.

RECOMMENDATIONS AND CONCLUSION

Mao Zedong (1937) once said that "If you want knowledge, you must take part in the practice of changing reality. If you want to know the taste of a pear, you must change the pear by eating it yourself". In order for students to truly understand the complexities that government is struggling with, they need to experience these complexities first hand and by doing so, they would be able to amongst other things creatively solve problems. It is however necessary for the public sector and tertiary institutions to find common ground on work integrated learning and through a consultative process align missions to ensure that the best possible candidates are selected for the job, those who have academic credit, but even more importantly, practical experience.

In terms of recommendations, a number can be made:

- A comprehensive revision of current curriculum to ensure a more skilled based approach.
- Decide on liability responsibility.
- Establish a placement structure.
- A career path analysis must be done to determine the future skills that will be required.
- Network development should be a priority as this could assist placement.
- Various government departments must share specific needs and skills required.
- Industry should not just pay 'lip-service', therefore be willing not only to place students, but also expose students to relevant aspects

In conclusion it can be stated that through an effective experiential programme, incorporating participation from academia, students, industry and any other role players, If all the stakeholders can work together to truly reflect the World of Work to students undertaking their Work Integrated Learning, better candidates will be employed that have the necessary required skills. Students need to be exposed to the true work environment to better prepare them for the formal employment sector.

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The CQU Diploma of Professional Practice – Explicitly preparing WIL students

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The Diploma of Professional Practice at Central Queensland University has been developed to explicitly prepare students in the Bachelor of Engineering (Co-op) program for their industrial work placement, and then to enable them to articulate the learnings from that placement. The Diploma is a compulsory element of the Co-operative Education program, and awarded as the dual award BEng (Co-op)/Dip Prof Prac Eng at graduation.

The Diploma of Professional Practice, equips graduates with the knowledge, skills and attributes needed in professional practice and for professional leadership. The combined program is designed around the triple themes of intellectual, social and professional development. A feature of the professional practice program is its integration with the periods of work placement in a professional environment that provides the opportunity to learn and put into practice, professional practice skills. The existing work placements are highly regarded by employers, and this program provides students with the education to maximise the learning occurring in the professional environment. The program is structured with internal courses delivered before and after work placement periods which provide preparation and review of skills, that will be put into practice in the work place, as well as reflection on the learning.

The program is a generic program providing students with the necessary professional practice skills to go into the placement and the opportunity to reflect upon their experiences in the workplace. It is through this reflective process that the implicit learning from the work placement becomes explicit assessable learning.

Keywords: WIL, professional practice, preparation, engineering

PROFESSIONAL PRACTICE - PHILOSOPHY AND IMPLEMENTATION

It is well recognised that educators now need to develop graduates with attributes and abilities previously not considered core to their professional practice. According to a review of Australian engineering education steered by the Institution of Engineers, Australia (IEAust, 1996) future accreditation of engineering courses will depend upon demonstrated development of attributes including effective communication, the ability to work in multi-disciplinary teams, utilisation of a systems approach to design, and an understanding of the social, cultural and ethical responsibilities of the professional engineer.

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Partially as a result of this, moves were made to redefine professional engineering practice (Thom, 1998). Global conferences have since called for the development of generic attributes in engineers, which encompass the multi-faceted concepts of engineering practice (Boeing Company and Rensselaer Polytechnic Institute, 1997). Sustainability is becoming the basis of how holistic engineering practice is developed. As the concept of sustainability stands on the three legs of economic, environmental and social sustainability, engineering as a profession, in order to embrace the concept of holistic practice, must first develop an understanding of individual and societal needs (Crofton, 1998). Students need to not only be aware of, but have the opportunity to prepare, practice, and reflect upon these issues.

Since the inception of the BEng(Co-op) program in 1994 by the formerly James Goldston faculty of engineering, graduates have demonstrated good professional practice skills. These had resulted from professional practice skills training, delivered by the faculty, and the opportunity to work in industry where they can use and develop these skills. Upon their return to the academic environment, they were encouraged through reporting requirements for their work placement, to reflect upon how those issues had impacted their placement. These learning opportunities however were not formally recognised by the university, (except in the assessment of the work placement report) and were not credited towards their degree. This lack of recognition and credit was the motivation for the development of a Professional Practice program. This program replaced and extended material previously provided in the Work Placement courses of the Engineering Co-op Program.

Engineering Professional Practice

The Diploma of Professional Practice, integrated with the Project Based Learning (PBL) Bachelor of Engineering (Co-operative Education), aims to explicitly equip graduates with the knowledge, skills and attributes needed in professional practice and for professional leadership. The combined program is designed around the triple themes of intellectual, social and professional development. (JJames Goldston Faculty of Engineering and Physical Systems [JGFEPS], 2004a)

A feature of the professional practice program is its incorporation with the periods of work placement in a professional environment that provides the opportunity to learn and put into practice, professional practice skills. The existing work placements are highly regarded by employers, and this program provides students with the training and education to maximise the learning occurring in the professional environment. The program is structured with internal courses delivered before and after work placement periods to provide necessary preparation and review of skills, which are then put into practice in the work place. They also require reflection on the learning.

The new program separates the professional development components previously combined with the BEng(Co-op) work placement courses and presents them in an explicit program. This explicit program provides students with due recognition of their professional practice skills. This program is now integrated with the BEng(Co-op) program to form a dual award program known as Bachelor of Engineering (Co-op)/Diploma of Professional Practice (BEng(Co-op)/DipProfPrac(Eng)). With the introduction of this dual award, the BEng(Co-op) is no longer offered as a stand alone program.

Professional Practice Program Structure

The structure of the Diploma of Professional Practice program element of the dual award program is as shown in Table 1 below.

TABLE 1
Professional Practice Element of the Co-operative Education Engineering Program

Course	Units of Credit	Comments
Professional Practice Preparation 1 (PPP1)	6	Covers resume writing, interview skills, ethics, health and safety, industrial relations– prior to 1st work experience
Professional Practice Review 1 (PPR1)	6	Covers documentation of actual work experience using competency framework, formal presentation of work experiences, shared reflection workshops.– following 1st work experience
Professional Practice Preparation 2 (PPP2)	6	Covers additional engineering workplace skills similar to first line supervisors course.– prior to 2nd work experience
Professional Practice Review 2 (PPR2)	6	Covers documentation of actual work experience using competency framework, formal presentation of work experiences, shared reflection workshops.– following 2nd work experience
Work Experience 1 (WE1)	6	Formal course structure to match work experience period. Each course of nominal 12 weeks duration. Assessment limited to weekly activity and reflection journals and self-established job objectives.
Work Experience 2 (WE2)	6	
Work Experience 3 (WE3)	6	
Work Experience 4 (WE4)	6	

The Courses

Professional Practice Preparation 1 (PPP1) is designed to prepare the second year students for their first work placement. These students have 2 years of technical study, but need to be "work ready". The faculty recognized that if the students are in the workplace for only six – eight months, then they need to be of value to the employer from the start. In the same way that the technical study had been specifically chosen to ensure that they were capable of performing worthwhile engineering work, the professional practice course was designed to ensure that they were not lost in a professional environment. The course covers:

- Resume and letter writing skills
- Responding to selection criteria
- Interview techniques
- The transition from study to work
- Employment contracts and conditions
- Identifying the industry and types of employer they hope to be involved with as an engineering practitioner
- How to evaluate their own work in terms of the Engineers Australia National Competencies
- Critical engineering workplace issues including ethics, codes of conduct and OHS.

Additionally the students attend the presentations given by the third year students who have just returned from their work placement. These presentations allow the students to hear what the actual placements were like. What the students gained from the experience? What were the conditions? What were the issues?

Professional Practice Review 1 (PPR1) is designed to have the students reflect on their first placement. They must describe their company, their department and their employment conditions. They must also give a description of the work that they ddi, what projects they were involved in and how the work was achieved. They are asked to reflect on their competence in the position. They must then reflect upon what was achieved by the work, and identify what contribution they made to the company, and the significance and value of the experience to themselves, as well as any specific learnings. They must do a self evaluation of their personal growth in the areas of intellectual, social and professional growth. This is not just identifying their growth, but articulating the change in themselves that demonstrates that the growth has occurred. Finally they must articulate and analyse the workplace issues that they had to deal with.

As part of demonstrating that they are addressing professional growth, they are asked to write a career episode report. This is a document that will form part of their engineering practice portfolio for application to become a Chartered Professional Engineer (CPEng).

Professional Practice Preparation 2 (PPP2) is taken by the fourth year students, preparing them for their second work placement, and follows on from PPP1. It has the students investigate:

- − Their skills and attributes
- − Professional responsibility
- − Career exploration
- − Career management
- − Further interview skills
- − Further review of Engineers Australia National Competencies for CPEng

Once again the students attend the presentations by the fifth year students returning from their second work placement.

Professional Practice Review 2 (PPR2) follows the same format as PPR1. The students reflect on their work placement and present their reflections to the class. This sharing of reflections allows the students to compare their experiences and identify common issues and share solutions that they have developed to those issues. Additionally they are asked to reflect on their career planning process, and to evaluate their ability to function in their chosen career.

The Dual Award

In 2005 the BEng(Co-op) was replaced by the new integrated dual award program, named the Bachelor of Engineering (Co-op)/Diploma of Professional Practice (Engineering). The new structure is shown in Table 2.

TABLE 2
Bachelor of Engineering (Co-op)/Diploma of Professional Practice (Engineering)
Program Structure (Post June 2004)

YEAR	TERM 1	TERM 2
1	Lecture Based Course	Lecture Based Course
	Lecture Based Course	Lecture Based Course
	Project Based Course	Project Based Course
2	Lecture Based Course	Lecture Based Course
	Lecture Based Course	Lecture Based Course
		Professional Practice Course
	Project Based Course	Project Based Course
3	Work Experience – Industry Placement External Study Course	Lecture Based Course
		Lecture Based Course
		Professional Practice Course
		Project Based Course
4	Lecture Based Course	Work Experience – Industry Placement External Study Course
	Lecture Based Course	
	Professional Practice Course	
	Project Based Course	
5	Lecture Based Course	Graduation
	Lecture Based Course	
	Professional Practice Course	
	Project Based Course	

Whilst this appears to be an increased load for students, as to some extent it is, it
formally recognises additional learning that students were, to a large extent, already
undertaking previously in preparation for, and reflection after completion, of their
work placements.

Implementation

The Diploma of Professional Practice program was developed to separately formulate,
recognise and extend the professional development components previously implicitly
combined with the work placement courses and presents them in an explicit program.
The program is a generic program designed to provide students with the necessary
professional practice skills to go into the placement and the opportunity to reflect
upon their experiences in the workplace. It is through this reflective process that the
implicit learning from the work placement becomes explicit assessable learning.
Graduates of this dual award program have demonstrated the knowledge, skills and
attitudes needed for professional engineering practice and leadership. This
encompasses academic knowledge and skills with engineering discipline theory,
technical expertise, personal development and professional formation. In particular

this program enables specific and measurable development of professional engineering practice skills, employment readiness, social awareness and lifelong learning attributes (James Goldston Faculty of Engineering and Physical Systems [JGFEPS], 2004b)

This program is similar to one offered at the University of Technology, Sydney (UTS), called a Diploma of Engineering Practice. (University of Technology, Sydney, 2005). This means there are now two engineering faculties in Australia offering a dual award incorporating co-operative education and professional practice. This is evidence that there is an increasing perception amongst industry and educators that the professional practice skills require explicit development and recognition.

CONCLUSION

It is well recognised that co-operative education is capable of informing, or even to some extent, enhancing the development of a graduate's generic skills. This can even be achieved from exposure to the work place. However, incorporating and integrating explicit professional practice skills development, enables a significant internalisation of professional practice. This professional practice includes generic and technical knowledge, skills and attitudes. The internalisation occurs through identifiable preparation for, application in, and considered reflection of, learning experiences.

CQU has developed an integrated Bachelor of Engineering program, incorporating co-operative education and specific development and recognition of professional practice skills. This program is believed to be unique in the world with its interpretation and combination of these learning paradigms. It has taken 14 years of development within the university to reach this stage with parallel developments nationally and internationally informing and shaping its structure. Whilst a significant achievement in its own right, the program as it now stands, should be considered as a staged step in the engineering program's development continuum.

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Creativity-based intellectual property education project at Miyagi National College of Technology part 2 ongoing activities

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Students of engineering are very capable of developing their own creativity by suitable educational contents focused on experiences, starting just after the entering the education system. The Miyagi National College of Technology (MNCT) has been implementing creativity education of experience-based thinking in individual grade levels from 15 to 22 years old in order to train up the students from an early stage for creative and practical engineering. This Creativity-based In-tellectual Property Education Project has been adopted by the Japanese Ministry of Education, Culture, Sports, Science and Technology (MEXT), under its contemporary education needs sup-porting program in 2006. The project is to construct an educational system that has the following characteristics; 1) to collaborate and unify creative education and intellectual properties, and 2) for the students to recognize the importance of the profit that results from their activities, giving them a strong motivation to achieve property rights. We targeted training the environment of students and challenging new businesses by producing innovative products with new technologies. The new organization of our college, Intellectual Property Student Advisory Office (IPSAO), is the centre of fostering human resources specializing in creativity, organizing invention contest, lec-turing on intellectual property rights and filing the students' patents. This paper reports the framework of the 2nd year project in detail and the environment of the students' exciting partici-pation, which are performed at MNCT.

Keywords: Creativity education, Intellectual property, Intellectual Property Student Advisory Office (IPSAO), Invention contest, Lecture on patent

INTRODUCTION

Miyagi National College of Technology (MNCT) has been implementing curriculum reform to train students as engineers, having to do with industrial bases, who are wealthy in creativity, from the early stage immediately after junior high school graduation. The 2nd year student who took "the creativity project" subject, newly created by this reform, became the 4th year student in 2006, and reached the step of taking the "synthetic seminar" subject. Thus, the creativity upbringing education system has begun to work in real earnest. It is expanding the system which continues to be "the long-term internship as the part of the graduation research" for the 5th year

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student in the regular course, "the long-term internship", "the exercise on creativity engineering" for the 1st year student and "the thesis work" for the 2nd year student in the Advanced Engineering Course.

The trial to reform a curriculum that truly fosters the creativity of the student according to their knowledge and experience levels consistently is required now at MNCT. The fruits of students' activities are useful to society, and it is important to authorize the intellectual property as a right and its process plays an active part in the industrial fields as the technical expert.

Drafting such a viewpoint, the project of 3 annual total pictures applied to the contemporary education needs supporting program in 2006 under the Japanese Ministry of Education, Culture, Sports, Science and Technology (MEXT) was adopted (Itoh, et al., 2007). The title of the project is the cooperation and the integration between early creativity education and intellectual property education - It understands the result of the early creativity practice of a 22 year old from a 15 year olds' fresh brain; it understands the meaning from the viewpoint of intellectual property and building an experience-based education system to utilize.

In this report, the introductions of the ongoing project and the progress in 2007 are mainly described.

THE EDUCATIONAL SYSTEM OF MIYAGI NATIONAL COLLEGE OF TECHNOLOGY

Miyagi National College of Technology (MNCT) has set up a regular five-year course of higher edu-cation, and also a two-year course of Advanced Engineering over it, as shown in Fig.1. The regular course consists of 5 departments; Mechanical Engineering, Electrical Engineering, Architecture, Materials Science and Engineering, and Design and Computer Applications. The Advanced Engineering Course also consists of 2 courses; "Production System Engineering" and "Architecture, Design and Computer Applications" (Publicity Committee of MNCT, 2008).

The educational program of Production Systems and Design Engineering of the advanced course of MNCT was authorized by the Japan Accreditation Board for Engineering Education (JABEE), in the field of engineering science in April, 2003. This authorization proves that the education done at the ad-vanced course of MNCT stands on equal footing with universities both in name and reality.

FIGURE1
Educational System of MNCT

FIGURE1 Educational System of MNCT
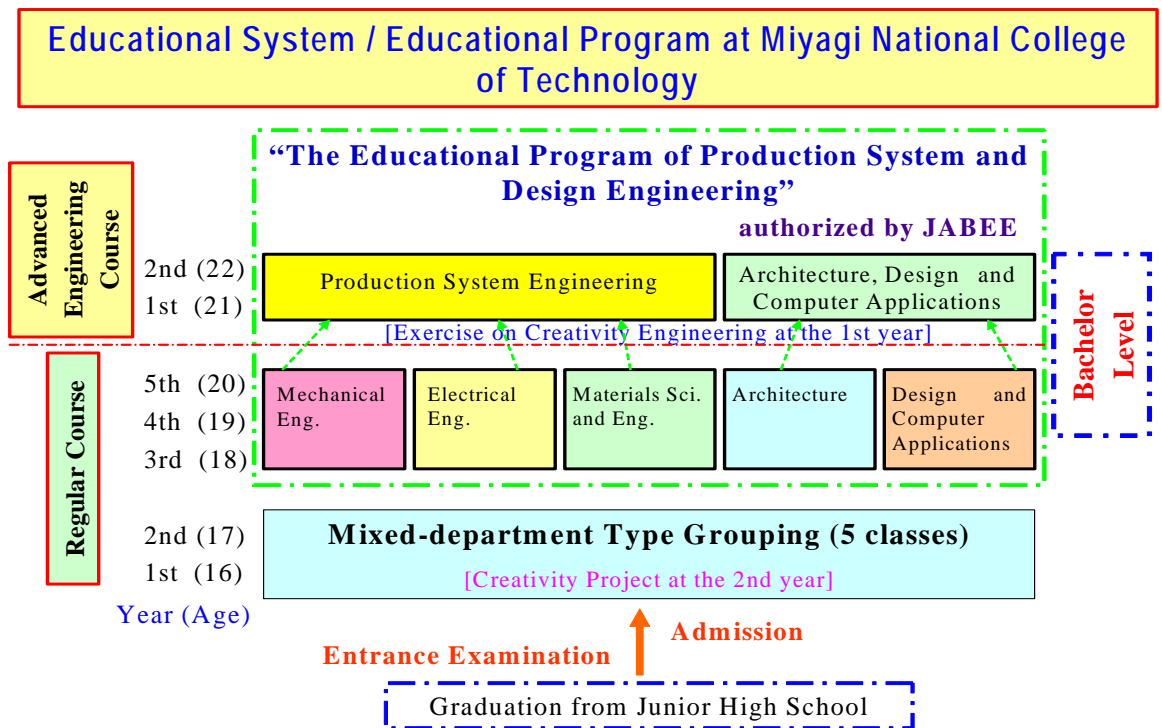
OVERVIEW OF THE ADOPTED PROJECT

The aim of the adopted project is to provide the human resource upbringing system, in which the up-bringing of knowledge-building placed a practicing technical expert training course with invention as the possible intellectual properties creation course. The students who have experienced the course will create a new technology and a new product in the scene of manufacturing and bring rich human resources with idea power which daringly challenges new business.

The overview of this project is shown in Fig.2. This project cooperates and integrates the experience thinking type creativity education to be implemented according to the grade consistency with the lower grade period. Further, it makes students recognize a profitability to the society of the activity result of the student and the importance of authorizing it as intellectual properties as a right. This project builds the education system of the creativity and intellectual property which educates the process.

Specifically, it does intellectual property education according to the development step, establishes a system of cooperation with e-learning, leader training, and the fullness of the practicing intellectual property education by graduate research and invention contest and the establishment of the patent ap-plication support system for the student. The evaluation and the improvement of the education system are also contents to implement.

FIGURE 2
Overview of the Adopted Project

		Creativity Education	Intellectual Property Education
Advanced Engineering Course	2nd (22)	Thesis Work	[Patent Application Stage] Research for Needs, Embodiment, Leader Training, Patent Filing, Patent Seminar, Invention Contest
	1st (21)	Exercise on Creativity Engineering, Internship, Thesis Work	
Regular Course	5th (20)	Graduation Thesis, Internship	Practical Patent Lecture
	4th (19)	Synthetic Seminar, Internship	[Cancellation Stage of Patent Allergy] Technical Writing, Basic Patent Lecture
	3rd (18)	[Introductory Stage to the Specialty]	Invention Contest
	2nd (17)	Creativity Project	[Introductory Stage to I.P.] Leader Training, Invention Contest, Introductory Patent Lecture
	1st (16) Year (Age)	[Introductory Stage to the Basis for Engineering]	For all the Students: e-Learning on I.P., Support of Application for Patent Contest

Collaboration and Unification between the Creativity Education and the Intellectual Property Education to Encourage the Students as I.P. Talents

EFFECTIVENESS FOR THE EDUCATIONAL REFORM

Creative activities of students are useful to society and become vital when authorized as intellectual property rights and the process plays an active part in the industrial world as the technical expert. The necessity and the establishment of such an education system are indispensable in bringing rich human resources with idea power which daringly tries to challenge the development of new technology, the new product and the new business in the industrial fields of the future.

The quality of the contents and the archives for the education of creativity and intellectual property which were based on creativity education subjects are raised every year, and the range to handle them will spread. Then, the education assets of the education of high creativity and intellectual property are ac-cumulated at the altitude of the main school, and the foundation of the valid utilization is built. The promotion of the industry, too, can be contributed to in addition to the possibility of the patent merit rising in the form which involved a student doing graduate research and invention contest by the cooperation with the industrial world and living intellectual property education's being able to be realized.

EXECUTION SYSTEM OF THE PROJECT

The execution system of this project is shown in Fig.3. The Intellectual Property Student Advisory Office (IPSAO) plays a main role in promoting this project, which is newly established at the collabora-tive technology center. IPSAO consists of 13 members including teachers, technical staffs and clerical staffs. IPSAO is in the centre of fostering human resources specializing in creativity, organizing student invention contests, lecturing on intellectual property rights and filing students' patents.

FIGURE 3
Execution System of the Project
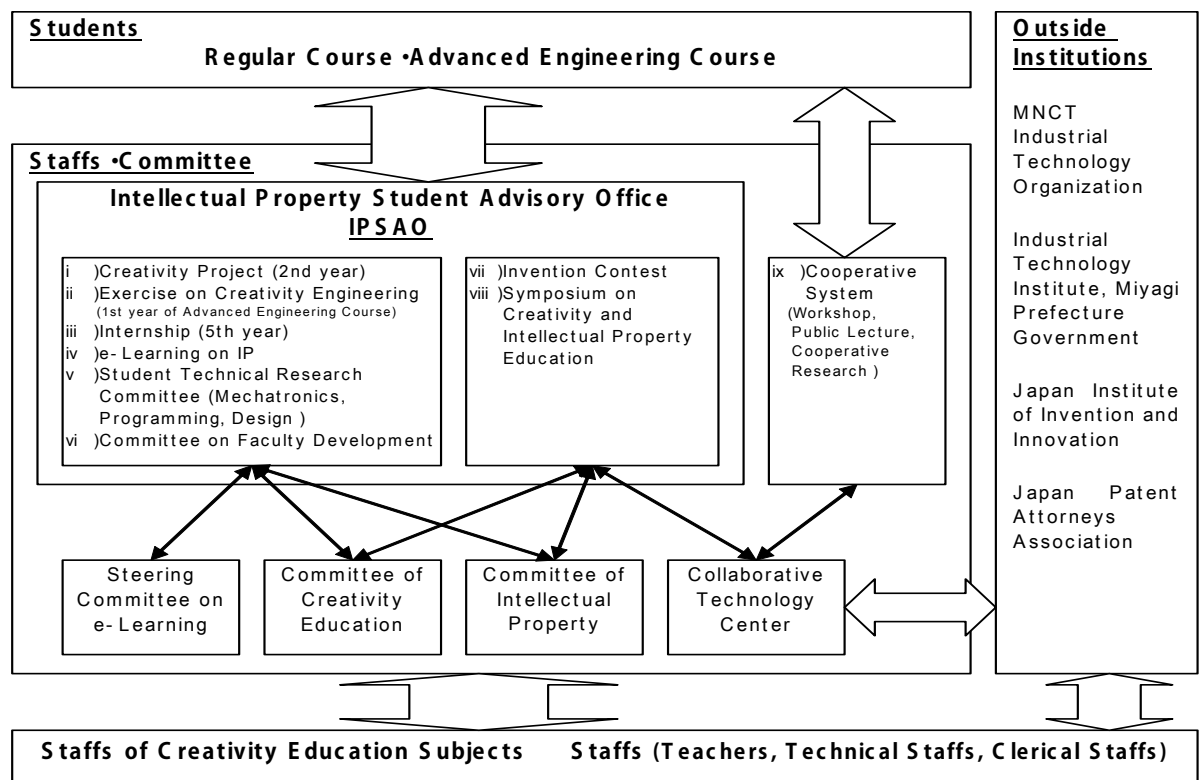
PROJECT EXECUTION PLANNING IN 2007

The project execution plans in 2007 and early 2008 are as follows:

April, 2007
1. Hosting of "the introductory patent lecture"

April-September, 2007
2. Activity support of "Creativity Project", Making results of "Exercise on Creativity Engineering" archives and Keeping up the contents for e-learning, 3. Hosting of "the Patent Contest"

May-October, 2007
4. Hosting of "the Student Invention Contest" at the MNCT Festival

June-October, 2007
5. Surveying the educational activities for students on intellectual property in domestic and international universities

October, 2007-February, 2008
6. Activity support of "Exercise on Creativity Engineering", Making results of "Creativity Project" archives and Keeping up the contents for e-learning

November, 2007-January, 2008
7. Hosting of "the basic patent lecture", "the practical patent lecture" and "the patent seminar"

December, 2007-March, 2008
8. Education of the Patent Filing process in "Exercise on Creativity Engineering" and Support of the Patent Application

The following year since then, we host "the graduation research and invention contest" among north eastern region technical colleges and "the symposium about the creativity and intellectual property educations".

REPORT ON THE EXECUTION OF THE PROJECT

Surveying the Educational Activities for Students on Intellectual Property

We visited Beijing Institute of Technology (China), as shown in Fig.4, to grasp the technique and to make a student understand an intellectual property mind by the education and research course, a way of distributing a right in case of making intellectual properties, to attempt to improve a student support system and to do field research. Beijing Institute of Technology has started an innovative center since 2000. The purpose is knowledge acquirement by the student and the training of innovation ability.

FIGURE 4.
Situation of Surveying Intellectual Property in Foreign Countries
(Surveying at Beijing Institute of Technology, China)

Student Invention Contest at MNCT

The Student Invention Contest was held at the MNCT festival on October 27th and 28th, 2007. The aim of the contest was to grasp the results of creativity education and to show that it is possible to connect improvements of the education contents with an attempt for power of planning and the plan of the student and the executive ability, and to improve the contents of the subject in MNCT.

The situation of the student invention contest is shown in Fig.5. We hosted an invention contest in 4 departments of the idea department (the theme is free), the problem department (the ideas about going to school or dorm life, setting a theme from the daily life convenient article), the creativity project de-partment and the exercise on creativity engineering department.

The number of applications was fourteen for the idea department, five for the problem department, three for the creativity project and two for the exercise on creativity engineering. The application was introduced contents by the contest via the middle examination (It brought in the opinion of the extramural expert, too.) and the subscription status fixed the excellent prize and the wining a prize of each depart-ment by vote. But, the creativity project and the exercise on creativity engineering department depended on the recommendation of the guide teacher.

There were 141 pieces of participation in the vote within 2 days. It guided in three which won a prize in the idea department and the problem department for the patent application. As a result, it did 3 patent applications in the end of March, 2008.

FIGURE 5
MNCT Student Invention Contest in 2007

1) The display   2) The awarding ceremony

The Patent Lecture

We had the support of the Miyagi Prefecture branch of the Japan Institute of Invention and Innovation, and the 90-minute patent lectures are implemented for the students as follows:

1. The introductory patent lecture for the 2nd year students in the regular course-178 people,
2. The basic patent lecture for the 4th year students in the regular course-73 people,
3. The practical patent lecture for the 5th year students in the regular course-26 people,
4. The patent seminar for the 1st year students in the advanced engineering course-Total 33 people. Each lecture of item 1)-4) was held once. The numerical value represents the number of participants in each lecture.

After each lecture was over, we gave a questionnaire to each student. The questions were as follows:

Question A: Did you have an interest in the patent and the invention after you took the lecture? (Question A is excluded in the questionnaire at the lecture 4))

Question B: How about the subject on Intellectual Property? (Please select from the following alterna-tives. Ans.1: It should begin as the lecture and make a unit. Ans.2: I don't attend a lecture even if it makes a unit. Ans.3: I think after seeing a syllabus. Ans.4: The others including the non-response.)

The answers are shown in Table 1 and Table 2. Most of the participants were interested in the patent and the invention. We think that students know the necessity of the Intellectual Property Education.

TABLE 1
Answers (Yes) to Question A in percentage terms

Lecture 1)	Lecture 2)	Lecture 3)
60	74	73

TABLE 2
Answers to Question B in percentage terms

Answer	Lecture 1)	Lecture 2)	Lecture 3)	Lecture 4)
1	28	37	38	18
2	24	4	12	21
3	44	48	42	45
4	4	11	8	16

CONCLUSIONS

In this report, the introduction of the description of business in the 2nd fiscal year of the project and the progress were described. There were a lot of subscriptions in the MNCT invention contest. In this year, the MNCT invention contest is fixing as the regular event in our college. The entire IPSAO member can not hide pleasure and the wish of the surprise in the height of student's interest to "the invention and the patent" and the height of the interest of the people of the protector.

We feel that the intellectual property mind penetrates into the students through the implementation of the patent lecture and the invention contest, the class of the technical writing. We think that the creativity education system which was the conscious of the intellectual property including the effective use of these facilities is arranged in the future, that the students who have experienced the course will create a new technology and a new product as rich human resources with the idea power which daringly challenges new business can be brought up.

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Learning for a complex world: a life-wide curriculum

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The University of Surrey has been at the forefront of the Work Integrated Learning movement in the UK since it was established in 1964 through programmes in all disciplines that contain opportunities for year long work placements. The contribution that experience-based learning makes to learning to be a professional in a particular discipline is widely recognized and valued within our culture. A new Centre for Excellence in Professional Training and Education is stimulating interest in new forms of experience-based learning both within and outside the programme curriculum.

The paper and workshop will describe work in progress aimed at broadening an institution's perceptions and understanding of, and commitment to, experience-based learning. The strategy includes: reconceptualisation of the curriculum; new alliances with the wider enterprise that supports students' experiences and learning; piloting a Learning through Experience Award that can be customized to suit most significant experience-based contexts; 'story telling' competitions to encourage and value stories of rich experiences in which important learning occurred; a new social networking site to encourage students to share experiences and the insights they have gained through such experiences.

The session will illuminate the journey being made by an organisational change agent to bring about a significant cultural change, share some of the issues that have emerged and encourage participants to share their experiences of bringing about significant developments in experience-based learning in their own institutions.

INTRODUCTION

For over 50 years the University of Surrey has been at the forefront of the Work Integrated Learning movement in the UK through a curriculum model that requires programmes in all disciplines to provide opportunities for year long work placements at the end of the second year of study. As a result, University of Surrey graduates are consistently at or near the top the graduate employability league tables in England. Because of this excellent record, in 2005 the University was awarded a five year grant to establish the Surrey Centre for Excellence in Professional Training (SCEPTrE)[1] with a

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[1] SCEPTrE is one of 74 Centres for Excellence in Teaching and Learning established IN England through a five year Government grant in 2005/06. The Centres for Excellence in Teaching and Learning (CETL) initiative has two main aims: to reward excellent teaching practice, and to further invest in that practice so that CETLs funding delivers substantial benefits to students, teachers and institutions. http://www.hefce.ac.uk/learning/tinits/cetl/

remit to provide additional resources and capacity to enhance further the educational model and to broaden its impact.

Taken at face value it would seem that we have a very effective educational model, but closer inspection indicates that only 50% of our undergraduates participate in our *Professional Training* work placement scheme. We are in a classic change dilemma – do we sustain a proven model that seems to work well or do we in some way change what we are doing? SCEPTrE has concluded that we need to do both. But one of the ways of enhancing our traditional curriculum model is to embrace a much broader conception of a curriculum and this paper provides a simple description of a concept that we are calling life-wide curriculum[2].

Proposition

A life-wide curriculum is the most appropriate concept for a higher education experience that sets out to help students develop themselves for a lifetime of learning in an infinitely complex ever changing world. A life-wide curriculum seeks to highlight the potential for drawing learning from the diverse experiences that a learner may encounter during their higher education experience. It is an inclusive concept intended to recognise that universities are complex enterprises for learning and that many people (not just teachers) contribute to students' learning and development. It is an opportunity enhancing and enabling concept rather than a policy for making people do things they don't want to do. The concept is learner driven ie outside the requirements of the formal academic curriculum a learner can choose or not choose to include her experiences and learning in her unique learning profile. The idea is not about forcing learners to account for their everyday experiences but to encourage the university to think about learning in a more holistic way and to support and communicate this view of learning so that learners eventually see the benefits. The challenge for a university that adopts a life-wide curriculum will be to develop a culture that recognises the potential for enhancing students' learning and their experiences of higher education by valuing learning derived from all parts of this curriculum and create the means to support, recognise and value such learning.

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[2] The term curriculum is being used as a general descriptor for the totality of learning experiences that are used and recognized by teachers and learners, and from which learning is derived and valued in the higher education learning profile of a learner. Such experiences include the formally validated modules of a study programme, work experiences that are incorporated into the award, additional curriculum experiences outside the award-bearing programme and other experiences.

COMPONENTS OF A LIFE-WIDE CURRICULUM

We might visualise a life-wide curriculum as having a number of variably connected and integrated components (Figure 1).

FIGURE 1
Components of a life-wide curriculum and supporting infrastructure at the University of Surrey. Three example learner experience profiles are shown.
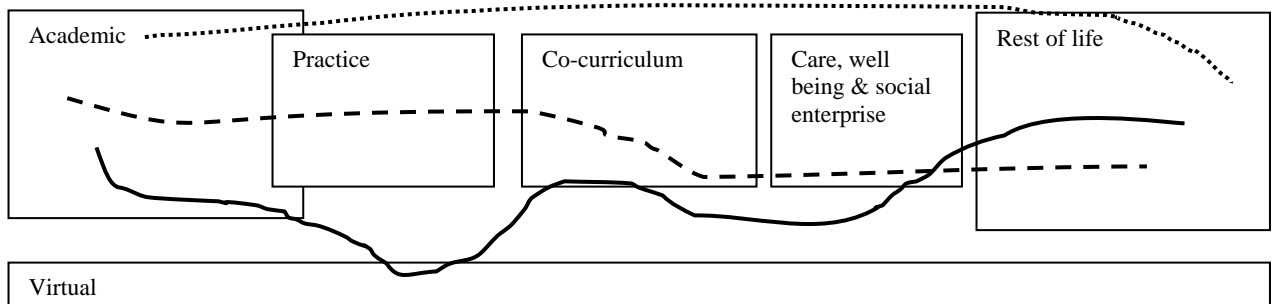
Practices that encourage learning through experience and reflection on experience

Personal Development Planning

Mentoring (peer to peer, staff –student, student-staff) and Student Advisors

Story telling and film making

Technical infrastructure to support learning through experience

U-Learn

Pebble Pad e-portfolio

Shareexperience social networking site

Second Life virtual world

Recognising and valuing learning from experiences in the life-wide curriculum

Professional Training Frameworks operated by departments to support work placement learning

University of Surrey Students' Union Learning through Experience Award

LEARNING POTENTIAL OF A LIFE-WIDE CURRICULUM

The most powerful argument for a life-wide curriculum is that it contains more potential for learning than any other curriculum! Adopting a life-wide curriculum changes the paradigm of what counts as learning and where learning occurs. It shifts higher education into a more experience-based model of learning (Andreason et al 1995) i.e. the experience of the learner occupies central place in the learning process. This experience may comprise earlier events in the life of the learner, current life events, or those arising from the learner's participation in activities implemented by teachers and facilitators. A key element of experience-based learning is that learners analyse their experience by reflecting, evaluating and reconstructing it in order to draw meaning from it in the light of prior experience.

Learning that is grounded in experience, especially when it is a rich, meaningful and immersive experience has the potential to contribute to all forms of learning identified by Marton et al (1983 p283-284) and most importantly, support development of the most elaborate forms of learning. Experience of working and learning in different environments is also essential to developing a repertoire of 'ways knowing' and 'being able to come to know'. Knowing is part of action and it lies at the heart of the epistemology of practice. It complements but is different to explicit and tacit knowledge and can only be gained through acts of doing and being (Cook and Brown 1999).

Baxter Magolda (1992 and 2001) identified four qualitatively different *ways of knowing*. These are:

- *Absolute knowing*: knowledge exists in an absolute form, it is either right or wrong
- *Transitional knowing*: knowledge is certain in some areas and uncertain in other areas
- *Independent knowing:* knowledge is uncertain. Everyone has their own beliefs
- *Contextual knowing*: knowledge is contextual. One judges on the basis of evidence in context.

If a learner only possesses a way of knowing that is absolute, then he or she is unlikely to cope well with problem-solving in the conditions of uncertainty that characterize the real world. However, a student who possesses an independent way of knowing is likely to feel more confident, and be more effective, in such a situation. A student who has learnt in lots of different experience-based contexts will realize that knowledge, in real world problem working, is often strongly situated and contextual. A way of knowing is more than an academic cognitive skill that can be "developed" through carefully designed learning activities. It is firmly a part of who you are – your identity. In other words, changing one's way of knowing is to change as a person.

Our line of reasoning is that if we are to claim that higher education is preparing learners for a complex world then we and they must pay particular attention to the epistemology of practice(s) in the social, professional and working worlds that they will enter when they leave the academic environment. The epistemology of (professional) work practice (coming to know what to do through doing in a specific situation or context drawing on past experiences which includes learned theory) can

only be learned through the experience of practising with other practitioners. The epistemology of practice pays particular attention to the idea of Legitimate Peripheral Participation (Lave and Wenger, 1991). Learning for a complex world requires learners to appreciate and experience the epistemology of practice in professional situations that are relevant to chosen career pathways and more generally in other social practice settings embodied in the idea of a life-wide curriculum.

Raelin (2007) identifies the building blocks of an epistemology of practice as:

- − *Extensive use of tacit knowledge* – the tacit processes that practitioners use as they work through the problems and challenges of daily practice. Such knowledge is deeply rooted in action and involvement in a specific context in a specific time. But while people may be knowledgeable about what they do and can do it, they may not be able to explain how they know what to do.

- − *Critical reflection* – the thinking capacity to make sense of their own practice and experiences and mindful habit of doing it. Or the ability to think about how their actions resulted in a particular outcome. This ability results in the creation of a personal 'real time' learning environment through which beliefs, assumptions and mental models as well as actions, can be tested and evaluated.

- − *Mastery* – people develop their expertise not only by repeated practice in a single domain but by acquiring skills in multiple contexts. Mastery is developed through an appropriate apprenticeship in which novice practitioners are exposed to embodied practice, apply and develop their own practice, are encouraged and given feedback on their performance and gradually take on more and more responsibility. Developing mastery is coupled to the development of tacit knowledge and knowing, and the ability to evaluate and learn from own experiences through critical reflection.

Michael Eraut's (2007 and 2008) more pragmatic visualisation of an epistemology of professional practice (based on empirical evidence of how professionals actually work), complements Railin's conceptions. He notes that the basic epistemology of practice involves the professional actions of:

- − *Assessing situations* (sometimes briefly, sometimes involving a long process of *investigation and enquiry*) and continuing to monitor the situation;
- − *Deciding what, if any, action to take*, both immediately and over a longer period (either on one's own or as a leader or member of a team);
- − *Pursuing an agreed course of action*, performing professional actions - modifying, consulting, evaluating and reassessing as and when necessary;
- − *Metacognitive monitoring of oneself*, people needing attention and the general progress of the case, problem, project or situation; and sometimes also learning through reflection on the experience.

His empirical observations of how people learn in workplace settings, either as explicit learning activity or a bi-product of work, provides the basis for new and useful tools to aid observation and thinking.

There is one particular type of learning experience that the life-wide curriculum can usefully open up. *Immersion* is a metaphor to describe a state of being which can have both negative consequences – being overwhelmed, engulfed, submerged or stretched,

and positive consequences – being deeply absorbed or engaged in a situation or problem that results in mastery of a complex and demanding situation. *Being immersed in* an extremely challenging experience might be very uncomfortable but it is particularly favourable for the development of insights, confidence and capabilities for learning to live and work with complexity and messyness. It is in these situations that we need to draw on both our intellectual and our creative resourcefulness. SCEPTrE is currently exploring the meanings of immersive experience (Jackson and Campbell, 2008) and the contexts in which it occurs. It is clear that a life-wide curriculum offers much more opportunity for recognizing immersive experiences than a more traditional curriculum.

CHANGING PERCEPTIONS OF CURRICULUM

A life-wide curriculum seems to be in tune with the complexity of learning experiences required to prepare people for a very uncertain world – it's a common sense idea. The common sense proposition is that a life-wide curriculum holds more potential for learning than a traditional curriculum which combines and integrates academic study and practice with a year long work placement. Furthermore, there are many good arguments drawn from learning science that support the need for more complex conceptions and experiences of learning in the higher education curriculum such as would be supported by a life-wide curriculum. However, having an inspiring idea and persuading a university to embrace the idea and the practices that would give concrete substance to it are entirely different matters and SCEPTrE is only at the first stage of a long process of introducing the university.

Strategies that have been employed to date include:

1. *Influencing conversations*: rather than central proclamations the explaining/persuading process has involved many 1:1 conversations and the circulation of an ideas paper to the champions who have worked with the Centre and to lots of people who support learners and learning outside the formal curriculum. This personalized introduction to the idea has helped people come to terms with it and see how it might have meaning for them in their areas of practice. The accumulated feedback has been useful in refining the idea and developing confidence in it.

2. *Gaining the Vice Chancellor's support*: fearing that our embryonic ideas might be scuppered if they were progressed through the institution's Committees we took our ideas to the VC who was receptive and agreed to provide a supportive top statement for our ideas paper. '*Surrey enjoys an unrivalled position with its professional training year and employment record for our graduates which many years ago grew out of a clear understanding of how to relate higher education to the needs of employers and employees. SCEPTrE's ideas for introducing the concept of a 'life-wide' curriculum to address learning in a complex world, could prove equally valuable in helping our graduates succeed in the future and I encourage you to support this initiative*'. This endorsement of the life-wide curriculum idea conveyed the message that there was support from the top for the idea.

3. *Identifying existing practices* that support the ideals of a life-wide curriculum and provide the means to enable these wider conceptions of learning to be recognized, applied and valued (1, 2, 3 and 7 Table 1). These existing practices are being supplemented by new infrastructures and practices (4, 5, 6, 8 Table 1).

TABLE 1
Summary of the new practices and tools being developed, extended or adapted to support a life-wide curriculum. Practices that encourage learning through and reflection on experience, and the development of a culture of sharing experiences

1) Personal Development Planning and 2) e-portfolios	It is the reflective capacity and ability to engage in what amount to action learning processes that enable learners to represent and record their learning and engage in productive conversation about the learning that emerges from a life-wide curriculum. Reflective tools, use of electronic portfolios and institutional PDP policies enable the idea of a life-wide curriculum to be operationalised.
3) Mentoring (peer to peer, staff –student, student-staff) and Student Advisors	**There are many mentoring schemes around the campus. The process is one of identifying the leaders of the schemes and persuading them that there is merit in considering the idea of how their scheme might be part of a life-wide curriculum. The learning through experience award also requires its own mentoring support so new group of mentors is being developed.**
4) Story telling competitions	SCEPTrE organises an annual story telling competition focused on important aspects of experiential learning. The last competition (January 2008) focused on stories of immersive experience. 27 stories were submitted and made available through a wiki. The stories have been analysed and the important characteristics of immersion have been identified.
5) Shareexperience.net	This web site is for Surrey students involved in personal development experiences outside of the curriculum, such as the placement, part time jobs and extra curricular activities such as volunteering, mentoring and travelling. It is similar to a social networking site, where students can share experiences and through reflection, support and mentoring can learn from these experiences to enhance their personal development and maximise the opportunities university offers, outside of the classroom. When fully developed *the site* will also host useful resources, videos, articles, podcasts and links, covering a range of topics such as how to use software packages to information about graduate jobs, what employers are looking for and news direct from the Students Union that will all soon be available on the site.
6) Surrey Island Second Life	A small project to examine, like many universities, the educational of this type of virtual world.
7) Professional Training Frameworks for placement learning	Each department within Surreys Year long Professional Training Scheme currently operates its own schemes of preparation, support and assessment tools although all most comply with the regulations for the scheme.
8) Learning through Experience Award	The Experiential Learning Award is made through the University of Surrey Students' Union. It seeks to support and extend the idea of learning as engaged social practice by providing a framework within which social practice contexts other than traditional professional training environments can be recognized and the learning derived from experiences in these contexts can be valued. The process standards can be found at: www

4. The development and trialing of new approaches to enhance opportunity for experience-based learning and new infrastructures to support this type of learning enterprise including:
   - A new Learning through Experience Award that can be customized to suit most significant experience-based contexts.
   - A co-curricular Cultural Academy to enable students from diverse cultural backgrounds to share their native cultures and enquire into the University campus as a multicultural society.
   - A new student organization 'CoLab' to foster collaboration between students, the university and business.
   - 'Story telling' competitions to encourage and value stories of rich experiences in which important learning occurred.
   - A new social networking site to encourage students to share experiences and the insights they have gained through such experiences.
   - Initiation of a project to examine the educational potential of Second Life and purchase of Surerey Island.

5. *Persuading a small number of people* who support or employ students around the campus to try out the new Learning through Experience award framework.

6. *Presentation of the idea outside the institution.* There have been a number of opportunities to present the idea of a life-wide curriculum in public audiences, to rehearse the arguments for such an approach and to gain feedback from audiences that do not have interests in maintaining the status quo. Such opportunities permit the rehersal of arguments, and expose ideas to other institutional contexts but are lower risk in the sense that if people don't like the ideas it is not going to damage the chance of introducing the ideas back home.

All these strategies are aimed at making the idea of a life-wide curriculum more concrete and meaningful to practitioners. Only then will we begin the process of formally selling the idea to the institution through the many Committees that have the power to support or criticize the idea. The first step in this more formal process is the presentation to our Steering Committee in July 2008.

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Occupational identity of police recruits

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This paper reports on a study of police students' motivation to join the NSW Police Force (NSWPF), their identification with the policing profession, and their reasons for choosing their entry path to the NSWPF. The study has important implications for action to reduce the rate at which police leave the force. It was conducted in 2006 and 2007 among students enrolled in two policing degree courses run under collaborative arrangements between Charles Sturt University (CSU) and the NSWPF. In Stage 1, 168 students from the two courses were surveyed at the point of entry to their degree about their identification with their future occupation as officers in the NSWPF (anticipatory socialisation). There were follow-up surveys of the students from one of the courses at two later points, just prior to their field placement in a police station (Stage 2), and after the placement (Stage 3), to see whether their identification with the policing profession in general, and their motivation and desire to join the NSWPF in particular, were affected by the experience and whether their views differed from those of new entrants. The examination of their identity patterns was also important as a strong occupational identity has been observed to be related to successfully completing the course. The survey has been used to enhance the value of the courses for trainees.

Keywords: police recruits university education occupational identity

INTRODUCTION

Police recruits begin their education aspiring to be part of 'the policing family' and with high ideals. Maintaining these aspirations and developing a positive occupational identity throughout a university course is a challenge to educators, especially given recruits' expectations of an action-oriented occupation and the significant increase in the length and academic content of pre-service police education in NSW since the 1981 Lusher Report on the NSWPF (Wood 1997).

This paper reports on a study of students' motivation to join the NSWPF, their identification with the policing profession, and whether university education and the experience of work placement in a police station (ie. where they are confronted with the realities of operational police work) strengthens or weakens their occupational identity. It also compares the results for four sub-groups, based on two entry paths and two stages of training.

RELEVANT LITERATURE AND CONTEXT OF THE RESEARCH

Occupational identity conveys an understanding of how people *compare* and *differentiate* themselves from other professional groups (Tajfel & Turner 2001). The initial years in any profession can be critical years. It is the time when recruits develop their occupational identity by sharing attitudes, values, knowledge, beliefs and skills with others in the 'defined' group, and relating these to their professional

role. It is a time of developing 'working models', through self-analysis in group-based circumstances, that can carry the recruit through his/her entire career (McGowen & Hart 1990).

Occupational identity develops over time as recruits interact with others in their 'in-group'. Fielding (1988: 112) argues that it is a mixture of training and practical experience. Van Knippenberg's (2000) review of empirical studies of the relationship between organisational identification, work motivation and task performance indicates that identification is positively related to both, but only if the social identity is 'salient' in an organisation and high performance is perceived to be in the organisation's interest.

Published research on the relationship between recruits' expectations of policing, their identity as police, and their experiences of police education and training is limited in Australia. Chan's mid 1990s study (cited in Chan et al. 2003) of recruit education and socialisation in NSW indicated that police recruits begin their training with "high expectations and lofty ideals", as did Fielding's (1988) earlier study of British police forces. Chan et al. (2003:112) also found that after the first period of placement in police stations, recruits began to transfer "their allegiance to the field of operational policing building social capital as police officers". However, Chan's study is primarily focused on the transition from the Police College to operational policing, and there have been substantial changes in police education in NSW since then.

Harr (2005: 431) examined reasons why US recruits 'drop out' within the first 16 months of their policing careers and found that resignation was self-initiated, academy-initiated, or department-initiated. According to Haar (2005: 231) "[r]ecruits who self-initiated resignation experienced a conflict between the version embodied in their ideal and the reality of policing in practice".

Currently, the NSWPF has a significant rate of resignation by early career officers. This has negative implications for the organisation, especially through the loss of corporate experience and the financial cost (eg. it means that the cost of police education and training is only partially recovered). Thus, it is essential to identify factors that might limit this attrition. Occupational identity and the impact of police training on occupational identity are key factors that need to be explored. Research has shown that occupational identity, a strong desire to belong to "the police family" (Sato 2003) and job satisfaction are important factors in lessening the attrition rate in policing (Lynch & Tuckey 2004; Victoria Police 2002).

METHODOLOGY

A cross-section of policing students from the following four subgroups were surveyed: (1) new entrants into the Bachelor of Justice Studies (Policing) (BJS(P)); (2) new entrants into the Associate Degree in Policing Practice (ADPP); (3) second year BJS(P) students pre-practicum (ie. police station placement); and (4) post-practicum students. The students were surveyed about: (i) their identification with the policing profession (ii) their reason for choosing policing (which helps identify the sources of their identification), and (iii) their reason for choosing (BJS(P) or ADPP) as an entry path. This paper reports on the findings on these three issues. In addition,

comparisons are made, first, between the two groups of entrants and, secondly, between BJS(P) students at the three different stages of their degree to establish any changes in their occupational identity after one year of study, and after the practicum.

The policing identity scale was adapted from Brown et al (1986). For purposes of analysis, the results from responses to seven questions were collapsed into a single identity score. Each question was answered on a 5 point Likert scale. An internal consistency reliability check was done on these questions using Cronback Alpha.

The courses

CSU and NSWPF collaborate in providing two entry pathways into NSWPF. The principal path is through the ADPP, which is 18 months long and taught at the NSW Police College campus at Goulburn, principally by CSU's School of Policing Studies. The second entry path is through the BJS(P), which is a 3 year degree, the first 2 years of which are taught on a university campus (Bathurst), with the final year consisting of the major part of the ADPP, taught through the Police College (Jennett & Bull 2006). The ADPP is marketed to those who are sure they want a policing career, targeting people with life and work experience. The BJS(P) is marketed to school leavers, who are too young to enter the ADPP or who are unsure that policing really is the career for them.

RESEARCH FINDINGS

The remainder of the paper sets out the key findings in relation to four groups in terms of demographic characteristics, occupational identification and aspects of the courses. Table 1 summarises the responses for each group to the major survey questions.

The demographic characteristics of recruits:

The survey was given to 59 entrants to the BJS(P) and 61 entrants to the ADPP. As expected, the BJS(P) recruits were all younger (17-22 years old) whereas the ADPP recruits had a greater range of ages, with some in their forties. Both had a majority of males, but this was especially so for the ADPP (72.1% compared to 59.3%). ADPP entrants were more likely to come from Sydney (35.7% compared to 33%) or other coastal regions (39.3%, compared to 27.1%) and less likely to come from regional NSW (21.4% compared to 37.5%) These figures suggest that rural entrants tend to enter policing at a younger age and through the 3 year degree.

Another contrast between the two samples of entrants was that while three quarters (76.9%) of the BJS(P) entrants had come to the degree straight from school, almost all (96.7%) of ADPP entrants had not. A majority (65.8%) of ADPP entrants who had not come straight from school had worked in the intervening period, whereas BJS(P) entrants who had not come straight from school were less likely to have worked (43.9%) and more likely to have studied, undertaken training or travelled. Some ADPP entrants (3.8%) had been in other services (army, navy, air force).

The second year BJS(P) students, who were surveyed pre and post their field placement, had a similar demographic profile to the BJS(P) 2007 entrants, though there were a few in older age groups. The pre-practicum sample was 30 (53.3% males and 46.7% females). The post-practicum sample was 48 (52.1% male and 47.9% female) and consisted of two cohorts, one from each of 2006 and 2007.

It has been our observation as teachers in these courses that students, who are academically struggling but highly motivated to become police officers, usually manage to complete their course through sheer determination. When teaching ADPP students, we noted that a strong motivation to be a police officer was very important to remaining in the course even when the student was under considerable personal strain. Those observations also suggested that having a member of their family in policing or other services appeared to also give them a strong commitment.

For that reason we decided to include a question about *relatives in the police force*. Of the BJS(P) entrants, 32.2% had a relative in the police and 31.1% of ADPP entrants. These are higher proportions of the entrants than of the pre-practicum (20%) and post-practicum (16.7%) groups. Because this is not a longitudinal study we can only guess at the possible reasons for this difference. It may simply reflect the backgrounds of different cohorts. One would expect that students with family and/or friends in policing would have realistic expectations of the profession for which they had signed up. Therefore we would not expect a high attrition rate among them, which these figures suggest could be the case. However, such young people might also feel under some pressure to follow other family members into a profession for which they subsequently become aware that they are unsuited. This is the sort of issue which could only be solved with a longitudinal study of individual students.

Occupational identification

The survey asked a group of questions about identification with the policing profession. The first of these was *whether they wanted to become a member of the NSW Police Force*? Unsurprisingly, 81.4% of BJS(P) entrants strongly agreed with this statement, 15.3% agreed but 3.4% were unsure. Of the ADPP entrants a slightly higher proportion (88.5%) agreed strongly with the statement and a lesser proportion merely agreed (9.8%) or was unsure (1.6%). This is to be expected because those entering the ADPP are only giving themselves the option to enter the NSWPF, whereas those entering the BJS(P) are entering a longer developmental trajectory and they have the option to transfer to the Bachelor of Social Science (Criminal Justice) should they decide that NSWPF is not for them. It should also be noted that some who decide *the* BJS(P) is not for them transfer to the ADPP.

When asked *whether they wanted to become a member of the NSW Police Force* 93.3% of the pre-practicum group strongly agreed and 6.7% agreed. No one felt unsure. However, in the case of the post-practicum group 81.3% strongly agreed, 14.6% agreed and 4.2% were unsure. These figures suggest that after a period of first hand experience of policing, some students become less sure that they want to become a member of the occupation. This suggests that the practicum experience is a useful reality check for some in that it gives students a period where they can consider their options before becoming fully committed to their chosen profession. This should reduce 'self-initiated resignations' of sworn officers for the NSWPF.

We asked the entrants *whether they had always wanted to be a police officer*? Of BJS(P) entrants 61% answered 'yes' to this question and 73.3% of ADPP entrants. The percentage of BJS(P) students answering this question positively increased at every stage with 70% of the pre-practicum group and 76.6% of the post-practicum group answering this way. This suggests that long term commitment to the goal of becoming a police officer is crucial to students successfully completing the course, which lends weight to the observation by teaching staff that people who were highly motivated in the first place are the ones who successfully complete the course.

We then went on to explore *what had made them want to become a police officer*? Responses covered three categories of motives: (i) personal motives – career, variety, lifestyle; (ii) social motives – making a difference, in the community, helping others; (iii) experience – family/friends, TV role models, positive encounters with police. Personal motives were the most important for all groups, although these were often combined with social motives (eg. "a rewarding career where I could make a difference and help others"). Among BJS(P) students, personal motives appear to have become more important over time (representing 45.4 % of responses from post-practicum students, compared to 36.1% and 36.0% for students in the two earlier stages of the course), with the number mentioning social motives declining at each stage, from 21.3% among entrants to 10.0% for pre-practicum, and 5.2% for post-practicum. The ADDP entrants were slightly more likely than BJS(P) entrants to have personal motives (40.9%, compared to 36.1%) and positive experiences of policing (15.9% compared to 12.8%). Interestingly, the number of BJP(S) students indicating a positive experience of policing increases significantly from entrant to pre-practicum (12.8% up to 22.0%), but then falls (to 16.9%) post-practicum. For all four groups only a small number identified the role of family and friends in policing as a relevant factor (4.3% entrants, 6.0% pre-practicum, 4.0% post-practicum, and 3.1% ADDP).

We also asked whether the entrants felt *strong ties with the profession* and more than half (BJS(P) 53.6% and ADPP 58.3%) agreed that they did. The calculated police identity score for BJS(P) entrants was 4.78 (standard deviation of 0.29). For ADPP entrants it was 4.74 (standard deviation of 0.31). Our expectation that the ADPP entrants might have a stronger police identity score proved not to be the case and there was no significant difference between the entrants to the two courses. With reference to *whether they felt that they had strong ties with the police,* 46.7% of the pre-practicum group and 55.3% of the post-practicum group said yes. The mean police identity score was 4.61 (standard deviation of 0.48) for the pre-practicum group and 4.56 (standard deviation of 0.64) for the post-practicum group.

Student Perception of the Courses

In answer to the question *why did you choose to enrol in BJS(P)/ADPP* as expected, the highest proportion of ADPP entrants (49.3%) said that they saw it as shorter, quicker, easier option than the three year degree, though 5.4% said they were unaware of the degree option. Others (17.8%) said that they wanted a more practical and challenging experience than the degree option. Among the BJS(P) entrants 19.5% took a long term view and said they saw the degree as providing better promotion prospects and improving job security as opposed to the ADPP. To these can be added

5.8% who wanted a degree to fall back on in case they decided on a career change. Just over a quarter (27.5%) said that they wanted a good grounding and preparation for their career and more life experience before they became police officers.

The highest proportion of students in second year BJS(P) (22.7% pre and 28.6% post field placement) identified lack of maturity and a desire for more life experience before they became a police officer as the reason why they chose to enrol in the full university degree. Again, as with new entrants, a substantial proportion thought that their promotion prospects and job security would be improved by doing a degree, some identified the desire to gain background knowledge and prepare themselves well for their career and others wanted to experience university life.

As mentioned previously, maintaining BJS(P) students' connection with 'the police family' to keep their motivation level up is a challenge in a 3 year degree. There three methods of achieving this are: a field placement in the middle of second year; four residential schools at the Police College throughout second year; the introduction in 2006 of a subject in Police Investigations taught by a serving police inspector Interestingly, students surveyed pre-practicum rated the usefulness of practicums (60%), residentials (23.3%) and Police Investigations (50%) lower than students surveyed post-practicum (practicums 91.7%, residentials 72.9%, Police Investigations 70.8%). These ratings would tend to suggest that all three of these measures are achieving the goal of preparing students for operational policing, but that this is not appreciated by some students until they have actually experienced operational policing.

CONCLUSION

Due to space constraints this paper is only an introduction to the survey data on new entrants in the BJS(P) and ADPP and of the three stages of progression through the BJS(P). Nevertheless, it demonstrates that students in the BJS(P) consider their long term career options and likely progression in policing when they choose their entry path. The BJS(P) results suggest that those who were highly committed to the occupation in the first place are likely to complete their studies. The entry path does not appear to be an indicator of strength of policing occupational identity. Deeper exploration of the findings presented here requires a longitudinal study.

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TABLE 1 : Survey - Occupational Identity of Police Recruits

	ADPP New entrant 2007	BJS (Pol) New entrant 2007	BJS (Pol)-Yr 2 Pre-practicum 2007	BJS (Pol)-Yr 2 Post-practicum 2006 & 2007
Number in Sample	61	59	30	48
	All values below are percentages of the total sample, unless otherwise stated			
Demographic Data				
Gender				
Male	72.1	59.3	53.3	52.1
Female	27.9	40.7	46.7	47.9
Age				
17-22	41.0	100.0	96.6	93.8
23-32	41.0	0.0	3.4	4.1
33-47	18.0	0.0	0.0	2.1
Home town				
Bathurst Region	8.9	18.6	29.6	8.9
Sydney	35.7	33.9	25.9	35.7
Other Coastal NSW	39.3	27.1	33.3	39.3
Other Regional NSW	12.5	17.0	7.4	12.5
ACT/Other states	2.8	3.4	3.7	3.6
Did you come direct from School to University?				
Yes	3.3	76.3	50.0	52.1
No	96.7	23.7	50.0	47.9
Not Direct from School-Other Activity	*(These figures are responses only from those 'Not direct from School' and include multiple responses from some participants)*			
Employment	65.8	42.8	57.1	47.1
Other study/training	21.5	28.6	33.3	38.3
Travelled	7.6	28.6	4.8	2.9
Army/Navy/Air Force	3.8	0.0	0.0	2.9
Other	1.3	0.0	4.8	8.8
Do you have any relatives who are or who have been in the police?				
Yes	31.1	32.2	20.0	16.7
No	68.9	67.8	80.0	83.3
Occupational Identity				
Do you want to be a member of the NSW Police Force?				
Strongly agree	88.5	81.4	93.3	81.2
Agree	9.8	15.2	6.7	14.6
Unsure	1.7	3.4	0.0	4.2
No	0.0	0.0	0.0	0.0
Have you always wanted to be a police officer?				
Yes	73.3	61.0	70.0	76.6
No	26.7	39.0	30.0	23.4
What made you join the police?	*(These include multiple responses from some participants)*			
Personal motives	40.9	36.1	36.0	45.4
Social motives	22.7	21.3	10.0	5.2
Positive experience of police	15.9	12.8	22.0	16.9
Combination of above	20.5	29.8	32.0	32.5
Do you feel that you have strong ties with the police ?				
Yes	58.3	53.6	46.7	55.3
No	41.7	46.4	53.3	44.7
Calculated Policy Identity Score	*(These figures are based on a Likert Scale of 1 to 5)*			
Score	4.74	4.78	4.61	4.56
Standard Deviation	0.31	0.29	0.48	0.64

Academic standards for work integrated learning: a case study from urban and regional planning

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Work integrated learning (WIL) may be gaining a greater profile within higher education but the question of academic standards for WIL is central to securing its place in a quality learning and teaching agenda. This presents distinctive challenges. The purposes of WIL are many and varied. It is readily aligned to a range of topical imperatives for universities. The diverse parties to WIL activity – students, employers, educators, professionals – bring their own perspectives to these debates. The development of academic standards has to be cast in this context. Creating a constructive meeting place between academic standards and WIL requires a considered re-appraisal of both.

This research-based paper reports on a project conducted in Australia and funded by the Carrick Institute for Learning and Teaching in Higher Education. The project team comprises members from RMIT University, Griffith University and La Trobe University. The project investigates academic standards and associated assessment practices through interviews, focus groups and consultations with key parties involved in practice education in urban and regional planning. Whilst the project focuses on one particular industry, the paper emphasises findings that are transferable to other disciplines and professions. The paper makes a contribution to the current design of academic standards and assessment practices suited to the challenges of high quality WIL.

Keywords: academic standards, assessment, work integrated learning, urban and regional planning, placements, learning outcomes

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INTRODUCTION

This paper addresses the question of academic standards in work integrated learning (WIL). It introduces broad considerations drawn from the literature and examines them through a particular case study that focuses on the profession of urban and regional planning[*].

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[*] The Planning Institute of Australia, the professional body, describes the work of planners in this way: "Planners are professionals who specialise in developing strategies and design the communities in which we live, work and play. Balancing the built and natural environment, community needs, cultural significance, and economic sustainability, planners aim to improve our quality of life and create vibrant communities" (PIA, 2005, p. 1).

The case study is the result of a project funded by the Australian Learning and Teaching Council (ALTC, formerly known as the Carrick Institute for Learning and Teaching in Higher Education). The project team comprises staff from RMIT University, Griffith University and La Trobe University, in Australia. The project falls under the ALTC priority program on academic standards and assessment practices. The ALTC is a government funded body charged with enhancing the quality of higher education in Australia.[*]

The paper represents an attempt to confront normative questions: how should we conceptualise academic standards in WIL; how do we best put them into practice? The case study begins from an empirical base: how are academic standards understood presently by participants in WIL; how in practice are they realised? These are valuable questions to pose in the context of WIL since they focus attention on the perceived outcomes of such student learning experiences and the relation of these outcomes to the academic programs in which students are enrolled.

For the purpose of this paper, the WIL activities are assumed to be ones that attract credit within an academic program. That is, they count towards successful completion of the overall degree. Of course, WIL takes many forms. In this paper, the case study is of structured work placements in urban and regional planning. Students spend time within a host organisation undertaking learning activities in pursuit of objectives defined by the relevant university course of study.

ACADEMIC STANDARDS AND STUDENT WORKPLACE LEARNING: A CONTRADICTION IN TERMS?

Within Australia, federal government regulations determine whether or not students may be charged fees for courses that have a work-based component to them[†]. Essentially, where the student is simply on work experience in industry, they can only be asked to pay towards the administrative costs borne by the university in organising and monitoring such experiences. If however, the university can claim to be directing and managing the student's learning whilst they are engaged in industry activity, then income can flow to the university in the same way as a conventional university-based course.

These regulations have caused some consternation. Firstly, they have tightened up the conditions for funding of industry-related student experiences. Secondly, they have embedded within them some questionable assumptions about what it means to direct and manage student workplace learning. Yet, on the positive side, the regulations have crystallised distinctions in higher education between experience and learning in the workplace. What are the implications for academic standards? Essentially, courses generating student fee revenue should be able to demonstrate that enrolled students are engaged in learning that has all the hallmarks of curriculum design expected of any university course, including an articulation of academic standards. Work-based courses which do not attract revenue can exercise their discretion over the extent to which student work experience is set within academic curriculum design.

Addressing academic standards in Australia, James (2002) has argued that for too long universities had relied on an 'input' approach to standards in contrast to 'outcomes'. Crudely put, if universities adequately gate-kept student entry, then reasonable standards at exit could be assumed. The pendulum has now swung. Academic standards now speak loudly to what it is that students emerge with from their program of study.

What students emerge with can be understood as the sum total of a multitude of courses they have completed en route. This can be aggregated with various formulae to provide a grade point average or an overall class of degree. But the attention to outcomes is associated with another significant trend in higher education. The capability movement has sought to bring a different kind of coherence to academic programs (Stephenson & Yorke, 1998). With the whole being seen as more than the sum of the parts, a set of courses produces graduate capabilities that the program is designed to deliver. The logic goes further. Agree on the graduate capabilities for your program, and map backwards to define how each component course contributes to their acquisition.

Capabilities are about intellectual prowess in a given field of study – yet, not solely. Capabilities are intended to be more holistic than this (O'Reilly, Cunningham & Lester, 1999). They are about the way we act and the way we are – the abilities to do and to be. Capabilities broaden out from the intellectual to include moral education and practice education. Capabilities have an uncertain relation to both 'competencies' and to 'attributes'. Competencies are generally held to be rather more behaviourally and skill oriented. Attributes are largely used to talk about what can be expected of any student graduating from a given university, no matter what their field of study. But inevitably these distinctions are somewhat artificial and there is a good deal of juggling between them.

All this has direct relevance for our understandings of academic standards and student workplace learning. Those standards, one way or another, have to address what it is that students come out with from their WIL activity. And what they come out with can be thought about in terms of capabilities, or competencies, or attributes – or all three. But what do we mean by these standards being 'academic'. Do we now understand academic to be more than 'intellectual', to be more than the exercise of critical thought? Is it academic to learn how to 'do' or how to 'be'? Some might well argue that a new vocationalism is threatening scholarly traditions (Symes & McIntyre, 2000); or, that employers and professional accrediting bodies are gaining too much sway over the academic program, too much ground in defining what student outcomes are desirable (Gonczi, 1994). Academic standards in WIL are contentious territory.

ASSESSMENT AND STUDENT WORKPLACE LEARNING: SOME POINTS OF TENSION

In some respects, reconciling academic standards with WIL may seem fairly straightforward. Surely, all one has to do is set assignments that can be assessed in much the same way as any other piece of academic work: a case study; an organisational analysis; a practice evaluation; a reflective essay. At one level, of course this resolves the dilemmas. One can assess from the comfort of the marking room the student's display of analytic, critical and reflective capability. The

application of pre-determined assessment criteria may help ensure consistency (at least according to the recently received wisdoms of good assessment practice), and grades can be moderated as others view the textual evidence. What's the problem? Naturally, it depends. It depends on what it is one is aiming to assess, on what it is that academic standards are standards of.

These kinds of written assignments bring academic standards back into the purview of the university. They are extrinsic, existing apart from the workplace experience; and they can be transported readily into the university. They exist outside of the student who produces them – a 'piece of work' that can be handed in (by the due date). They are evidence that the student has learned how to do the academic task. But if we are talking about authentic assessment, in the sense of assessment fitting to the learning environment, then maybe this solution is not altogether hitting the mark (Wiggins, 1998). It's a solution that reinforces an established understanding of academic standards derived from university-based learning activities. It preserves a sense of academic that is removed from the student experience in the workplace. Perhaps that is inevitable, and not altogether undesirable. If the learning objective is for students to stand aside from the workplace experience and show they can analyse, critique and reflect from the university vantage point what they found in the world of work, then perhaps this is a valid way to do it. Let professional standards take care of the capabilities students display in the workplace, and preserve academic standards in the university domain.

But we can ask: is it possible to have a sense of academic standards not quite so removed from the immediacy of workplace learning that is at the heart of WIL? Are there approaches to academic standards and assessment practices that do not reinforce the separation between what is inside and outside the university domain? Perhaps we need a bit more of a re-think. There are other assessment literatures that can help us with this.

The achievement of complex (or divergent or emergent) learning outcomes has become a topic of interest in higher education that seeks to foster "deep learning". The assessment of complex learning is, to coin a phrase, complex (Knight & Banks, 2003). Considerations here are questioning the wisdoms of using pre-set assessment criteria as the preferred practice. Something important can be lost when a complex achievement is reduced to the aggregate of its parts. Assessors, cognisant of this, are likely to make global judgements and operate with a level of indeterminacy not captured in espoused principles of assessment criteria (Sadler, 2008). The assessment of complex learning outcomes is placing the spotlight once again on the exercise of judgement by assessors; the place of tacit knowledge in the expertise that goes into judgements by experienced assessors; and, the value of engaging students in learning how to develop judgement-making (expertise in assessment) through the assessment process itself (Boud, 2007). Clearly, this line of thinking stands in quite stark contrast to an emphasis on measurement, formulae and ever more finely grained criteria as the means to securing reliability and validity in assessment.

It also suggests a rather different emphasis in our approach to formative (low stakes) and summative (high stakes) assessment. In the context of WIL (employability agendas in particular), Knight and Yorke (2003) argue strongly for using learning oriented assessment that is predominantly low stakes and formative in nature. They

question the extent to which the complex learning associated with workplace environments can be captured in a trustworthy way in summative assessment beyond a pass / fail judgement, which may be required especially where professional accreditation looks for warrants of fitness to practice (Knight & Yorke, 2006). Limits to trustworthiness have to do with: contingencies impacting on the learning environment; unpredictability of learning outcomes; and, variability in the quality of learning resources and processes (involving, amongst other things, the contribution of workplace supervisors).

OBSERVATIONS FROM A CASE STUDY IN PLANNING PRACTICE EDUCATION

The ALTC funded project into planning practice education had as its rationale the notion of an inclusive and participative approach to generating academic standards in WIL. That's to say, the project aimed to involve all key stakeholders of structured work placement activities in both its inquiry and action phases. The project confined itself to those planning programs accredited by the Planning Institute of Australia (PIA). It engaged planning educators, planning workplace supervisors and planning students in, variously, interviews and focus groups. It has also consulted with the national education committee of PIA and the association of planning Schools. A review was undertaken of planning programs across Australia, and their forms of practice based education. Literature relevant to academic standards in planning practice education was also reviewed.

Whilst the project has yet to complete all of its inquiries, there are some compelling observations that can be made from the empirical study to date. Perhaps a useful place to start is the overall observation that academic standards and assessment practices in planning practice education occur in a set of overlapping and fluid contexts. The job of a planner, and the institutional settings in which they work, span a great spectrum and are constantly on the move (Thompson, 2007b). The history and legislative framework for planning varies considerably from one state jurisdiction to another (Williams, 2007). The profession has a debateable boundary and status (Marshall, 2007). The labour market has an undersupply of qualified planners (PIA, 2004). University resources for planning education are stretched (PIA, 2004). Meanwhile, the professional accrediting body has recently commissioned a review of planning education (Gurran, Norman & Gleeson, 2008). At the same time, the significance of planning and the built environment for social, economic and environmental prosperity has if anything been gaining in recognition (Thompson, 2007a).

It was striking from the early phases of the inquiry that all planning programs unequivocally endorsed the importance of practice education. Planning educators interviewed for the project (from eleven of the planning schools with professional accreditation) were clearly of the view that professional and practical aspects were foundational to their programs, and that practice education had huge benefits for students and employers. However, there was no consensus amongst them as to how it was best conceived and delivered. There was a commonly expressed ethos of experiential and reflective learning as underpinning practice education. But the respective contributions of university- and work-based learning environments to practice education were construed somewhat differently across the planning schools.

Four main approaches were discernible: the provision of brief encounters with practice; project-based work; structured work placement; and work experience. Structured work placement, the primary focus of the empirical study, was clearly just one form of practice education amongst many to be found in planning programs.

There was general preference amongst the planning educators that assessment should encourage reflective rather than mechanistic practice. The interviews suggested an affiliation with the idea that assessment should foster a critical exploration by students of what they learned through exposure to work and professional contexts, and what in their practice they might improve or do differently. This was seen to be moving beyond understanding and applying workplace skills and competencies. Some placed special weight on the importance of developing ethical practice. The assessment instruments included group work project reports, seminar presentations, case studies, journals, diaries, reflective reports, planning capabilities portfolio, and employer reports. As a rough rule, the less university-based the course, the less likely it was that assessment would be graded beyond pass / fail. Where grading occurred, the planning educators indicated that they set out the expectations and assessment criteria in much the same way as conventional university-based courses. Reasons for using (non-graded) pass / fail assessment included difficulties in: ensuring control over the quality of learning experiences; working with different levels of employer experience; and, moderating assessment appropriately.

Observations can also be made from emergent themes arising out of interviews with workplace supervisors engaged in structured work placements. Placements are not easy to secure. The labour market can be a factor here, with some host organisations seeing benefits in student workplace learning as a recruitment strategy in times of low supply. For such organisations, there may be an underlying motivation to try to ensure students have a good experience of the workplace. Workplace supervisors spoke in terms of a guided immersion for their students into the realities of employment and professional practice. Many were influenced by their own experiences of placement and / or work supervision: positive ones to be replicated; negative ones to be rectified. There were striking examples of workplace supervisors with no formal training in student supervision being acutely aware of the harm that punitive and judgemental feedback can cause – and the barriers this can create to learning.

For many work place supervisors, a key aim was to see the student grow in confidence. They were sensitive to the differences in students, from those who seemed naturally comfortable in the workplace to those who were uneasy and diffident. They spoke of the importance of communication, of working alongside others, of learning how to deal with people, and learning how to make decisions. Making decisions and negotiating change are salient themes in the planning profession. They require sophisticated capabilities that are analytic, interpretive, ethical, communicative, and sometimes transformative. Work placements were perceived by workplace supervisors as laying the ground for complex achievements of this kind. The workplace needed to allow for mistakes but sometimes in a context of high risk – planning processes have major consequences, and for private consultancies there are reputations to protect. A watchful eye was needed, but not an intimidating one. Not surprisingly, workplace supervisors largely expressed the view that universities were about learning to think and workplaces learning to do.

Planners are very busy people. Whilst some were prepared to invest highly in students for later benefits, there was general consensus that involvement in detailed and time consuming supervision and assessment on their part was not a realistic option. Indeed, it was evident that many hadn't found the time (or maybe inclination) to read and absorb much of the university course documentation with which they had been provided. Supervision and feedback largely occurred on the basis of day to day assistance with specific work tasks, 'checking in' and getting alongside, perhaps with periodic appointments, and all supported in most instances by team colleagues. Overall, the view was that student assessment was the responsibility of the university. Submission of a simple report on their experience and observations of a student was seen as feasible. Whilst some appeared to favour an assessment template, others thought such an instrument would be more useful for students than for supervisors. Most agreed in principle that a negotiated learning plan would be valuable, preferably with some guidance as to broad areas from which the student would create their individual learning goals and tasks. It was almost a taken for granted assumption that students would exercise agency in shaping their learning experience within the workplace context.

Observations from the project's engagement with the student perspective are tentative at this stage; yet again, there are some salient messages to have emerged from discussions held to date. Most students were very positive about the value of their work placement. They felt it gave them experience of what planners actually do and how they do it. It acted both to introduce them to planning practice and to networks for future employment. They gained confidence in their abilities to be planners, accomplish planning work and develop as professionals. Work placement was a steep learning curve, according to many. It was exposing and testing – there could be no hiding in the shadows. Of course, work placement wasn't a happy experience for everyone. Expressed difficulties related to mundane work tasks, absent supervisors, troubles with other staff and balancing placement commitments with other study and life demands.

Though some began to discount the value of university learning, and were critical of how little it had prepared them for the 'realities', others believed that knowledge and theory from university was a part of what they did and meant they noticed what was going on in the workplace. At some level, students appeared aware of the debates surrounding the respective roles of workplace and university learning – and often had opinions about this. As their confidence to perform grew, some were attracted by the paid work on offer and spoke rather dismissively about what university had left to offer beyond the award itself. But many others had pondered the importance of critical thinking and analysis, and wanted the university to forge greater connection between their increased professional competence and their abilities to be critical and reflective practitioners. A significant theme in this respect concerns the way in which students very much located their experience of structured work placement within the academic program as a whole. Their accounts strongly advocated for purposefully linking workplace learning with what comes before and after.

As regards assessment in the workplace, students were generally somewhat hazy. Some felt there weren't any specific goals or benchmarks for them to achieve. Rather, the expectations were often considered to be more general; about the quality of work and how one came across. Whilst their supervisors might be providing a final

report, there was some sense that it didn't carry that much weight in the overall scheme of things. Consequently, it didn't much matter if it remained unclear what the report was based on or how it was compiled; or, in some instances, if a good report was motivated by the employer wanting the student to stay on. More value appeared to be placed on the day to day feedback the student received on work tasks or how they were travelling. When it came to more conventional university assessment tasks related to structured work placement, the students appeared to expect clear criteria to be in place; for example, as to what constituted a good reflective report. Tasks which enabled them to 'round off' their placement experience, by pulling together their thoughts about the experience or analysing an issue they had encountered, seemed to be particularly appreciated.

CONCLUDING COMMENTARY: LIVING ON THE FAULT LINES

Academic standards and assessment practices in planning practice education are at the interface of many fault lines in work integrated learning and higher education. Structured work placements are not easy to sustain or make work well. There are alternative, and often highly innovative, models for practice education that are less dependent on the workplace. Yet when successful, structured work placements bring considerable benefits to students, workplaces and academic programs. However, the learning benefits cluster around those complex learning outcomes that challenge our thinking about academic standards and assessment practices.

By default or perhaps by design, the assessment practices revealed by the planning case study are largely a combination of low stakes, formative assessment in the workplace and higher stakes summative assessment in the university. The workplace contexts and the capacities and dispositions of the workplace supervisors lend themselves to informal, nurturing assessment practices that encourage students to grow in confidence and professional identity. They are in some respects examples of learning-oriented assessment and ones that rests on the intrinsic assessment processes of 'here and now' feedback. This appears to sit well also with planning educators who perceive a number of barriers to introducing more formal and systematic assessment regimes into the workplace experience. Meanwhile, the use of extrinsic assessment tasks that lie more within the control of the university provide the weightier measures of accomplishment and secure a notion of standards that are academic.

As will be apparent, however, this leaves us with several important considerations. Whilst intrinsic, formative assessment may be 'low stakes' in terms of grading, it is nevertheless crucial to the goals of the student learning experience. As commonly stated, work experience by itself doesn't guarantee learning, at either the surface or deeper levels. It is a matter of how the student engages with that experience and transforms it into a learning journey. Arguably, workplace supervisors and university educators have important roles to play in this, and students need to be held accountable for the ways in which they go about it. They still need to perform, even if the performance isn't focussed on the demonstration of prescribed competencies but on their engagement with the learning process. The judicious use of accessories such as learning plans, assessment guides, and capability portfolios may support that process and provide important reference points for all parties. From a regulatory point of view too, there is a delicate line between work experience in industry and the

university direction and management of a learning process geared towards complex learning outcomes. The provision of appropriate learning infrastructures for direct intrinsic, formative assessment needs to be based on clear educational principles.

Part of the fluidity of the current context for planning practice education in Australia concerns the position of the professional accrediting body, PIA, and its requirements of planning programs. To date, PIA has not adopted an overly prescriptive approach to the capabilities of planning graduates. However, it is easy to see how there could well be changes in professional self-regulation regarding, for example, public protection or a more stringent ethical code of conduct for members. If this were to transpire, then the accreditation of planning programs might come to include greater scrutiny of the minimum standards of practice achieved by graduates. One could then expect to see a shift in emphasis within practice-based education towards warranting for 'fitness to practice', with consequent changes to the construction of assessment practices and academic standards.

As previously noted, from the student perspective practice education exists within their experience of the program as a whole. Students appear to be very aware of the importance of locating structured work placement, and other practice learning activities, into a wider frame. This is a perpetual challenge that planning educators have to take seriously. Clearly, students value the learning that derives from workplace related experience. Yet this commonly remains disconnected from the overall program, and students are often the first to recognise the implications. Perhaps only when we have generated academic standards that embrace all the varied forms of learning activity we like to offer students will we counter the disjuncture that still characterises much of the student experience.

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Evaluating a multi-disciplinary virtual WIL project

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The knowledge rich global economy of the twenty-first century requires graduates with both content knowledge and work-ready capabilities. The challenge for Higher Education is to provide students with environments in which theory is combined with practical experience such that students combine their content knowledge with cognitive skills for real world problem solution. This need is driving universities to encourage work integrated learning opportunities within curriculum. While such real-world experiences do assist students to develop these cognate skills, there are also limitations to these experiences that create further challenges. These include, first, the ability of industry to provide WIL opportunities for all the students who desire them, especially international students who may lack local industry knowledge. Second, the speed of change in industry requires graduates who can operate for the future rather than simply the present. Third, the need to provide a safe learning opportunity for students in which they can experiment with the outcomes of varying decisions without fear that a *wrong* response will have adverse commercial repercussions. Recognition of these challenges requires universities to design new opportunities for WIL that go beyond simply placing students in industry. This paper will present the findings of a practice-based pilot project undertaken to provide a rich WIL experience for students. The learning project in which they were engaged co-located students from several disciplines in a *safe* environment in which they explored the challenges of working across disciplines while applying their discipline-based knowledge beyond the boundaries of a singular disciplinary discourse.

Keywords: employability skills; multi-disciplinarity, authentic learning environments.

INTRODUCTION

The recent report by Precision Consultancy for the Business, Industry and Higher Education Collaboration Council on Employability Skills (Precision Consultancy, 2007) stated that:

> employers, universities and professional bodies agree that Australia needs to develop professionals who are highly skilled and ready to face the challenges of increased competition… Australian industry needs new graduates who… have practical skills to work effectively in their roles… It means applying a broad range of employability skills to work effectively in their roles.

Employability skills for Australian industry were identified in a 2002 Government Report (DEST, 2002) as:

1. Communication that contributes to productive and harmonious relations across employees and customers
2. Teamwork that contributes to productive working relationships and outcomes
3. Problem solving that contributes to productive outcomes
4. Initiative and enterprise that contribute to innovative outcomes
5. Planning and organizing that contributes to long and short term strategic planning
6. Self-management that contributes to employee satisfaction and growth
7. Learning that contributes to ongoing improvement and expansion in employee and company operations
8. Technology that contributes to effective execution of tasks

Arguably, achieving these skills requires students to have developed not only cognitive maps appropriate for a single discipline but also skills to map the intersection of a number of related single disciplinary skills. The first challenge this presents for universities is that currently academic disciplines are largely discrete and autonomous although not homogenous (Becher, 1981). Beyer & Lodahl (1976) describe a discipline as providing the *structure of knowledge* that trains and socializes members of a faculty. This has resulted in universities being structured such that students undertake studies in a broad faculty division (arts, sciences, business, humanities) commencing with a broad survey and then specialising in what is known, what is valued and what is capable of investigation (Davies & Devlin, 2007). This traditional approach does not acknowledge that disciplines evolve over time and that, as Squires states they are "multidimensional spaces which define, protect and enlarge themselves along any of those dimensions, and in doing so come into conflict or cooperation with other disciplines" (Squires, 1992).

It has also resulted in a focus upon teaching as the delivery of disciplinary content knowledge from teacher to student in classrooms separated from the real-world of work. This presents the second challenge for universities, that is how to design learning environments that provide students with *authentic* learning environments (Brown, Collins & Duguid, 1989) when industry has little time to supervise students on work-placements (internships) and intense competition means that organisations cannot afford a mistake being made by students on work-experience (witness the reduction in on-the-job apprenticeship opportunities). Meanwhile the workplace is changing so rapidly that skills learnt in the workplace today may be out of date by the time the students graduate.

Corralled learning within higher education has positive aspects and provides an essential disciplinary foundation. However there is need to reduce such enclosures and expose students to the reality that teams of people from differing vocations and professions actually combine their talents to contribute to the productivity and growth of organisations. Development of the ability to both share an array of employability skills and to contribute to critical thinking is thus crucial to a student development.

Recognition of the need for innovative approaches that enable students to experience authentic workplace challenges in a way that transcends traditional disciplines and provides the opportunity to experience how work may be organised in the future, led a group of academics from four disciplines (Architecture, Engineering, Management and Social Planning) at the University of the Royal Melbourne Institute of Technology (RMIT) in Victoria to use the opportunity presented by the university's offer of seed funding[*] to design and pilot a practice-based authentic (albeit virtual) learning experiences that links students across disciplines. The aim of the initiative was to:

> design and develop a new multi-disciplinary model of Work Integrated Learning (WIL) that brings students together in multi-discipline teams from across the three RMIT Portfolios … to use, share and combine their discipline theoretical knowledge in order to undertake professional activities on real-world work issues.

In so doing the initiative planned to:

> 'engage students in a WIL activity that addresses the question of what changes need to be made to traditional separation of disciplines and tasks to encourage a systematic approaches to work required in a knowledge era' that was 'less demanding on industry partners'.

In recognising the assessment challenges of such trans-disciplinary activity, the project aimed to*:*

> develop a new approach to assessment of student engagement in WIL activities that combines assessment of discipline specific knowledge as well as generic capabilities required of graduates (such as team work, communication, problem solving).

This paper presents the *lessons learned* from this experience using reflections of the students and the academics involved in the pilot project. An action research methodology, using an interpretivist approach of the personal reflections of the participants (staff and students) was considered appropriate given the recognised assumption that human beings are able to attach meaning to the events and phenomenon that surround them, and from these interpretations and perceptions select course of meaningful action which they are able to reflect upon and monitor (Gill & Johnson, 2002).

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[*] RMIT University, Learning and Teaching Innovation Fund 2007

THE PRACTICE-BASED PILOT PROJECT

The practice-based activity required students from four disciplines (Architecture, Engineering, Management and Social Planning) to use a co-rational multi-disciplinary team process to work on a joint project. (Initially, six disciplines were identified but two of these subsequently withdrew.)

Students were expected to contribute principles and practices from their particular discipline to the team:

- Engineering: technical viability, structural aspects, ecological design and structural optimisation
- Architecture: spatial needs, functionality, interior design, aesthetics
- Social Planning: social issues (age, diversity, disability), equity (gender and disability), demographic analysis, required social infrastructure
- Management: feasibility, occupational health and safety, return-on-investment (as a not-for-profit organisation)

Students were set the task of responding to a (virtual) call for Tender from the Growth Area Authority [(Victoria]), (GAA[V]) to design a Community Centre for one of the four growth areas identified under the Victorian Government's urban policy framework: *A Plan for Melbourne's Growth areas. This Plan for Melbourne* recognises that new communities need a strong central Community Centre to become the hub of community links if harmony, equity and tolerance are to be achieved. Students were encouraged to think innovatively and to focus on *Re-Imagining a Caring and Sustainable Community* using the knowledge of each of the disciplines represented. The term *co-rational* was used to describe the process of diverse discipline rationalities working together in concurrent rather than consecutive fashion; that is, all four disciplinary streams being involved with one another at each stage of the project's evolution.

The brief for the tender was very broad in order to encourage students to use and develop their problem-solving skills. The tender required the students within multi-disciplinary teams to first undertake a scoping exercise and then prepare a conceptual design for a Community Centre that would be flexible enough to cater for a variety of community interests, and, at the same time be capable of quick and easy change as the makeup of local community grows and changes. The building was to be designed to provide a variety of activities to cater for the diverse social groups within a locality.

The students enrolled in designated courses in their *home* programs, completing learning and assessment activities through their engagement in the project over one semester. Rather than following the normal weekly formal class sessions, the structural parameters for student engagement in the project were broad to more closely emulate the real-world environment. Students were simply told that they had the 12 weeks of the semester (12 weeks) to complete the tender, with the first 6 weeks devoted to scoping the project and the second 6 weeks devoted to development of a master-proposal to a detail design stage. (Two students also formed a project management team, a Management student and an Engineering-Management double-degree student). Students met and communicated with one another in a range of combinations to progress their work. This included multi- and single-disciplinary

teams, with and without academic staff, and regularly with the student project management team.

Assessment designed to test the development of graduate capabilities reflected the need for students to develop both discipline knowledge and multi-disciplinary skills. To this end it included both a discipline-specific element (assessed separately by each of the discipline academic) and a common element (assessed jointly by the academic project team for evidence of co-rational and team-based skills in both the design and presentation skills). Assessment was formative to enable timely feedback to students, and group based to emphasise the co-rational team work requirement.

LESSONS LEARNED

The project proved a rich source of learning, for the students engaged in the virtual Community Centre design activity itself but also for staff and students alike in mounting an educational project of this nature. Lessons learned about the educational aspects of the project are addressed in three main areas: learning outcomes; learning in multi-disciplinary teams; and, industry engagement in authentic, virtual learning environments.

Firstly, the learning outcome of the multi-disciplinary, virtual project was extremely positive, with the final tender, and the demonstration of the employability skills developed by the students, exceeding the expectations of each of the academics and the industry authority representative. The industry partner representatives commented that they were so impressed with the professionalism of the final proposal that they would be pleased to be included as an industry partner in future iterations of the project. Student feedback included the following:

- the subject was a useful tool in developing skills to help cope with people from other disciplines and to increase leadership and liaison skills in helping survive in teams where everyone wants to push the process their way.
- Everyone found it interesting to find out how the other disciplines worked and their innate way of working with on projects and the value they placed on the project.
- Many found the project at hand interesting and full of potential and took it to heart to ensure the finished product was of high quality and realistic so as to be transposable to the real world with little modification.

However, despite these positive learning outcomes, the learning experience suggested the need for several changes to the learning process that was designed to engage the students in the task. Initially the students were at odds with having to enter a new andragogical paradigm, and a new form of assessment designed to that paradigm. The broad parameters of the project that replaced the usual level of structure that some students were used to receiving became an issue. This resulted in the students needing to actually work through the problem of formulating the project solution as a team and then relate this to the broad assessment criteria. Although the students were advised of the need to understand concepts related to graduate outcomes (employability skills), it stretched the students in terms of adding a new dimension of tension to work cohesively and with pronounced team work and self management to resolve the task.

This led some students to express their concern about the extent to which they were able to demonstrate their discipline expertise:

> Students began to see the subject as something ….which provided no real learning skills, just people problems, and no one saw real challenges in the project.

Whilst students eventually understood how and why this new form of learning required them to identify the boundaries rather than being given these by academics, those used to a more structured and *closed* approach to learning were still uncomfortable with this at the end of the course. This suggests that while maintaining the challenge of real-world ambiguity, especially when initially scoping the project, the parameters need to be more clearly identified for the students. Having sought to align course assessment with learning outcomes, the focus for a good deal of the students' frustrations became the clarity and appropriateness of assessment criteria. For staff too, mindful also of equity in assessment for those students engaged in the project vis-à-vis those completing the *home* course in traditional manner, it became apparent that follow on versions would need to ensure the assessment regime was even more robust and transparent.

Secondly, it was recognised that the challenges of cross-disciplinary engagement for students requires a greater level of sophistication as to the importance of people management skills than the students had assumed. As indicated above, this led to concerns voiced by some of the more technically-oriented students that the time taken to handle *people-problems* restricted their ability to focus on content. While the academic project team was aware that the exercise was likely to be challenged by the people-management issues, and indeed that this would be a major learning from the project, this also challenged the academics, especially in identifying how to respond to the student angst. Given this, a significant learning from this exercise is the need to redesign the project so that students are comfortable with the fact that people-related issues need to be given at least equal weight to the discipline content technical skills being developed.

An overriding issue that contributed to these challenges was the intensity of time the project demanded, for students and for staff. While the need to prioritise tasks is a real-world challenge, this caused great anxiety for the students that needs to be given more attention in future iterations. Indeed, it is questionable whether the depth of learning intrinsic to the project can be realized within the time represented by the course enrolment (a quarter of one semester's full-time study load). It is also an open question how much of this learning concerned generic teamwork processes (group learning and assessment) and how much related to the distinctive qualities of mult- disciplinary learning activities. Whatever the case, it is evident that students require greater exposure to both dimensions earlier in their programs if they are not to experience a project of this kind as too big a step. Similar comments relate to staffing in terms of allowing opportunity for adequate orientation, preparation and sense of shared understanding and consensus in forming a cross-institutional educational team.

Thirdly, while the contribution of the industry partner was extremely welcome and provided (and validated) a real-world authenticity to the project, students voiced concern that the expectations of the industry partner were not directly aligned with the assessment criteria established by the academic team. While the student concern was

shown to be unwarranted, the fact that it existed suggests the need to ensure that the industry partner is totally immersed in the project from the beginning and the guidelines for assessment of the presentation of the final Tender more clearly reflect the contribution of the industry partner to the assessment.

The combination of all these factors identifies the need for more time and purposeful attention to be given to preparing students for the breadth of issues that arise when engaging them in multi-disciplinary work, and even more so when it aspires to achieve trans-disciplinary outcomes. There is a *scaffolding* challenge here for curriculum architecture. Further consideration needs to be given to the amount of personal and professional development in teamwork required before engaging students (and perhaps staff) in such a challenging learning environment. One proposal that needs further exploration is whether multi-disciplinary activities should be presented in two parts, over sequential semesters, in order to address the plethora of learning issues that are raised.

CONCLUSION

While the multi-discipline, virtually constructed practice activity discussed in this paper demonstrates the contribution that such initiatives can make to the development of work-ready capabilities in graduates, there are a number of challenges for academics in designing appropriate learning environments. Chief among these is the challenge of balancing the cognitive discipline-specific content contribution and the people-interactive skills that are to be developed. Of itself, this is not a surprising realization. But it does reaffirm the extent to which higher education institutions are built around bounded discipline structures and individualized achievement; and the ingenuity and commitment that is required to introduce trans-disciplinary learning and assessment into this context. Further experience of, and reflection upon, such initiatives is needed in order to develop frameworks to assist the effective design of sustainable learning projects conducive to the boundary crossing and collaborative engagement that increasingly define work environments.

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Educational challenges and impacts of sporting co-operative education program

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Co-operative and Internship Programs are implemented at physical education department of university in Japan through industry-academia collaborations for the purpose of helping students who are studying lifelong sports and sports business develop more practical professional knowledge and skills. The purpose of this study was to investigate the educational concepts and impacts of the Sporting Co-operative education (SCO-OP) program being implemented by the National Institute of Fitness and Sports in Kanoya, Japan (NIFS) for the development of the sports professions of the future. The data of this study was based on an instruction manual of NIFS SCO-OP and collected self-evaluation reports gathered from 9 students and interview survey for 8 host organizations that participated in the SCO-OP program in February 2007. For the student's results, the SCO-OP program has a significant impact on the development of work values, and the educational benefits are consistent with its purpose as a practical education program. From the point of view of the host organizations, having work-ready participants is a vital key to the expansion of the SCO-OP program, so the institute and host organizations must work together to make more improvements.

Keywords: SCO-OP, Internship, Engagement, Educational Impacts, Sport management

INTRODUCTION

The National Institute of Fitness and Sports in Kanoya (NIFS) has been implementing a project to develop an industry-academia collaborative education program in the business field of lifelong sports since April 2006 with a special educational research grant from the Ministry of Education, Science, Sports, and Culture. Under the model program, nine undergraduates and graduate students participated in a month-long Sporting Co-operative Education (SCO-OP) program at six different facilities around the country in February 2007.

The central topic in previous studies on internships in the field of sports and on the educational significance and benefits thereof is often sports business and the field of management. For example, there is the study on professional experience in the profession of sports management and job-type commitment by Cunningham, et al. (2004) and the one on graduate school curriculum as manager training in the field of sports management by Hardy (1987) as well as other studies on the preparation the program selection method (Verner: 2004), Quality control of an administrator side (Kelley: 2004), such as cooperation with university class (Young and Baker: 2004).

Especially Young and Baker(2004) has described the importance and the subject of the evaluation from an intern's own skill on-the-job learning, a training institution, a

curriculum, and an institution leader, a internship journal and also a research paper, and project participation about the evaluation subject. These synthetic valuation bases are met by this research also in target SCO-OP. Nevertheless, in each of the different studies, practical on-site training is expected and shown to help students select a profession as well as increase their knowledge and develop their skills in the discipline. This type of practical education is expected to be made widely available in physical education field's university within Japan, at the same time, it should go without saying that the accumulation of studies on the benefits of educational systems and programs in this field is also an important issue.

PURPOSE

The purpose of this study was to investigate the educational concepts and impacts of the Sporting Co-operative (SCO-OP) education program being implemented by the development of the sports business professionals of the future.

METHOD

Educational results were picked out from the internship journals of the nine students that participated in the SCO-OP internship from February to March 2007 as well as from evaluation materials provided by eight advisors and interview surveys.

The contents of evaluation which extracted the educational result and subject, self-evaluation about an intern's personal skill, professional experience, and internship program was made into the analysis framework among the evaluation subjects which Young and Baker (2004) presented. The evaluation to the intern from an institution itself is performance evaluation form of WLU CO-OP (2007) what based and carried out correction development by NIFS was used. Skill required for each facilities and evaluation of program of SCO-OP using by interview method was conducted to the institution supervisor. The contents of the survey were Table 1.

TABLE 1
Survey Contents

[Interns]
Internship program
Self-evaluation of participating students (personal skills, hands-on work experience, internship program, results and issues that need to be addressed)
[Internship supervisor and advisor]
Interviews of supervisor at host organizations (skills required in discipline, evaluation of SCO-OP internship program and issues that need to be addressed)

RESULTS AND DISCUSSION

Overview of NIFS SCO-OP Program

As part of the efforts to develop an SCO-OP program at NIFS, a model SCO-OP program has been carried out on a trial basis since the 2006 school year in accordance with a three-year plan. Among the participating organizations this time were (1) a sports promotion foundation, (2) a sports institute, (3) fitness clubs, (4) a health

promotion center, (5) a sporting goods retailer and (6) a public sports facility. To be qualified for the program, students had to have participated and received high marks in the extramural sports instruction internship program during their third year and had to receive a recommendation from a seminar professor. Comprehensive evaluations were performed based on pre-program reports, journals kept during the internship, final reports and evaluations from the host organization. In the future, the program will count for four credits. Students are required to enroll in an internship insurance plan that covers accidents and injuries during the internship period.

Self-evaluations and goals of participating students (Table.2)

On their self-evaluations after the SCO-OP program, many of the students indicated that they felt their general and specialist knowledge and skills were lacking. All of them indicated that their communication skills needed improvement and recognized their importance. The students gained a new understanding of those skills as being essential to working in an actual company, and learning the basics at the institute has been made a priority.

As for the hands-on work experience, the students' comments concerning work values stand out from the rest. The students indicate that the SCO-OP program allowed them to recognize and acquire the skills necessary for working in their respective fields of study as well as experience the feeling of responsibility and stress of being in the real world and the interesting aspects of the job. They also feel that they gained new values by participating in the program.

With respect to the SCO-OP and internship program itself, many of the students felt that preparatory research is necessary before the internship. This includes looking into the organizations where they will be placed and what kinds of knowledge and skills are required. They also said that participants should be matched with organizations based on their own skills and desired job type. Some students, particularly those who were assigned to fitness clubs, said that the one-month period ended just as they were beginning to get used to the way things were done and that they felt the program should be longer. At the sporting goods retailer, the student that participated this time was moved from division to division and left with only a general idea of the actual duties, so a longer CO-OP and internship in the desired industry might be more beneficial.

<div align="center">Table 2. Student Self-Evaluations</div>

Organization	Personal Skills	Professional Experience	Internship Program
1.Sports promotion foundation	-Opportunity to check personal skills -Mental training -Preparations needed for specialist knowledge required in the workplace	-Opportunity for new stimulation -Development of work values	-Training necessary to complete tasks within work hours
2.Sports institute	-Made aware of lack of general knowledge -Learning activities at school and basic knowledge are	-Made aware of importance of common sense and awareness as member of society -Got to do work similar to the desired job type	-Gained knowledge about designated manager system and marketing -Personal needs and motivation make SCO-OP program effective
3.Fitness club (included two company)	-Made aware of lack of specialist knowledge -Training in weak areas -Made aware of lack of knowledge concerning specialist -Planning, presentation skills and creativity are necessary -Used special instruction skills -Made aware of personal limits	-Made aware of role of, demand for and importance of fitness club industry -Developed new values and work values -Gained understanding of management and operations -Experienced difficulty of dealing with customers -Gained job-hunting insight -Developed awareness as a professional -Made aware of importance of teamwork in the workplace	-Made aware of SCO-OP program's contribution to health of citizens -One month not long enough to gain proper understanding of -Experienced practical training through internship tasks
4.Health promotion center	-Advanced communications skills are necessary -Creativity with respect to ways to give clear instructions -Experience is necessary -Crisis management and crisis avoidance skills are necessary	-Gained understanding of facilities -Dealt with diverse needs of several different generations -Influenced career path selection	-Practical training through internship tasks -SCO-OP program needs to be lengthened for internships in the fitness field -Sufficient preparation for the tasks is necessary
5.Sporting goods retailer	-Made aware of lack of communication skills -Matching with suitable job type is necessary -Pre-internship research is necessary	-Made aware of demand and possibilities in the job market for students of physical education colleges -Product knowledge, needs, ways to increase per customer spending Experienced marketing flow -Need to be person of ideas	-Learned about business management and operations -Internship program is broad in scope, but hands-on experience with actual work is important -One month is too short for the SCO-OP internship, would like it to be longer
6.Public sports facility	-Used specialist knowledge and skills -Came up with technical explanations -Made aware of importance of presentation and information collection skills	-Developed sense of professionalism	-Acquired various information -Learned importance of summarizing one's own thoughts -Was able to participate enthusiastically

Based on the above evaluations, it can be suggested that through the SCO-OP program, the interns were able to engage in practical training in their respective disciplines, thereby discovering the necessary ingredients to success as a professional, including gaining a new understanding of their own skills, discovering challenges, receiving training from a social perspective, developing work values and acquiring new values. From these results, one can see that the program "makes it possible for the student to develop the skills to define and conceptualize things like his or her attitude toward life and personal goals" as suggested by Klenosky (2007). It also enables the construction of theories through practice and allows the student to put his or her own theories to the test (McTeer: 2007, Suomi: 2007). Moreover, the program helps the student understand his or her position in the organization and facilitates he development of an attitude in which the student looks for ways to learn and grow while performing that function(Smith:2007). These and other things show how much more effective self-evaluation on the job is as a means of learning than studying theory in the classroom. All of the interns indicated that they wished the internship period was longer. At overseas universities, it is reported that the internship period is a minimum of three months, during which the interns are able to acquire the bare minimum skills necessary to provide a selling point for their professional careers in the future, and that the internships lead to the acquisition of specialist and teamwork skills as well as the necessary interpersonal skills to deal with customers. This is an issue that needs to be addressed in the future (Lahn: 2007)

Evaluations of SCO-OP by supervisor at host organizations

The evaluations of the SCO-OP program provided by the supervisor and advisor in charge at the host organizations are summarized in Table 3. Based on the responses with respect to professional skills, it is clear that many of the persons in charge are looking for students who have good communication skills and well-rounded specialist knowledge pertaining to sports and health. Additionally, there are high expectations that taking in the student interns through the SCO-OP program will provide the company with new ideas, specialist skills and knowledge. Accordingly, persons in charge are enthusiastic about taking in highly capable interns. For example, one of the fitness clubs said that a customer service project undertaken by their intern turned out to be a major hit with the customers. That is what the SCO-OP program is all about. A pre-internship interview or selection system is needed to find out what the students want to get from the SCO-OP program and what kind of work they want to test their skills in so that the students can be matched with the work that is performed at each of the host organizations. For that reason, it will be necessary to set up a guidance and support system for the students within the institute to bring together the institute, host organizations and students as well as to develop a system by which to facilitate dialogue between the host organizations and the students so that they can be properly matched. The host organizations felt the same as the interns that the one-month period was not long enough. Some of the organizations are good with the one-month period, but the SCO-OP program needs to be improved in those respects and must flexibly respond to such challenges and requests.

Table 3. Evaluation of SCO-OP Program by Supervisor at Host Organizations

Name of Organization	Skills Required	Evaluation of SCO-OP
1.Sports promotion foundation	-Planning and management skills and ability to participate in think tank -PC skills -Advanced communication skills -Positive attitude towards learning and	-Student selection criteria needs to be strict with a focus on matching -Pre-internship interviews are needed to determine student needs -Would like to have evaluation sheets and data on implementation surveys to reduce
2.Sports institute	-PC skills, familiarity with physical education/sports health and humanities -Creativity and ideas -Enthusiastic attitude towards learning	-A meeting with the institute is necessary to discuss the results and output of the SCO-OP program -The institute needs to set up a support
3.Fitness clubA	-Communication skills and performance skills in diverse situations -High level of motivation	-The hard-working and earnest attitude of the intern was an encouragement to others -The customers also came away with the impression that we are putting efforts into training human resources, which improved the image of the club -The task given to the intern ended up becoming a praiseworthy customer service -The difference between internships and the SCO-OP program needs to be made clear
4.Fitness clubB	-Specialist knowledge, management skills, total management skills for things like follow up -Some kind of qualification	-One month is too short to provide proper training, but the burden on the facility was small
5.Health promotion center (same as above	-Familiarity with literature from other fields	
6.Sporting goods retailer	-Interest in sports, communication skills, sensitivity to trends, new ideas	-We hope to find common ground with the institute to facilitate the development and expansion of the SCO-OP program
7.Public sports facility	-A way for students to research and choose organizations would be beneficial -Persons who are work-ready -Spirit of hospitality, advanced communication skills, specialist knowledge and instructional skills -Ability to come up with new ideas	-The timing of the internship needs to be reviewed (October-November would be -One month is too short. A long-term program that lasts six months or more would

CONCLUSION

This study has shed some light on the educational benefits and future issues of the SCO-OP program from the perspectives of both the interns and the supervisor at the host organizations. For the students, the SCO-OP program has a significant impact on the development of work values, and the educational benefits are consistent with its purpose as a practical education program. It contributes greatly to the development of new values and an awareness of being a member of society. On the other hand, there are also some things about the program that could be improved, such as pre-internship study of the job contents, extension of the internship period, matching with companies

and professions, and specialization of the contents of the program. From the point of view of the host organizations, having work-ready participants is a vital key to the expansion of the SCO-OP program, so the institute and host organizations must work together to make improvements to it.

Looking at evaluations from both sides has clarified the aspects of the 2006 SCO-OP model internship program shown to have an educational benefit as well as those issues that need to be addressed under the current circumstances with respect to the collaborative system in place between the three parties, i.e. the level of quality required of the university and students by the host organizations and the contents of the program, the guidance and support system of the university and the skills of the selected students. The issue facing the NIFS SCO-OP program, which is still in its infancy, in the future is going to be enhancing the program to meet requirements with respect to benefits and goals.

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What coaching tells us about clinical learning

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Nursing practice requires an appropriate integration of knowledge, skills and attitude. In response to concerns raised by those providing the supervision of Flinders University undergraduate nursing students undertaking Work Integrated Learning (WIL), the new position of Clinical Coach was created within the School of Nursing and Midwifery in June 2005. The purpose of clinical coaching is to develop the skills aspect of each student's clinical nursing practice using various strategies designed to help build their confidence and level of competence.

Communication is the stand out reason for referral for clinical coaching. An inability to communicate effectively has implications for the students themselves, clinicians who supervise them, clinical facilitators who facilitate application of theory to practice and patients for whom the students provide nursing care. Other reasons for referral to the clinical coach include an inability to provide fundamental nursing care, medication errors, poor time management skills or the inability to plan and prioritise nursing care. Coaching includes an initial assessment session of a student's practice, identification of aspects of practice requiring development, skills demonstration and supervision of practice in the nursing laboratory using specific feedback and debriefing.

Keywords: Coaching: communication; skills development; feedback; debriefing

INTRODUCTION

Nursing practice requires an appropriate integration of knowledge, skills and attitude. In response to concerns raised by those providing the supervision of Flinders University undergraduate nursing students undertaking Work Integrated Learning (WIL), the new position of Clinical Coach was created within the School of Nursing and Midwifery. The main purpose of clinical coaching is to facilitate clinical competence using a simulated practice environment and the implementation of strategies designed to build student confidence and competence.

Undergraduate nursing students are referred for coaching when their WIL clinical experience has seen them assessed as 'at risk' due to their inability to engage in nursing practice at the appropriate level. The 'at risk' or marginal student demonstrates little evidence of growth towards achieving competency and / or displays inappropriate and unprofessional behaviour and / or fails to accept responsibility for their own performance.

Students are accepted for clinical coaching following an initial assessment session at which time the coach identifies the specific deficits with their clinical practice. The coaching process (Figure 1) involves the deliberate use of a scaffolding approach in which the learning builds from the demonstration of clinical skills by the coach through to the direct supervision of the students' skills practice sessions and

incorporation of both specific feedback and debriefing techniques in order to develop the student's ability to gain insight into their practice and facilitate the development of reflective practice skills.

FIGURE 1
Coaching Process
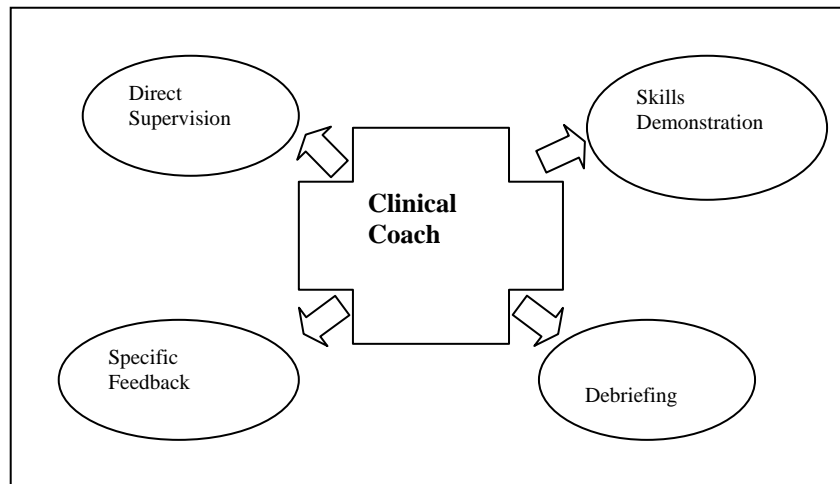
PURPOSE

The purpose of this paper is to identify and present the emerging patterns and trends identified from the reasons that students have been referred for coaching and to provide an explanation of corrective strategies applied by the coach that have achieved successful outcomes. These strategies that are applied by the Clinical Coach lend themselves to adaptation by other disciplines requiring undergraduate students to complete WIL.

REFERRAL PATTERNS AND TRENDS

Communication deficit is the stand out reason for referral for clinical coaching. Interestingly, even students who do not have an English Second Language Background (ESLB) have also had communication skills deficits that have impacted on their ability to implement safe clinical practice. When undertaking WIL in the healthcare environment, communication is intrinsic to the ability of students to practice. Students must not only demonstrate appropriate interpersonal skills but also be able to understand and apply professional clinical language and jargon. A deficit with communication has implications for the students, the clinicians who supervise them, clinical facilitators who assist the application of theory to practice and for the patients for whom the student provides care.

Students have been referred though when a misunderstanding occurs due to their cultural diversity rather than a communication deficit. For example, one student was referred for coaching after the student had given a glass of hot water to a patient who had requested a drink. The staff had incorrectly assumed that the student had not been

able to understand what the patient asked her for when, in fact, the situation had arisen not because of her ESLB but rather as a result of cultural diversity because in China drinking cold water is considered detrimental to the respiratory system.

Other reasons for student referral to the Clinical Coach have included the inability to provide fundamental nursing care, failure to apply the standards of practice and follow policies and procedure when administering medications, poor time management skills or the inability to plan and prioritise nursing care. Some students have been referred when unable to perform a particular technical clinical skill or lacked clinical reasoning skills.
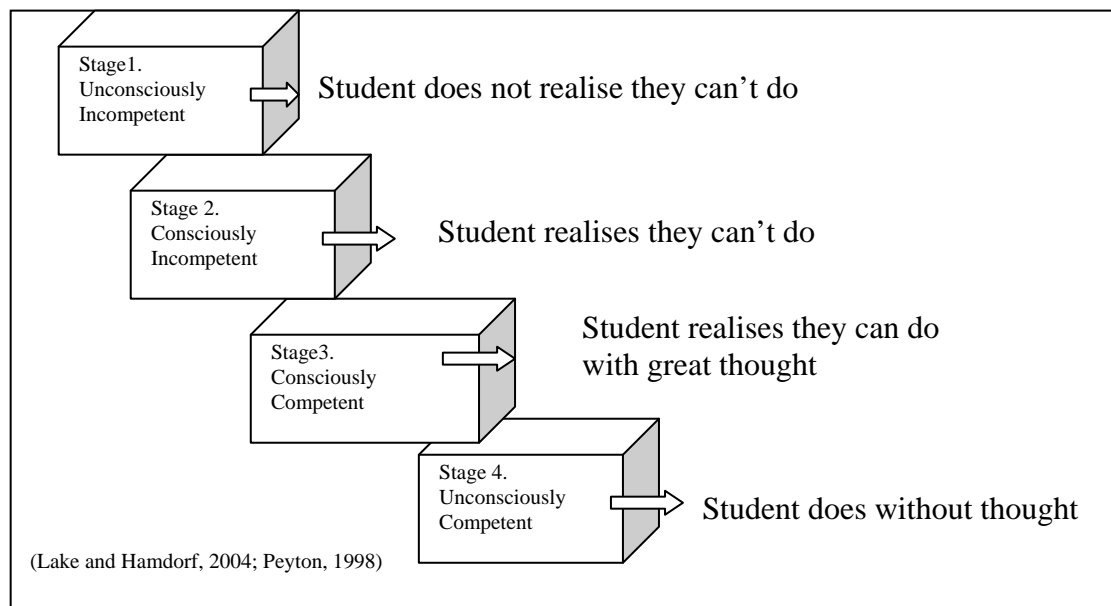
COACHING STRATEGIES

Coaching provides opportunity to bring knowledge of the clinical environment milieu and teaching expertise together to develop strategies to assist students to move in some instances from unconsciously incompetent to a consciously competent level of practice (Lake and Hamdorf, 2004; Peyton, 1998). It requires commitment and motivation on the part of the student as at times it is just sheer hard work. It also requires the Clinical Coach to have the capability to instil in each student a degree of confidence as this becomes fundamental to achieving success (Crisfield, Houlston and Simpkin, 1997). Clinical coaching strategies are achieving successful outcomes with approximately 90% of 136 students who have been referred to date going on to successfully complete their clinical placement. Worth mentioning is that not one student who has been coached and achieved a mastery level of competence has been referred to the Clinical Coach a second time.

Skills assessment

Assessment of skills requires more than just deciding whether a student is competent or proficient with performance of the task. Clinical coaching enables the assessment to be undertaken within the simulated clinical environment and to ascertain that the student can demonstrate the ability to integrate nursing knowledge, skill and professional disposition and attitude. Students are assessed in the coaching laboratory to determine their level of competence using a gradient designed by Peyton, 1998 (Figure 2).

FIGURE 2
Level of Competence

Stage1. Unconsciously Incompetent	Student does not realise they can't do
Stage 2. Consciously Incompetent	Student realises they can't do
Stage3. Consciously Competent	Student realises they can do with great thought
Stage 4. Unconsciously Competent	Student does without thought

(Lake and Hamdorf, 2004; Peyton, 1998)

Skills Development and Practice

Skills development requires more than just performing of the task. To demonstrate a skill at mastery level requires integration of knowledge, skill and communication (Lake and Hamdorf, 2004). A sequential approach for skills demonstration is used by the coach that involves the four distinct stages of demonstration, deconstruction, comprehension and performance as outlined by Lake and Hamdorf, 2004 and Peyton, 1998. During the demonstration stage the skill is performed at normal speed by the coach, this is followed by the deconstruction stage which involves the coach describing each of the specific steps required to perform the skill whilst demonstrating the skill at a much slower speed. The next stage is that of comprehension in which the student describes each step whilst the coach performs the skill and during the fourth stage the student performs the skill whilst describing each of the steps to the coach.

Assessing of student's skills deficits in the coaching laboratory has revealed several reasons why students have not mastered technical clinical skills. These include not having been taught the correct method to begin with, having had limited opportunity to practice the skill and in some instances because the student lacks the dexterity and fine motor skill coordination that is required to actually perform a particular skill.

Feedback

Clinical coaching is underpinned by the coaching principles that govern sport and an androgogical student – centred learning philosophy as described by Knowles (1980). As feedback is critical for ensuring development the coach gives specific feedback which is directed at behaviour that is changeable through an informative, positive, corrective process that provides precise detail about what the student should do in order to solve or correct a problem (Martens, 1997). Feedback is a way to let someone know how effective they are in achieving what they have set out to accomplish.

According to Ende, 1983 without feedback mistakes go uncorrected, good performance is not reinforced and clinical competence is achieved empirically as when students learn by undertaking experimental observation. A lack of feedback or avoidance of giving what may be deemed as criticism can result in the student remaining unaware that there is in fact a problem with their practice. Assessment of a students' level of maturity is always required if giving negative feedback as not all students will be able to use it to develop corrective strategies or to inform their self reflection and development of professional practice. The problem with feedback when it is not used to deconstruct and develop practice is that it often becomes personal resulting in students becoming either defensive or being made to feel useless (Crisfield, Houlston and Simpkin, 1997).

> "When knowledge has to be put into action, confidence in both the knowledge itself and the ability to apply it successfully is vital. Like motivation, confidence can be damaged or even destroyed by inappropriate feedback." (Peyton, 1998, p15).

Debriefing

Debriefing, with its military origins, is the term used for a description of a situation that moves beyond talking to the process of analysis and then development of strategies for future application in a similar situation (Fanning and Gaba, 2007). When debriefing in the educational setting it is important to ensure that the student feels valued, respected and is given opportunity to learn (Fanning and Gaba, 2007). When coaching, the process of debriefing is not used to assess knowledge but provides a platform for discussion and analysis so as to increase student awareness of practice and so move the student towards gaining greater understanding (Peyton, 1998). As coaching occurs on a one – to – one basis, debriefing provides a way of developing rapport and establishing trust. Coaching is purposeful and is underpinned by educational philosophies that by design seek to ensure learning occurs, for without learning teaching is just talking (Angelo and Cross, 1993).

Whilst the aim of debriefing is not to carry out assessment of the student's knowledge base per se, what has been observed is that as the student's confidence and competence develops then they, in turn, become more motivated to learn and so want to demonstrate their understanding to the coach.

TRANSFERABILITY

WIL for all students across disciplines occurs in a very different environment from that which occurs in the classroom. WIL placement venues can be described as a hot learning environment because they are unpredictable, authentic, complex, immediate, high risk, unique, opportunistic and sometimes chaotic (Eraut, 1994). WIL requires the student to have sufficient knowledge to be able to deal with both the complexity and contextual environment in which they must engage and practice, to be proficient with the skills required to undertake the role and to have the capacity to demonstrate appropriate and professional standards of behaviour.

SUMMARY

Clinical coaching begins with referral of a student. Preliminary evaluation of the reasons for referral has identified an emerging trend in which a skills deficit in the area of communication as the stand out reason for referral. The Clinical Coach uses corrective strategies that include skills development and ongoing practice sessions and the use of feedback and debriefing to rectify a student's deficit with their clinical practice. Coaching is still in its infancy and so is evaluation of the data. Preliminary evaluation has revealed that when students have been given opportunity to attend coaching the majority have successfully completed clinical. Further research is needed to evaluate coaching and the associated strategies as a means by which to determine if the strategies can be adapted by other disciplines that also require undergraduate students to complete WIL.

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The importance of 'industrial strength' project management documentation for final year computing students

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In attempting to integrate classroom studies with professional work practice, many universities include a capstone team project in the final year of their undergraduate computing degrees; the experience is designed to improve upon students' essential technical skills and to help prepare students become work ready by developing communication and team building skills. The quality of such a learning experience is influenced by the subtle interplays of three key elements: the curriculum, practice and industry standards. This practice-based paper underlines the importance to integrate curriculum and practice to support students in the adoption of industry standard documentation; in particular, the need for student teams to produce project management related deliverables as a mechanism for learning planning and team management skills.

Over recent years at the University of Ballarat, final year computing students have been surveyed about their project experiences and the role of their project management plans in teamwork and organisational processes. Feedback on the experience obtained from students indicated the usefulness of tailoring industry standard documentation in the creation of project plans to define team processes. The task of preparing and using management documents has had a positive impact on students' readiness for the workplace.

Keywords: project management practice, industry standard documentation, student teams, experiential learning.

INTRODUCTION

In implementing any work-integrated learning (WIL) program, there are concerns in maintaining the quality of the learning experience resulting from the subtle interplays of three key elements: curriculum, practice, and industry standards (Shakespeare & Hutchinson, 2007). Whilst the setting of the work related learning influences practice, the institution decides curriculum, and external accreditation bodies usually mandate the standards and competencies required from the WIL experience. For instance, it is common practice for higher education institutions to dissect the content and delivery of their WIL schemes to ensure that the programs systematically develop in their exiting students' discipline specific knowledge and professional and personal skills (Cranmer, 2006). Typically in Engineering, Information Technology (IT) and computing studies, students apply what has been learned in the classroom to a *real-life* project for a business or community client; such projects include software

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development on specialised platforms, hardware design, networking problems and multimedia development designed to consolidate student coursework understandings of "systems analysis, software development lifecycles specific software, design support tools, entity relationship modelling, entity life histories, database design, web site design, or web server programming" (Daniels, Faulkner & Newman 2002). Additionally these software engineering group projects help students develop problem-solving and communication skills. Although the importance of the project-based WIL experience in final year computing degrees is without argument (Newman, Daniels & Faulkner, 2003), there is academic debate about how to best achieve *industrial-strength* authenticity for students, so that they experience all aspects of project management, develop professional perspectives and an appreciation of industry ethics in preparation for work and industry.

This paper underlines the importance of introducing industry standards documentation to students undertaking final-year computing projects as a mechanism to add realism to the project experience whilst satisfying industry accreditation expectations. Section 2 of this paper describes the context of final-year computing projects at the University of Ballarat, where project management principles are mandated by the curriculum. Driven by an interest in understanding student perceptions prior and post the project experience, several student cohorts were extensively surveyed about management of their projects. The results of these surveys are presented in Section 3, followed by a discussion of the feedback in Section 4. The final section concludes by highlighting the importance of using industry standard documentation to manage team projects to improve the student learning experience and the outcomes.

CAPSTONE COMPUTING PROJECTS AT THE UNIVERSITY OF BALLARAT

All computing students, undergraduates and postgraduates included, at the University of Ballarat in the School of Information Technology and Mathematical Sciences study a capstone project in their final year of study. Teams of five to seven students tender for projects sourced from real clients in the local community; the projects range from games, multimedia systems, database developments and ecommerce websites. These projects offer a level of complexity that goes beyond the students' previous course experiences and, accordingly, students are expected to develop a set of product, project, and social skills needed for their subsequent professional practice. These skills include performing initial project assessments, managing requirements, selecting appropriate methods and tools, documenting plans, managing risks, team organisation and communication skills (Futrell, Shafer & Shafer; 2002). These are key skills amongst the core generic attributes needed by graduates seeking professional accreditation with the industry professional organisation in Australia, the Australian Computer Society (ACS, 2003).

To provide a realistic industrial experience and further, to mitigate the risk of project failure, students are expected to spend significant time at the start of their project negotiating team roles and responsibilities, rules, standards, a team contract and a detailed communication plan. Supported by a variety of *sign posts* designed into the curriculum and with scaffolding to guide practice (Keogh, Sterling & Venables, 2007), students are expected to produce significant documentation in support and management of their project including a Software Project Management Plan (SPMP). As in industry, the SPMP is a valuable resource that documents the roles and

responsibilities of team members. The SPMP also records team decisions about processes and it details a project schedule through the production of a detailed Work Breakdown Structure (WBS) and a corresponding Gantt chart.

For industry, and in the classroom, the importance of the SPMP or equivalent Project Management planning documentation in formally documenting project management processes cannot be underestimated. It is pivotal that the basic structure and content of a project team's SPMP is based upon similar documents used in industry, such as IEEE's SPMP template (IEEE, 2008) and the de facto standard process for planning and development of a project plan for Project Management professionals, PMBOK® (Project Management Institute, 2000). Student teams need to research and judge the variety of SPMP types and the contents of industrial examples found on the Internet before custom-building their own SPMP documents. Team members are guided by documentation samples from previous projects and a marking scheme against which their SPMP document will be assessed. As detailed in Table 1, the SPMP components used for marking include many found in industry's IEEE SPMP template.

TABLE 1: Marking Criteria for SPMP (based on industry equivalent documents)

Component	Description	%
Project Scope	Broad project scope, limitations, constraints and boundaries defining responsibilities of project team.	10
Description	A high level description of the problem to be addressed by this project. May include project proposal or business case or a high concept statement in the case of game development.	10
Team Contract	A clear statement of the time commitment expected of each team member ; Define responsibilities and roles needed; and allocations of members to each role.	10
Project Plan	Work Breakdown Structure including Gantt chart, scheduling major milestones, allocating resources (people) to tasks, including regular meetings. This is expected to remain a 'live' document throughout the project.	20
Team Communication Plan	Timetable and details of where, when and how meetings are held, contact details for all members, processes for communication, processes for updates to electronic repository and other project tracking processes.	10
Quality Assurance statement	Team auditing, review, change control processes that will be adopted.	5
Risk Management Plan	Definitions of the processes for identifying, monitoring and reporting project risks.	5
Configuration Management Plan	Methodologies and Tools to be used. (e.g. configuration management, backups, email archives, web page/blog (electronic team repository) management and project management tools).	5
Team Standards	Standards for documentation and coding.	5
Overall Document Quality	Completeness, presentation, organization and content, version control, table of contents, referencing, relevance to this particular project.	20

Tying student assessment to documenting management and planning processes in an SPMP and then following these stated processes, ensures that students will *go through the motions,* but do they get anything from the exercise? The motivation for this research was to investigate students' perspectives of the importance, or otherwise, of using SPMP documents to their overall project experience. Were the SPMPs used as intended? Did the documents direct practice? Did they influence student confidence in their project management abilities in the workplace?

SURVEY RESULTS

In 2006 and 2007, several student cohorts were surveyed regarding their project experiences and, in particular, the role of the SPMP document played in managing the team and its processes. In total, 55 individual responses were collated over both undergraduate and postgraduate coursework groups and the combined feedback is reported here.

Initial survey questions revealed that students had little prior collaborative teamwork experiences in their preparatory studies before beginning their project. Students were surveyed about their implementation of SPMP assigned processes; they were asked if each person had a well-defined role within the team, to which 98% replied in the affirmative. Additionally, 91% students reported that they had been adhering to, and updating, their project plan regularly. With respect to meetings, 89% of respondents reported that agendas were prepared and, most encouragingly 98% of students attested that minutes were regularly kept as specified in the SPMP documents. These results are graphed as the current practices in Figure 1.

FIGURE 1
Positive survey responses (n = 55) of current and early uses of SPMP components during team project experience.
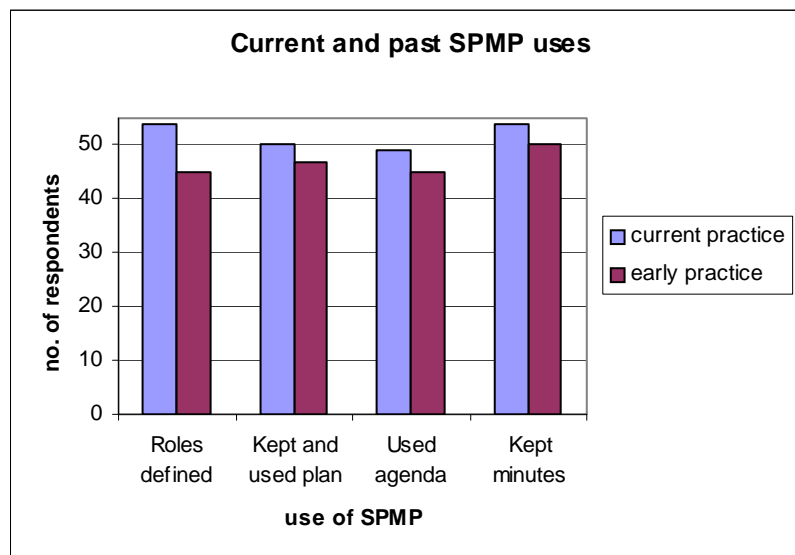

Figure 1 also shows student practice at the commencement of the project experience; it shows that, over time, students increasingly identified with their defined roles, they found the SPMP document useful, and they were more likely to prepare agendas and

keep minutes. Regarding the Gantt chart in the SPMPs, 98% of respondents answered that they had found it valuable for organisation and planning within their team. Overall, the survey feedback suggests that students found the SPMP progressively more valuable for managing their teams and processes as time went on. Interestingly, 22% of respondents reported that there had been significant team conflict throughout the project arising out of personality differences or different expectations (particularly with respect to commitment) amongst team members. Informal feedback from staff supervisors suggests that the presence of the SPMP document helped to manage these conflicts.

DISCUSSION

For the majority of students the WIL software team project experience is unlike any other encountered in previous studies in that, the size of the problem ensures that true collaboration and teamwork is essential for overall project success. At the University of Ballarat, the use of a SPMP document is mandated by curriculum and the pedagogy encourages students to learn from practice of project management. The intention is to teach students that risk mitigation and quality assurance are helped by the adoption and documentation of good management processes.

The survey concluded with an open-ended question asking for three pieces of advice for future students. Over the surveys, 136 pieces of advice were offered, of which 24% directly related to documentation and planning, and 17% mentioned the need for defining team processes and following them. Typical comments included: "Allocate roles and tasks"; "Plan well to get the work done"; "Keep track of documentation"; "Document all processes in SPMP"; "Have set rules for members missing work or meetings"; "Define roles"; "Start SPMP early". Such advice suggests that students value retrospectively their management processes and the need to document them. Furthermore, these comments also indicate that the educational objectives are being met.

After completion of these capstone project units, additional student feedback suggests that the broad project management experience becomes more relevant and valuable to students in their first jobs where they are required to make professional decisions. In fact, 75% of students responded that they were now very confident of their ability to work well in a workplace team, whereas in the beginning 29% classified themselves as not confident at all. Additionally after projects, 96% of students reported being confident enough of their skills to manage a workplace project, with 38% of these students claiming to be very confident. As one graduate commented a few months after completing his project: "What I really hadn't grasped from the project units until now is how valuable the actual experience was as a whole". He reported that the experience was enabling him to be discerning regarding his documentation and planning needs in the workplace.

In an effort to direct students during their capstone project experiences, assessments are clearly weighted to value processes together with products (see Table 1). Some authors warn that students may see the demand for formal project documentation as unnecessarily bureaucratic and view project documentation as the end product in itself (Hood & Hood, 2006; Umphress, Hendrix & Cross, 2002). However, the survey results and written feedback show that most students do grow to value the formal

documentation of team management processes in their SPMP. Specifically one survey respondent wrote, "the SPMP document was the most important document that we wrote" and another "I am really finding that the process of deciding what/not to use is very valuable". From the survey responses, it seems that in most cases, the project plan was used actively for planning and team management; and, anecdotal evidence suggests that students who do not follow formal project plans and schedules are less likely to achieve the full scope of their project successfully.

CONCLUSION

"I felt these units were the most important units of the whole degree"

IT graduates need to be equipped with a strong set of technical skills coupled with a flexible and creative approach to problem solving. The adoption of industry based SPMP standards has proved valuable for adding realism to the experience and for satisfying industry accreditation expectations. For students, the SPMP acts as a mechanism for guiding and managing their software development projects by defining tasks, communication protocols, processes and responsibilities. The exercise of tailoring an SPMP to suit the student project is valuable in developing students' work-ready skills in discernment and understanding. The SPMP is a working document that proves to be helpful for students experiencing team difficulties. Through the interplay of curriculum mandating industry based practice, the empirical evidence from survey responses has shown that students are transformed into graduates who value process and who are confident of their ability to work collaboratively in the workplace.

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Challenges of incorporating LIWC (learning in the workplace and community) in mathematics units of study

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While the benefits of learning in the workplace and community cannot be overemphasised, the designing of units of study that incorporate LIWC content is a particularly difficult task for some units. The first-year mathematics units are a case in point. The challenge is to teach the basic skills of mathematics to students who need to apply these skills in their main study areas of Engineering, Computer Science, or Nursing; and to accommodate students interested in the pursuit of knowledge in the discipline of mathematics itself. How to design meaningful contents, select suitable delivery mechanisms, and develop appropriate assessment for the units? This discussion paper raises some issues in the context of the Australian higher education sector and proposes a model that could assist in the design of LIWC-inclusive mathematics units in particular and any unit in general. The model is based on the premise that discipline-oriented units like mathematics can have LIWC only at the senior years of study, but profession-oriented units like nursing can start delivery and assessment using LIWC from junior years of study.

Keywords: Learning in the workplace and community, mathematics education, syllabus design, profession, discipline, Australia

INTRODUCTION

Learning in the Workplace and Community (LIWC) is one of several teaching and learning mechanisms that have recently attracted increasing attention; its close variants include work-integrated learning, work-based learning, or industry-based learning. Other approaches that advocate departure from traditional classroom teaching and learning models include project-based learning, problem-based learning, action learning and network-based learning. Victoria University in Melbourne, Australia, has adopted a LIWC policy that recommends that all students should undertake course-related activities in or through working with industry and/or community; this policy requires that by 2010 at least 25% of the assessments of every course in the University be linked to LIWC (Keating, 2006).

As noted by researchers,

> Workplace learning is not a new concept, but it has acquired visibility and saliency because it sits at the juncture of new thinking concerning the nature of learning about the new forms of knowledge, about the transformation of the nature of work and about the modern enterprise in a globalized economy. (Stern and Sommerlad,1999, cited by Fuller & Unwin, 2002, p.95).

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Others agree with this view, for example Collins, Brown & Newman (cited in Resnick, 1989) observed that formal schooling emerged only in the 19th century, and only in industrialised nations; before that apprenticeship was the most common means of learning and was used to transmit the knowledge required for expert practice in fields from painting and sculpting to medicine and law.

LIWC existed since the beginning of formal education, even preceding the days of teaching by the famous Greek philosophers. The acquisition of knowledge, skills, and competency was always available in the workplace and community under the umbrella of *training* and/or *experience*, as well as in the institutes of education. However, the process of knowledge acquisition in the workplace at present is more structured and guided, more measurable in terms of output, and most importantly recognised as part of a formal learning process leading to a formal qualification. Billett (2001, p. 115) wrote, "Teaching and learning are often synonymous, so the absence of qualified teachers and a deliberately structured curriculum can easily lead to assumptions that learning in the workplaces will be inferior to that occurring in the schools, colleges and universities". Billett, rightly, questions this assumption. The arguments of a lack of structure and informality of learning in the workplace are losing ground. Universities continue their role to develop workplace education; "… one large private university in the USA has developed a master's program to prepare individuals for positions and careers as workplace educators" (O'Connor, 2004).

MATHEMATICS AND LIWC: ISSUES AND CHALLENGES

The design of the syllabus of a mathematics unit with LIWC content at tertiary level has to deal with two major issues: one, a lack of appropriate places of work or community organisation, where the learning could take place; and two, the difficulties posed by the level of the mathematics unit of study.

Discipline versus profession

To explain the reasons behind the dearth of workplaces for mathematicians, it helps to clarify first the difference between a *profession* and a *discipline*. According to Oxford Dictionary, a *discipline* is a branch of knowledge, typically one studied in higher education; a *profession*, on the other hand, is a paid occupation, especially that involves prolonged training and a formal qualification. The two concepts are related; in fact a profession may be considered as an entity created from a discipline. For instance, medicine is a discipline but medical doctors are professionals, religion is a discipline, but priesthood is a profession, economics is a discipline, but economists are professionals. For mathematics, it is hard to find a 'professional mathematician'. Sometimes it is not easy to identify a discipline behind a profession, for example, an airline pilot, or a career diplomat. Furthermore, when it comes to workplaces, there are no workplaces identifiable as organisations mainly for mathematicians, but there are plenty of hair-dressing saloons, accounting firms, engineering industries, or dental hospitals. It is notable that large organisations like CSIRO or Telstra Research Lab may provide ample opportunities for mathematics in the workplace, but they are more research-based and not teaching-based places. Mathematics, of course, can be learned in workplaces, or in the community, as long as the concepts of mathematical ideas targeted for acquisition through LIWC are clearly identified and specified.

The complexity of the teaching and learning of disciplines, including mathematics, in educational institutions is worth noting:

> Professional and vocational education programmes typically include three kinds of content: these derive from (1) disciplines which feature prominently in general education and form major components of honours degrees, e.g., Mathematics, Sciences, Social Sciences, Languages, (2) the applied field which sponsors the programme, e.g., Business, Engineering, Education, Health Professions and (3) occupational practice itself. … Most teaching within an applied field is also strongly influenced by an often quite recently constructed body of knowledge about the field, which thus becomes either a quasi-discipline like Education or Nursing, or a constellation of quasi-disciplines like Business Studies or Engineering (Eraut, 2004, p.204).

Eraut (2004) argued that the educational institutes are not capable of conducting units with LIWC very well; he referred in particular to the lack of appreciation for LIWC among academics and their reluctance to develop the necessary LIWC competencies.

Level of study

The issue of level of study is also complex. Normally in the higher education sector, first-year units are low-level units, and third- or fourth-year units are high-level ones. While there are many examples of teaching and learning mathematics in workplaces, streets and playfields, the level of knowledge acquired is often at a level suitable only for school mathematics. Lesh (1985) described a mathematical project at a secondary school; the project included the tasks of balancing a checkbook, planning a vacation within a budget, wallpapering a room, and estimating distances using a map. The tasks at a low level are appropriate for secondary school students, but would require more complexity to be suitable for university students. For example, the task of wallpapering a room considered in terms of optimising the amount of wallpaper waste, is a hard combinatorial optimisation problem (Garfinkel, 1977), and is beyond the scope of a first year university student.

Mathematics in the higher education sector

Most of the literature on LIWC relates to vocational education and training (VET). The teaching of mathematics at secondary school level as LIWC is not uncommon, but in the higher education sector it is rather rare although there have been a number of recent encouraging developments. Qi and Cannan (2006) presented an example of a successful teaching model of engineering mathematics to students in a Bachelor of Applied Technology course. The authors demonstrated how the teaching of mathematics is totally integrated in the units of electronic technology. The authors note that as a prerequisite of entry to the bachelor course, the students would have completed a mathematics paper that would make them conversant with basic mathematical concepts and techniques. For example, the students would have learnt, among others, (a) algebraic manipulation and solutions of simultaneous equations, (b) indicial laws, (c) graphs of exponential, logarithmic, and trigonometric functions, (d) properties and operations of complex numbers, (e) approximation of instantaneous rate of change and finding gradients of polynomials by rule. A survey of the syllabi of first year mathematics in Australian universities will reveal that these knowledge and

skills comprise a significant part of the contents of mathematics units in the first year of higher education. Therefore, to teach effectively some topics of mathematics, at least the basic abstract concepts have to be taught in a classroom setting.

The need for applicable mathematical knowledge is often highlighted by researchers. For example, Vasan at al (2007) describes the success of mathematics and science education in Singapore, but point out that the learners are successful only in routine, formulaic questions, but not in higher order and contextualised application skills. The development of these skills can be achieved if some learning occurs as LIWC.

With the realisation that LIWC and similar teaching mechanisms are beneficial to prepare work-ready graduates, the higher education sector is moving in that direction. One of the biggest challenges in incorporating LIWC in tertiary courses is syllabus design for various units of study. This paper proposes a model that may assist in this design task for any unit of study, including mathematics.

A PROPOSED MODEL FOR DETERMINING LIWC CONTENT

For designing the syllabus of a unit for study, the *level of the unit* will be considered as a continuum ranging from *basic* to *applied*, taught typically from junior years to senior years. For example, in the teaching of mathematics in the higher education sector, the procedures of matrix algebra or calculus are at a basic level, but the task of designing the correct blending proportions for a refinery using linear programming should be classed at an advanced level.

Similarly, in the same exercise of syllabus design, the *LIWC content* can be viewed as a continuum from *low* to *high* level. If a unit is taught predominantly in the traditional classroom setting, it has a low LIWC content. For example, for teaching thermodynamics to engineering students, the explanation of the fundamental laws of thermodynamics may have a low LIWC content; whereas, the design and testing of a heat exchanger for a practical application can have a high LIWC content. The term *content* has been used here to encompass all delivery and assessment components.

While the above examples are admittedly debatable, they serve to illustrate the core premise that, depending on the purpose and means of teaching and learning, the levels of the unit and the LIWC content are different, yet closely related, dimensions of the syllabus design task. Barring any semantic argument about what constitutes levels of study and LIWC content, a scale of 0 to 1 will be used to represent each of them; a two-dimensional curve using the two variables will give an indication of the correct use of the LIWC content for a particular level.

The factor that will determine the shape of the curve is whether the unit of study is from a discipline oriented field of study or a profession oriented one. As discussed earlier, it is extremely difficult to draw a line between discipline and profession, primarily because they are non-independent, subjective, and contextual. For the purpose of modelling, a ratio that identifies the degree to which a field can be considered a profession or a discipline will be used.

The ratio is defined as

$$r = \frac{d}{p}$$

where d has a value of 1 if the unit is not seen as discipline oriented at all and 99 if it is highly discipline oriented; similarly p has a value of 1 for not being considered a profession and 99 at the other extreme. These limits are arbitrary and for ease of illustration of the model. The lower value of zero is not used to avoid divide-by-zero error. A field of study can be regarded both as discipline oriented and profession oriented, for example, statistics.

Let w be the index of the LIWC content, and v be the index of the level of unit, both varying between 0 and 1; the lower limit of 0 for w indicates negligible LIWC content and the upper limit of 1 indicates full LIWC content. Similarly the lower limit of 0 for v indicates that the unit is delivered at a basic, cognitive level, whereas the upper limit of 1 for v indicates that the unit is intended to be taught at fully applied level. Using v-values within its defined limits, and using an appropriate r-value, an equation can be established, to indicate the appropriate LIWC content. A simple equation that defines this relation can be written as

$$w = v^r, \quad 0 \le w \le 1, \quad 0 \le v \le 1, \quad \text{and} \quad r = d/p,$$

with d and p as defined earlier. The value of v is to be determined by the syllabus designer, and the values of d and p should also be estimated. Since the values of d and p are both positive, the ratio r will vary between 0 and infinity.

FIGURE 1
Relation Between LIWC Content and Level of Unit

The relationships between w and v, for three illustrative units, are plotted in Figure 1. The first unit is a typical unit from hair dressing, a highly profession oriented field. The curve indicates that the LIWC content in the unit will be high even in early years, i.e., low levels of study. The second unit is from statistics, a field of study that is assumed to be equally profession oriented and discipline oriented. The LIWC content

increases unformly with increase in the levels of study. The last unit represents one from the field of the mathematical theory of inequality, which is highly discipline oriented. The LIWC content may not increase unless it is at a very advanced level of study. The model considered here does not cover the situation where the LIWC content decreases with an increase in the level of unit, or the situation that LIWC content may be high initially, decreases in the middle years of study, and then increases again. These extensions of the model are worth exploring in future.

In this model, regardless of whether a unit is from a profession oriented or a discipline oriented field, the LIWC content w is 0 when the level of unit v is 0, and w is 1 when v is 1. The variations occur only in the middle levels of study. For an r-value equal to 1, the curve will be a straight line; for an r-value close to 0, that is for a highly profession oriented unit, the curve will pass near the upper left corner of the figure; and for an r-value close to infinity the curve will pass near the lower right hand corner of the figure. An r-value greater than one will locate the curve in the lower right triangle and an r-value smaller than one will place it in the upper left triangle.

CONCLUSIONS

The design of the syllabus for a unit of study should be based on the nature of the unit. At the elementary level of study in the higher education sector, all units should have some classroom component. Similarly, at an advanced level of study, any unit can have a large LIWC content. Depending on the nature of the study unit, whether it is profession oriented or discipline oriented, the intermediate levels of study will have different degrees of LIWC content. A profession oriented unit like nursing will easily accommodate LIWC content, but a discipline oriented unit like mathematics will not. A conceptual model for determining the proportion of LIWC content in units of study proposed in this paper will hopefully foster discussion on syllabus design for various fields of study in this context, and may assist in the task of incorporating LIWC for various disciplines and year levels.

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OPUS online enhances work integrated learning – the students' views

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The quality of work-integrated learning depends, significantly, on the support of the academic institution. They arrange and approve the planned experience, support the student throughout and provide timely information, including feedback on assessments. Without highly developed management systems these activities can become tedious, ineffectual and expensive to operate.

To assess management effectiveness a cohort of returning students is surveyed to establish their gains from a year in paid placement and their views on the support provided through OPUS (Online Placement University System).

The analysis considers the students' expectations of placement, skill improvements, impact on employability and aspects of the support provided by the University of Ulster. The findings suggest a high level of overall satisfaction and recognition for the students by the employing organisations.

The students' assessment of OPUS was structured to address aspects of the pre-placement and placement periods and thus inform future improvements. OPUS has been developed at the University of Ulster to manage all aspects, including assessment by various tutors, of work-integrated learning and has been operational since 2002. OPUS (now at version 4) is open source software within the terms of GPL (v2) license. The analysis shows a high appreciation for the functionality of OPUS and its value throughout the placement experience. Suggestions for new features are offered.

It is considered that the high overall satisfaction with the quality of the work-integrated learning experience is closely linked to the functionality, accessibility and information features of OPUS.

Keywords — feedback, OPUS, placement, quality, skills, students' views, work-integrated learning

INTRODUCTION

International or national standards, codes of practice, guides to good practice and statements of requirements attempt to achieve a good, if not excellent, experience for the student while engaged in work-integrated learning. Understandably, this situation is common to other fields of activity where rules and guides influence action. As a result, higher education institutions (HEIs) adopt many types of management and administrative arrangements to deliver effective work-integrated learning (WIL). However, the real test of the effectiveness of these codes, guides and arrangements is in their application and the resulting experiences of students. This study considers the

views of a cohort of engineering students to establish the effectiveness of preparation, the usefulness of OPUS (Online Placement University System), and their gains from their year in industrial placement.

The principal code emerging in the United Kingdom for the conduct of work-integrated and placement learning is the Quality Assurance Agency for Higher Education (QAA) code of practice: section 9 (QAA, 2007). This code lays out eight precepts which HEIs are required to meet when their period of work-integrated learning is part of the educational award. Laird and Turner (2007a) identify how elements of this code are implemented in the placement management system, OPUS. They show that the precepts are addressed substantially by the ability of OPUS to provide timely information, define the responsibilities of key parties, enable action and provide feedback for in-placement assessment. Many HEIs experience difficulty in communicating assessment requirements and in providing timely formative feedback to their students in placement in compliance with the QAA code: section 6 (assessment of students). Again, Laird and Turner (2007b) identified the ability of OPUS to provide the instructions and feedback with marks for each assessment component involving multiple, dispersed assessors.

While QAA codes are designed to apply nationally and are applicable to HEIs much of the detailed good practice is derived from practitioners' professional bodies. In the United Kingdom the Association for Sandwich Education and Training (ASET) with the National Centre for Work Experience (NCWE) have prepared a code of good practice (2001) to guide professionals in the application of work-integrated learning and placements. Of special interest to this study is the ASET guide for the managing of placements with Information Technology (IT) and online (2007). ASET has endorsed OPUS as complying with the guidance in this publication.

Codes specific to work-integrated learning and placements are relatively recent, especially in their current editions, yet the whole management of quality to achieve customer satisfaction is much older. The International Organisation for Standardisation (ISO) in their ISO 9000: 2000 family of standards present requirements and guidance for the effective management of quality with growing emphasis on customer satisfaction. Considering the 'customer' in work-integrated learning to be all three partners, the student, the employer and the higher education institution, Laird and Turner (2007c) identified how OPUS complies with many of the operational requirements of ISO 9001: 2000.

At the University of Ulster, by designing OPUS since 2000 and implementing it since 2002 (now in version 4), we believe that many of the current precepts, requirements and codes for achieving quality in work-integrated learning have been addressed. However, we consider the real test of effectiveness for quality rests with the users' experiences. This study concerns the students' experiences of seeking placement competitively and of the support the university delivers over the pre- and in-placement periods covering two years. Also, we were interested in identifying enhancements to OPUS and our operation of the placement programme.

METHODOLOGY

To collate the views of students returning from placement we conducted a review with the cohort of 95 engineering students who ended their period of one year in placement between June and August 2007. Completion of the review was voluntary and the questionnaire was issued to each student when they returned to the university to give their oral presentation on their placement experiences. The value to the placement process of participating was identified to encourage a good response. The students were placed in companies in Northern Ireland, Republic of Ireland, Great Britain and Germany.

The review asked each student to answer questions with pre-determined answers or free text as appropriate to the objectives of the study. These objectives were to: (a) establish the usefulness of the preparation for placement, (b) evaluate the support provided by OPUS during pre-placement, (c) ascertain the gains to the student from placement, (d) evaluate the support provided by OPUS during placement, and (e) identify enhancements for OPUS and, by implication, the placement process.

We believed that the issue of a personal copy of the questionnaire to each student at the final assessment, ie, the oral presentation, would encourage a strong response, certainly a representative sample. Presenting this review towards the end of the placement period allowed the students to assess several end-of-placement features and to evaluate the overall experience realistically. We structured questions to provide realistic and informative answers and which could be analyzed easily for this cohort. Questions allowed students to select their response from a pre-determined list or to give free-text comments as appropriate. In our analysis of each question, the comments were reviewed to identify approximately four to seven emergent main themes. Each comment was then coded under one of these headings to enable a tidy collation of views and presentation of findings.

FINDINGS

From the cohort of 95 students 45 responses (47%) were obtained. The respondents were representative of all courses in the cohort. The findings are presented to show the students' views relevant to the pre-placement and in-placement periods followed by an overall view of the placement experience.

Of the respondents who used OPUS to apply for placement 42% indicated they had used other sources to apply for placement also. Respondents indicated that 73% of them had become aware of their placement through OPUS. The remainder found their placements through friends and company contacts.
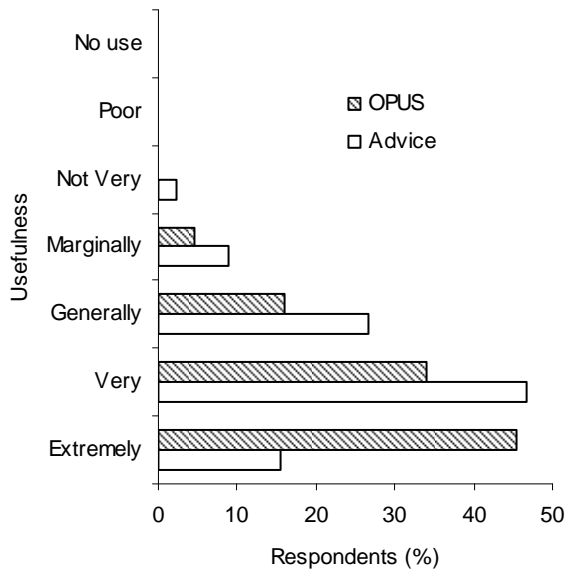
FIGURE 1. Usefulness of advice given and the value of OPUS in obtaining placement in the pre-placement period.
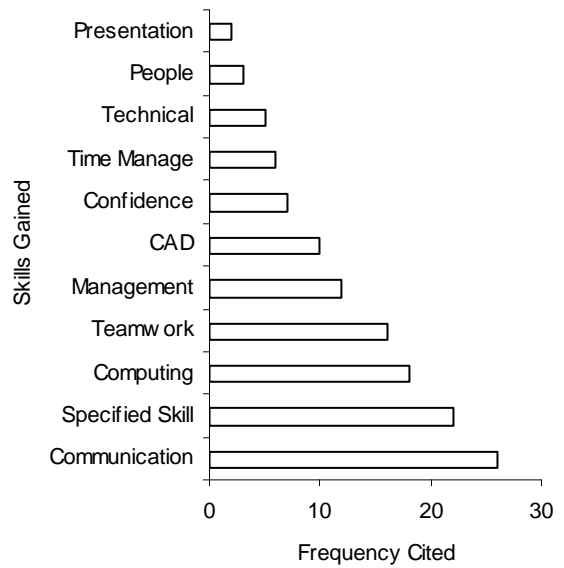
FIGURE 2. Skills gained during placement. Students were asked to list three skills they developed. 'Specified skill' relates to a specific skill relevant to the specific workplace or employer.

FIGURE 3. OPUS used by students during placement to obtain essential information. The two essential documents were 'Instructions for Students' giving the requirements of placement and employment, and the 'Assessment Programme' details.

FIGURE 4. Respondents' assessment of the feedback for visits and assessments provided through OPUS, having been input by respective assessors.

FIGURE 5. Most useful features of OPUS for respondents during placement. Students were asked to suggest their two most useful features of OPUS.
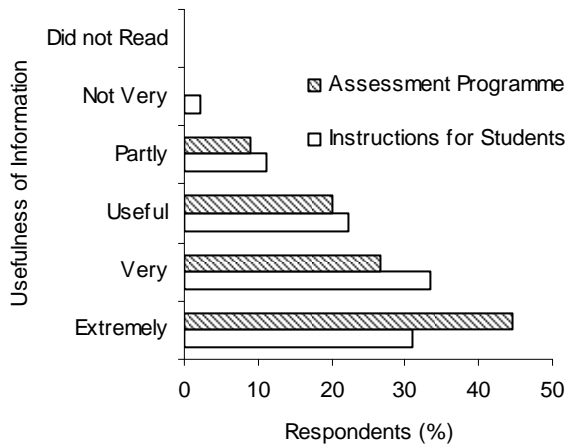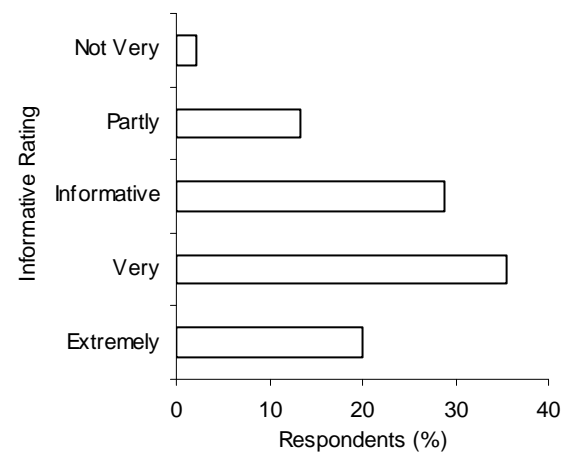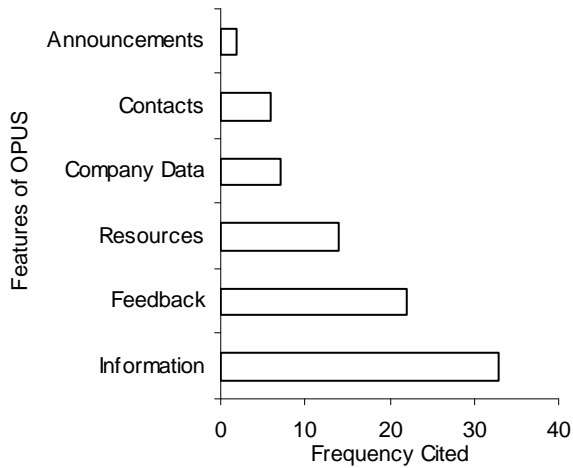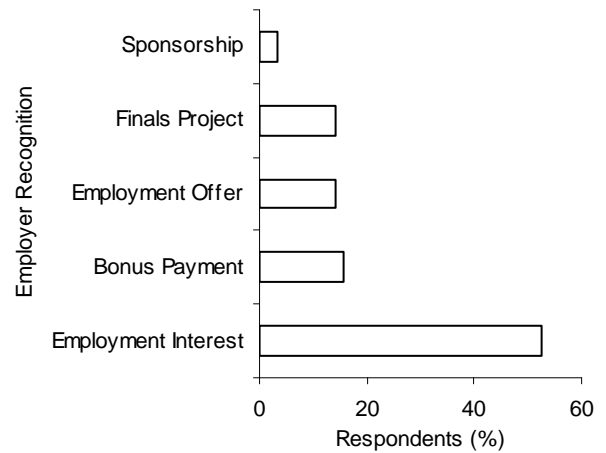

FIGURE 6. Recognition by the employer at the end of the placement period.
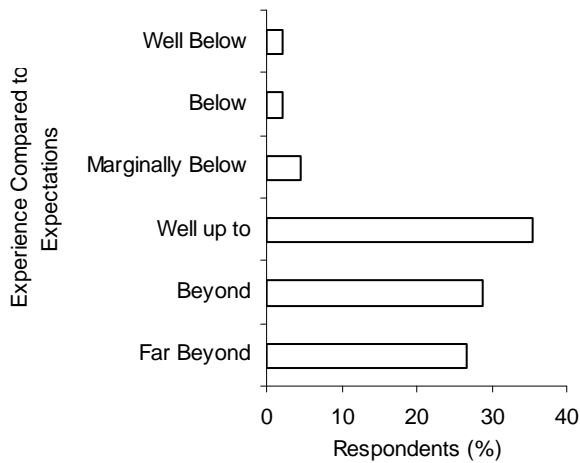
FIGURE 7. How the placement experience lived up to the expectations at the start of the period.
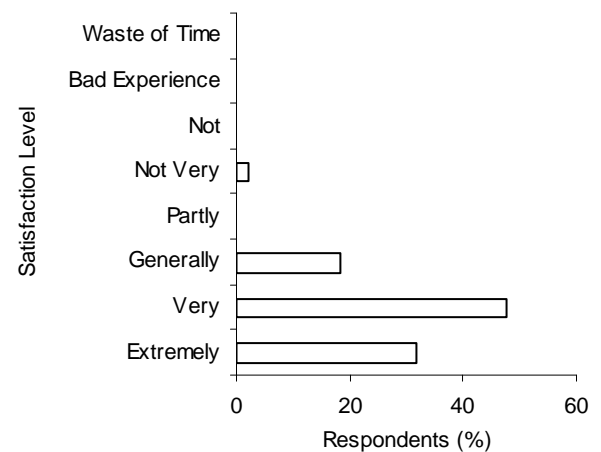
FIGURE 8. Satisfaction levels for the overall placement experience.

Most of the reasons for the high satisfaction levels related to the quality of the work in the company, the attitude of the employer, the different challenges from university study and the support provided by the employer and university throughout the period.

The most significant ideas suggested for new features in OPUS were: (a) a calendar to show key dates, and (b) a discussion board.

DISCUSSION

Overall, we are pleased with the positive outcomes from this study and have identified areas for further development within OPUS. For the first time, we have obtained empirical data to inform us on the effectiveness of some of our placement activities and the value of OPUS, especially involving our students. These findings will provide evidence of compliance in future QAA audits of placement.

To obtain a suitable placement, students must seek opportunities using any resources and contacts they may find, including OPUS. The findings suggest that students have followed this guidance to a significant extent as 42% had made applications outside of

OPUS. The fact that 73% of respondents sourced their actual placement through OPUS confirms to us, and we hope to students and employers, that this system is highly effective in achieving placements.

Students are introduced to OPUS early in the pre-placement year and are given extensive advice on CV building, seeking a suitable placement and preparation for interviews. We have believed that the measure of the effectiveness of this preparation has been the number of students who actually obtain placement, typically 98%. However, the students' appreciation of this advice is more clearly demonstrated in Figure 1, where 98% considered the advice to be marginally useful or better and 100% rate the usefulness of OPUS likewise. We use OPUS exclusively to promote placement opportunities, enable online applications and provide information and guidance in support of cohort briefing sessions.

The developmental nature of placement is shown in the list of skills presented in Figure 2, which represent a categorization of the contributions from the respondents. We note that many skills, although not all, are best developed in the workplace, e.g., team working, confidence, time management and people skills. Other skills, especially computing, CAD, technical skills and many specific skills, depend on education at university and development in placement. Not unexpectedly, no respondent reported that they had gained nothing from the placement experience.

The QAA (2007) states in Precept 4, "Awarding institutions inform students of their specific responsibilities and entitlements relating to their work-based learning and placement learning." Precept 5 states, "Awarding institutions provide students with appropriate and timely information, support and guidance prior to, throughout and following their work-based and placement learning." We consider the evidence from this study suggests that these requirements are met for the pre-placement period. During placement the students seek and need a variety of information. The need for clear guidance and information on the nature of placement, employment and related obligations is provided for in the document 'Instructions for Students'. Figure 3 presents the view on the usefulness of this document and the companion publication on the assessment programme. These documents are made available as pdf files within the resources section of OPUS to be accessed by any authorized user, including academic staff. We are pleased to note the strong indication of 'usefulness' for these documents. On the evaluation of feedback to the student for reports and visits we note a more variable evaluation in Figure 4. While OPUS provides a convenient mechanism for assessment and feedback online, the quality of the information depends on the assessor as author; this is more variable as totals of 25 academic assessors and 45 industrial assessors are involved with the respondents. From Figure 5 we are pleased to note the significant usefulness of a range of features of OPUS during the placement period. Thee findings give us confidence that much of the requirements within precepts 4 and 5 are being met.

We have noted the skill gains stated by students, but recognition by the employer is often more tangible. We are pleased to note from Figure 6 that 67% of the respondents returned to their final year of study with an indication of interest in employment from their employer; some of these were definite offers of employment.

It appears to us that employers recognize the contribution of our students and value industrial placement. Currently, salaries for engineering placements are £11,500 to £16,000.

The most significant and directly related suggestions made by respondents for additional functionality in OPUS were: (a) a calendar to show key dates, and (b) a discussion board. We will consider these ideas for a future release of the OPUS software.

As a summary statement on the placement experience we note from Figure 7 that 56% of respondents stated that their placement experience was 'beyond' or 'far beyond' their expectations before they started. Four students who did not relate this type of experience merit further consideration to identify the reasons. On 'overall satisfaction' we are pleased to note from Figure 8 that 98% of respondents are 'generally satisfied', 'very satisfied' or 'extremely satisfied' with their placement experience.

We have used OPUS extensively to support and manage all aspects of our placement operation; the software programme was developed by us for this purpose. From previous experiences we recognize the truth of the statement by the Association for Sandwich Education and Training (ASET)(2007), "Managing placements well is a time consuming activity. There is a lot to be done. Working with students, working with academic staff, working with placement providers and more." However, OPUS implementation has simplified and improved the effectiveness of our placement activities. ASET has endorsed OPUS as complying with most of their guidance for managing placements with IT and online. The results of this study indicate that students rely heavily on OPUS throughout the placement experience and rate its features highly. In as far as memory permits qualitative comparison, the previous 'knife and fork' processes using paper, E Mails and static databases do not compare with OPUS, which is now essential to the placement operation at Ulster. We believe that it has much to offer other HEIs that operate work-integrated learning or placement programmes. We note from Hassan and Shiratuddin (2004) that the Universiti Utara Malaysia has been developing their IT support to placements, but, based on their paper, we consider that OPUS has a more comprehensive feature set for all users. An extensive search of abstract databases produced no further details of online placement management systems for comparison.

We hope this comment on OPUS by a biomedical engineering student who was placed with a medical-device company is appropriate, "It's all good, everything is there and it is simple and clear."

CONCLUSION

We conclude that students consider the advice and the functionality of OPUS to be very useful during the pre-placement period. They achieve considerable enhancement in a wide range of skills, some of which are specific to the workplace and others involve the application of knowledge obtained at studies. Employers have demonstrated their satisfaction by indicating a willingness to consider over 50% of them for employment on graduation. We note that OPUS is used for a range of functions during placement and this support is highly rated by students. Overall,

students consider that their placement experience exceeds their expectations and overall satisfaction rates are very high. The main suggestions for enhancements to OPUS are to add a calendar with key dates and a discussion board.

This study targeted a cohort of returning engineering students and achieved a 47% response. We consider it necessary to run this study on the next cohort and compare the findings over the two years. This study applied to cohorts in other disciplines would add further evidence on the usefulness of OPUS. We aim to extend this review in the future.

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Workplace learning: creating balance between experiential learning and commercial outcomes

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As community engagement grows across higher education, group work-integrated models may contribute to efficiency and to learning outcomes. Cooperative education and other internships are well-established in the literature as pedagogy with links to experiential and connected learning. Cooperative programs provide the nexus of business, industry, educational providers and student paid on-the-job learning experiences. For the most part, work-based learning education discourse focuses on individual or small group based models. This paper reports on the outcomes and lessons learnt from a large and complex project involving 35 students from seven disciplines. The project presented an opportunity to document the challenges and opportunities inherent in a large group work-integrated experience. Over a period of 10 weeks 35 students worked together to research, design and implement an online training program for small business owners. Students worked in teams to create an online content management system, design the website's look and feel, develop and edit financial skills content, and produce audio visual material. Projective testing through cartoon completion tests were employed to assess the learning outcomes, and both positive and negative aspects of the management of the project. The synthesis of the industry and student responses identified the need for educators paying attention to three categories: planning, student selection and overall management of the project. Findings suggest specific ways to improve large group work-based programs.

Keywords: Community-based learning, engagement, experiential, projective tests, work based pedagogy.

INTRODUCTION

The Australian Government's Financial Literacy Foundation has recognised that small business owners and managers need to develop their financial skills to improve their long-term sustainability and growth, reduce business exit rates, and improve national economic performance. Small businesses form a significant part of the Australian economy, with the Council of Small Business Organisation of Australia reporting that the 1.88m small businesses generate 30% of economic activity with a total capitalised worth of $4.3 trillion.

To assist the small business community, the University of Western Sydney (UWS) is funding and managing the development of *SMExcellence*, a website that provides financial skills assistance through a user-friendly search portal to simplify the sourcing of existing financial information, and provide relevant content targeted at the small business community and free online tutorials. The website will showcase the skills of UWS students through their development of the online platform, content and multi-media applications. Students benefit from experiential learning when working on a 'real-world' project.

The purpose of this paper is to report on outcomes and lessons learnt from a large and complex project involving 35 students from seven disciplines using the case study of SMExcellence to answer two research questions.

RESEARCH QUESTIONS

This research aimed to:

- compare student learning objectives with their perceptions of the experience, using a work-based pedagogy in a large and complex learning project
- identify managerial lessons from a large and complex project involving students from a range of disciplines.

LITERATURE REVIEW

Experiential learning as a pedagogy is established in the literature as an alternative, effective, and appropriate methodology for education in business schools to link theory and practice (Govekar & Rishi, 2007). Experiential learning occurs when students are engaged in the experience, and deep learning is facilitated when students reflect on their experiences, analyse them, and produce personal theories (Smith, Clegg, Lawrence, & Todd, 2007). Work-based learning (WBL) is a form of experiential learning that typically involves students working full-time before or during their course, undertaking projects in new contexts outside traditional classroom settings supervised by non-academic staff. The contextualisation practice allows a greater diversity of learning activities in a learner-managed role (Bound & Costley, 2007). WBL enables the transfer of knowledge and processes from one context to another, and it benefits the learner who must reflect on the work experience and connect academic understanding with work practice (Smith et al., 2007). Experiential WBL overcomes the problems associated with teaching tacit knowledge by encouraging learners through reflective practice (Schon, 1983; Smith et al., 2007) and is part of the process of becoming a competent and reflective practitioner (Nikolou-Walker & Garnett, 2004; Schon, 1983). Group work-based learning (GWBL) utilises teams of students to plan, organise, and deliver certain outcomes as agreed with the client organisation. GWBL facilitates student teams to enhance their knowledge and skill base, and provides social and personal development opportunities in the work place (Rossin & Hyland, 2003).

Community-based learning (CBL) benefits students and the community equally through measured service learning outcomes, academic outcomes, and civic engagement (Furco, 1996; Simon & Cleary, 2006). CBL enhances student competencies through linking theory and real world practice, often within a changing environment (Govekar & Rishi, 2007). Undergraduate learners achieve higher grades after their experience (Simon & Cleary, 2006). CBL can also benefit students' interpersonal and personal development (Moely, Mercer, Ilustre, Miron & McFarland, 2002; Simon & Cleary, 2006) and increase their multicultural competencies and community involvement (Moely et al., 2002; Root, Callahan, & Sepanski, 2002).

Despite the increasing academic interest in WBL and GWBL (see Nikolou-Walker & Garnett, 2004; Rainsbury, Hodges, Sutherland, & Barrow, 1998; Rossin & Hyland, 2003; Spalding, Ferguson, Garrigan, & Stewart, 1999), there is an absence of studies

reporting on large complex WBL adopting a CBL pedagogy with students from a wide range of disciplines. This research addresses this gap in the literature using *SMExcellence* as a case study.

DESCRIPTION OF THE PROJECT

SMExcellence is a free online interactive learning platform that improves the business skills of small business owner-managers. Thirty-five students from a range of disciplines (accounting, communications, computer science, visual design, information technology, management, and marketing) were employed as part of the University's 2007–2008 summer cooperative placement program. Students apply for and are selected on their academic achievement. No academic credit was given to students for the completion of the program. Students were employed for 5–13 weeks, with an average tenure of 10 weeks, and received a payment of around $400 per week for their work placement. All students worked within the university in a simulated work environment.

The student learning objectives included providing relevant industry experience through application of theory to practice in a real-world setting; developing new knowledge such as business management, project management, and financial concepts; enhancing skills such as communications, writing, and time management; promoting inter-dependent group learning and the ability to work within a team; and encouraging personal development such as leadership and self-efficiency. Students were placed into functional teams based upon their area of expertise and interest: website designers (n=5); programmers (n=8); content developers (n=13); content editors (n=4); and multi-media developers (n=5).

Students worked with community partners, such as industry associations who provided support for development and validation of content through their members, business owners who provided input and validation of content, companies who provided interviews for video, and business people who provided feedback and guidance to student progress.

The requirement to deliver the finished SMExcellence website by the end of the summer period dictated that the development activities (software, content and multi-media) were completed in parallel. Whilst there was an initial conceptual model of the platform, website functionality and content structure continually evolved to meet the challenges as they arose. The continuous weekly evolution of the platform's functionality, 'look and feel', and content management system necessitated constant changes to the projects scope and guidelines.

Student team leaders drawn from the functional groups supervised students and ensured adequate communication between groups and the management team. Weekly review forums assessed progress and provided overall direction. Students presented their progress to the management team, academic supervisors and industry partners. It was a requirement that all students attend the weekly review to facilitate a shared vision and understanding of the project, and to participate in feedback, discussion and debate.

METHODOLOGY

This study used the single case of the development of the *SMExcellence* initiative. Data were collected from the students, industry partners and the project team using projective tests. The projective tests used a cartoon drawing for which the respondents suggest a dialogue between two characters (Zikmund, 2003). Cartoon tests have been successfully deployed in educational studies (see Catterall & Ibbotson, 2000; Pearce & Lee, 2006, 2007; Lee & Holland, 2008). In the cartoon test that was administered in their final week of placement, student respondents were asked to fill in the bubble in the cartoon by answering two questions:

1. How did your time with SMExcellence compare with other university learning activities?
2. What are your views about the way the project was run?

Similarly, the industry partners and management team were asked

1. How would you describe the *student* experience compared with other university learning activities?
2. What are your views about the way the project was run?

All responses were voluntary and anonymous, and thus were not considered to have influenced the program's requirements to complete a placement satisfaction survey and reflective journal of their experience.

Transcripts were analysed using QSR NVivo following the recommendations of Bazeley and Richards (2000). Data were initially classified into themes with attributes emerging from the coding process. Numbers indicated attribute frequency occurrence and while this was not a statistical test, the results revealed patterns in the data. Summation of frequency of occurrence of individual attributes was greater than the sum of the total responses, as respondents reported multiple attributes within their response.

FINDINGS

The cartoon completion test generated 26 student responses from a sample size of 35. Industry partners (n=6) and management team (n=2) provided eight responses. The majority of students (n=14) were involved in the project for 6–10 weeks, with fewer students involved for periods of 1–5 (n=7) and 11–15 weeks (n=5). When asked about their learning experience and views on the project management, respondents identified both positive and negative attributes as summarised in Table 1. Table 1 compares the student learning objectives to self-reported student and industry partner responses by frequency of reported attribute to identify strong, medium and weak clusters.

TABLE 1

Student Learning Objectives and Self-reported Outcomes by Students and Industry Partners

Research dimensions	Student learning objectives	Attributes identified through NVivo thematic coding	Students	Industry partners
Positive attributes		**Overall positive responses**	**22**	**8**
		Better learning experience than traditional university activities	11	7
	Personal development	Personal development	10	2
		Well managed project	8	
	Relevant work experience	Provided industry experience	8	2
	Group based learning	Good environment for teamwork	6	4
	Facilitates deep learning	Enhanced skills and knowledge	6	6
	Improve interpersonal skills	Facilitated social networking	5	
	Apply theory to practice	Apply skills learnt at university	4	1
		Demonstrate creativity	1	
		Financial gain of getting a job	1	
	Coping with a changing environment	Evolving and dynamic project		3
	Experiential learning	Learning-by-doing		3
	Personal development	Self-directed learning		1
Negative attributes		**Overall negative responses**	**7**	**4**
		Communication needs improving	3	1
		Organisation needs improving	3	4
		Too many changes throughout the project	2	
		Initial planning of the project	2	2
		Supervision of the project		1
		University environment		1
		Student selection process		3
		Quantity of students		3
		Up-skilling of students		1
		Student tenure should be longer		1

Classifying responses by positive or negative dimensions revealed differences in the reporting by group, with the industry group unanimous in support that the student experience was positive. The industry group solely identified benefits to students of being part of a dynamic and evolving project, learning-by-doing, and being immersed in a self-directed learning environment. The industry group were also more critical of the project's management, noting the need for greater student supervision, difficulty for students perceiving the university environment as a 'real-life' workplace, student selection process, dealing with a large cohort of students at one time, difficulty in up-skilling students to meet project requirements, and the need to increase the tenure of students.

Similarities between groups in positive attributes included better learning experience than traditional university activities, personal development, industry experience, development of team working skills, enhancement of student's skills and knowledge, and application of theory to practice. Similarities between groups in negative attributes included communication, organisation, and project planning.

DISCUSSION AND CONCLUSION

This paper compared student learning objectives to student perceptions of their experience in a large and complex work-based learning (WBL) project using a community-based pedagogy (CBL). The students' perception of their experience and industry partner perceptions were assessed through a self-reported projective cartoon completion test. Thematic analysis of the responses using NVivo software identifies learning experiences that are consistent with the experiential WBL and CBL literature and with the student learning objectives of the project (Table 1). Therefore, we suggest that large and complex projects that involve students from a variety of disciplines facilitate positive learning outcomes as reported in the literature.

Both students and industry partners considered that the quality of learning facilitated from the project a better experience than traditional university activities, reinforcing previous findings that WBL facilitates new learning environments (Bound & Costley, 2007), connects theory to practice (Smith et al., 2007), and enhances student competencies (Govekar & Rishi, 2007). Although two students thought there were too many changes, industry partners praised the dynamic nature of the project, supporting Govekar and Rishi's (2007) view that CBL assists student to cope with changing environments.

The second objective of the paper was to identify managerial lessons from a large and complex project involving students from a range of disciplines. The analysis of the negative response data gives insight into how to manage similar projects. The responses can be classified into three categories: planning, student selection and project management. Planning requires management to accurately estimate student numbers (too many can reduce efficiency), tenure (several weeks of training before they can effectively contribute), key competencies (students have prior skills to perform in their roles), and tasks (defined roles and duty statement). Organisational planning is required to coordinate individuals within the group, and adequate work flows and communications between groups ensure project outcomes are achieved. In the second stage, student selection, managers must ensure students understand their role (through a job description), have the requisite competencies (demonstrated experience in the relevant discipline), and are able to cope with demands of commercially driven outcomes (intrinsic motivation for high performance). Effective management of the project requires open communication channels (teams being aware of the process and procedures), supervision of teams (appointment of student team leaders liaising with management), and sharing common vision and progress (through weekly review forums with all students presenting their team's progress). As such, an avenue of further research is to understand the relationship between tenure of student placements and their learning experiences to provide valuable insight into the management of similar projects.

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Defining a university: A community of teachers and students… in the community

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Since the nineteenth century Australia's universities have sought to engage in society's needs both directly and indirectly. Victoria University, with campuses extending from Melbourne's CBD westward through an ethnically diverse former industrial heartland, is perhaps more consciously and explicitly devoted to the community than most.

This presentation will look at VU's involvement in the community holistically, examining student engagement in the community as experiential learning and against the typologies of service learning and learning in the workplace, as well as initiatives sponsored by the university to deliver grass roots training inroads and opportunities in the region as intermediate labour markets, community service enterprises and/or student recruiting streams.

The presentation will introduce two case studies. One study will look at a social work student's development of resources for sibling care for a community organisation as part of course work. The second study concerns the establishment of a Tool Library that provided an entry point into vocational education and training in a disadvantaged area, became a real world delivery context for the Certificate Two in Building and Construction and for Bachelor of Engineering students to undertake problem-based learning, and provides an ongoing community and university resource.

Keywords: community, service learning, dual-sector university, access, intermediate labour market

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The word university is derived from the Latin, *universitas magistrorum et scholarium,* a community of masters and scholars. A popular perception continues that universities are, of themselves, little communities rather than part of the communities they serve and which support them. Of course, it is a point of pride, duty and marketing that modern universities serve the wider community, whether indirectly through research or directly through community-based activities. This paper is not particularly concerned, however, with helping (or being seen to help) the wider community as such; rather we are interested in how learning opportunities have evolved in community settings and, where possible, more people are brought within the university community.

Apart from themselves being beneficiaries of philanthropy and public endowment, universities have long extended help to the wider community, an early systematic example being the settlement house movement originating in Britain in the 1880s. (Blank 1998) These activities were certainly noble and no doubt educational and fulfilling for students and graduates, but were cased in the assumption of extending help downwards to the needy. The service learning movement developed in the late

twentieth century in North America and owing an intellectual debt to John Dewey's experiential learning (Dewey 1938) acknowledges the mutual nature of benefit for served and servant (that is, student). Here we want to go beyond the notion that serving the community is of itself automatically good and worthy by looking at how authentic community-based learning can achieve a synergy between useful outcomes and transferable skill and knowledge acquisition for students.

After briefly discussing VU's approach to learning in the workplace and community, we will introduce two case studies of learning in the community, where we will draw attention to various typologies of learning organisations. The first (brief) example is a single student's work with the Sunspec Support Group assisting siblings of people with disabilities and our analysis of it builds on the student's creation of an assistance manual that is still in use. The second case study covers the Western Region Community Tool Library, which has grown to be a rich source of learning opportunities for students and indeed, a recruiting ground for entry level learners.

The Tool Library has been evaluated as an example of an intermediate labour market and as a source for real world problem-based learning; a functioning enterprise and an organic program subject to continuous improvement. These two examples illustrate both the individual initiative that can be harnessed to enable *bona fide* learning contributions and the need to reinvest what on-the-ground organisational knowledge educational and community partners can access in extending programs and opportunities.

LEARNING IN THE WORKPLACE AND COMMUNITY: THE VU CONTEXT

VU is a multi-sector university, with research and further, vocational and higher education courses across a wide range of disciplines. *Making VU: A Statement of Purpose, Victoria University's strategic direction for 2008-2016* recognises the university's long history as part of the community in Melbourne's west. Building on that history we commit to focusing on the establishment and maintenance of strong reciprocal relationships with groups and organisations where we can make a difference in, with and through the community. Towards 2016 we have committed to contribute to the social, cultural and economic sustainability of the enterprises and communities in which we work. (Victoria University 2007a)

One of the strategies to ensure that this goal is reached is the embedding of Learning in the Workplace and Community (LiWC) in all VU courses and in particular through community (or service) learning. The VU LIWC Policy defines community and service learning as: *A teaching and learning approach that combines community based service with student learning in the provision of that service. LiWC in the community emphasises mutual benefit and reciprocity between the student, the University and the community agency or enterprise.* (Victoria University 2007b)

VU aims for a unified approach to LiWC in which community-based learning is readily understood as an equivalent alternative and complement to workplace-based learning; that is, we go beyond the nebulous concept of getting out and 'doing good', with the priority for students being to undertake genuine learning in authentic settings

producing a valuable product or outcome. In this learning in the community it is not the thought that counts but the substantive outcome, which in turn can be used as evidence of students' contributions and capacities.

SUNSPEC SUPPORT GROUP FOR FAMILIES OF PEOPLE WITH DISABILITIES

The following is an example of customized learning in a learning setting, drawing guidance from research in the field. (eg Keogh 1998) This brief case study will distinguish between the procedural integrity of the learning experience and the substantive achievement effected. Sunspec Support Group for Families/Carers of People With Disabilities Inc. is a community-based organisation servicing the outer western suburbs of Melbourne. The organisation receives funding for a part-time coordinator for resourcing and running the Carer Support Group. Management and other functions are carried out by the families of children with disabilities. Funds were initially   accessed through a Hume City Council Development Grant in 2007 to provide a recreation-based Sibling Support Program   to address the respite and recreation needs of siblings of special needs children between the ages of eight and fourteen. The support needs of siblings has been largely overlooked, however their social and economic disadvantage as a member of a families caring for a person with a disability has imposed significant access and equity issues which are beyond their ability to address.

The Sibling Support   Program is run by a VU project officer along with a qualified grief counsellor. During the 2007 academic year, a single VU student studying for a Bachelor of Arts in Advocacy and Mediation was coopted in to undertake a 200 hour internship in the Sibling Support Program. A learning contract was designed for this internship to enable the student to engage in   reflexive praxis and thereby integrating the key themes in his study. In this instance there was an opportunity to reflect specifically on his Sociology major, in particular understandings of systemic, structural, social and cultural disadvantage, constructions of difference, the medicalisation of disability and constructions of family from a Foucaultian perspective. The student would have the opportunity to embed his understandings of anti-discrimination legislation and put to use his conflict resolution and negotiation skills. In evaluating the procedural integrity of the student's internship, it is important to note that the experiential learning context did not simply demand that reflection was present and accounted for but, rather, that the student's preceding academic learning was effectively operationalised in conducting the placement. The substantive contribution by the student consists of the program of recreational activities carried out for siblings of people with disabilities, including the creation of a handbook containing information on organising such activities with regard to the particular needs of the customers. While customary reflective exercises benefited in informing action, the authentic output of the learning experience can be seen in the combination of active experience and the creation of realia – a resource that will be of ongoing benefit to the program and possibly be suitable for wider application.

Sunspec have continued their close association with VU and VU's creative industries program recently finalised the development of letterhead and business cards for Sunspec as a LiWC opportunity for the new Creative Design Studio. Sunspec is

currently exploring the possibility of ongoing social work placements under the supervision of a qualified social worker in a new program providing day activities for adults who have no access to other social inclusion programs.

WESTERN REGION COMMUNITY TOOL LIBRARY

It is consistent with the structure and heritage of VU that part of its activities involve encouraging the entry into post-compulsory education of people who have been outside or stalled in formal education. The Western Region Community Tool Library is an example not only of how entry-level programs have been offered in the community, but of how these activities have been fully integrated into the university system. In appraising the program, we draw on international best practice principles for intermediate labour markets (ILMs), programs which aim to assist those out of the workforce in gaining workplace skills and confidence in a supportive, training- (and ideally qualification-) oriented environment. This case study outlines the reinvigoration of a community Tool Library and woodworking workshop and the capacity building of its committee of management. It has provided an entry point into vocational education and training in a traditionally disadvantaged area, and became an ongoing community and university resource delivering training and income.

Established before VU's involvement began in 2004, there have been considerable challenges operating the non-profit Tool Library (the ostensible business function of which is to provide an inventory of tools that can be hired or borrowed for use on private or community projects), with VU gaining a windfall of organizational knowledge from partnering in the enterprise. To use the words of Neil Dillon, President of the Western Region Community Tool Library, the association with VU in this Braybrook based community organisation began with the words:

> 'Can VU help us out with some carpentry training?'
>
> This was the question that I put to Frances Newell, the Braybrook Maidstone Employment and Learning Coordinator employed through Victoria University as part of the state government's Neighbourhood Renewal team.
>
> But a simple question did not have a simple answer. To deliver training in the workshop, there had to be an Occupational Health and Safety upgrade. So began a partnership which included Neighbourhood Renewal Infrastructure funding, Victoria University training and project management, Regional Partnerships funding, the former Department for Victorian Communities funding, Brotherhood of St Laurence support, a donation of tools from Black and Decker and last, but not least, continuing support from Maribyrnong City Council.
>
> This partnership has now secured a future for the Tool Library as a venue for a variety of activities such as training, Work for the Dole, hobby classes and a re-invigorated tool hire service.' (WRCTL 2007)

This account, however, understates the degree to which VU has piggybacked on and contributed to the Tool Library. From 2004–2007 Victoria University was contracted to provide the Employment and Learning Coordinator (ELC) role for the Department

of Human Services Braybrook and Maidstone Neighbourhood Renewal program, a state government program aimed at addressing long-term disadvantage and underemployment in targeted areas of Melbourne.

Through this role the VU ELC team developed partnerships and programs to address skills shortages in building and construction, horticulture, hospitality and hairdressing in the local Braybrook Maidstone community. The ILM model aptly describes the Tool Library's aspirations as one of '*a diverse range of local initiatives that provide temporary waged employment in a genuine work environment with continuous support to assist participant's transition to work*' and research by the Brotherhood of St Laurence suggested that international success in this approach could be replicated in Melbourne. (Mestan and Scutella 2007)

ILM programs generally offer closely supervised short-term employment of up to 12 months to the long-term unemployed on a voluntary basis, an approach called 'scaffolding'. These programs seek to build a gradual disengagement from government income support by providing a wage for service. Somewhat typically the Braybrook Maidstone ILMs were supported by the local council and other local non - government organisations to compete in the open market.

The following diagram summarises the Brotherhood's concept of ILMs.

Vocational pathways approach used by the Brotherhood's ILM programs
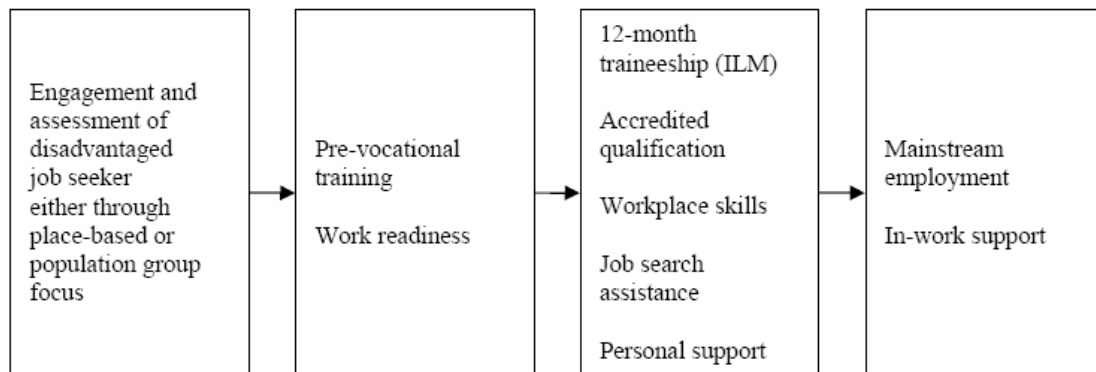
(Mestan and Scutella 2007)

Through the lens of the ILM, it is possible to identify ways in which the university's involvement could naturally enrich the core training role. An important feature of ILM best practice is that enterprises involve and manage some degree of financial risk; VU's support to the Tool Library includes ongoing training for the Committee of Management in executing its role effectively. This concepts of organizational learning and *continuous improvement* (or *kaizen*: see Imai 1986) embraced by the Tool Library have prompted, over the past four years, the delivery of the Certificate III in Frontline Management and the Certificate IV in   Business (Small Business Management) to members of the committee, customised to the Tool Library setting.

The university assisted in developing a funding submission to Neighbourhood Renewal for an occupational health and safety (OH&S) upgrade of the Tool Library carpentry workshop which would permit accredited training to occur from the premises in the future. The upgrade was a grass roots training exercise in itself;

residents who enrolled in the program undertook the construction components of the OH&S upgrade of the Tool Library including demolition of the tool storage area, construction of a new tool storage area, upgrade of kitchen and office space, sound proofing, construction of new workbenches and painting etc.

The OH&S upgrade was designed as the first accredited program at the Tool Library, with the delivery of the Certificate II in Building and Construction. This program was delivered in the manner of an ILM albeit over a much shorter timeframe – 16 weeks - but with fewer participants training on different days. The program participants were long-term unemployed local residents of Braybrook Maidstone. Currently VU is the only Victorian tertiary institution that delivers 'live' work at pre-apprenticeship level building transportable homes made to order at our Newport campus. The 'live' training that these students experienced in renovating the Tool Library carpentry workshop was aligned with this experiential pedagogy. In order to frame this experience as learning in, through and for work, the participants were paid wages for two days per week. The Tool Library also supported the Victoria University's community-based delivery of the Certificate II in Horticulture at the adjoining Braybrook community garden. These participants completed this highly supported training and moved to articulated traineeships with the Brotherhood.

The outcomes for the participants in these ILM-style programs are mixed, mirroring international experience. Despite this all participants have benefited from the skill development and support provided by these programs. Some of the participants of these programs moved into traineeships and have secured long-term employment at the end of that traineeship. Others moved into other VU training programs including the highly successful Healthy Canteen ILM program. Another participant secured an apprenticeship as a builder and others are yet to make the transition to the labour market.

From VU's point of view, a wider variety of education and training activities have been built alongside this ILM model. The Tool Library has become very much a rhizomatic entity (to build on Deleuze and Guattari 1987), casting new shoots and educational opportunities from the core of the Tool Library. A final year social work student completed her major placement assisting Tool Library members in the construction of the carpentry workshop.

Students from VU's higher education courses have benefited from authentic service learning opportunities to meet a community need and to experience theoretical concepts as they are applied in practice. At the Tool Library's request following the theft of some tools, as part of a problem-based learning exercise, Bachelor of Electrical Engineering students designed a barcode system to track hiring and maintenance. Two teams of students undertook the challenge to develop a system which would be simple and effective. The project was so successful that the Tool Library was able to choose from two working models and has implemented the preferred model into daily operations. A second problem-based learning project was established in which two further teams were asked to design a system for tracking the tools using a global positioning system as a preventative measure against future loss. Unfortunately the technology for such a system was too costly to be implemented by the Tool Library. Interestingly, the technology developed by the students is of interest

to, and will be further developed as a project by one of the largest logistics companies in the West with whom VU has forged a new partnership through this LiWC opportunity.

CONCLUSION

The two case studies in this paper demonstrate how students can be placed in useful roles in a community setting and how community enterprises can partner with educational institutions for mutual and complementary benefit. An important principle maintained throughout these activities is that participants should be engaged in activities that produce useful, tangible results beyond the abs tract notion of learning, but at the heart of which learning and capacity building is a keystone. Owing to the constraints on resourcing community learning programs, efficiency and effectiveness are at a premium and if capacity and resources can be built through learning activities, the synergy and momentum can be powerful. A university should look to the community it serves and which supports it not as a larger, parallel community, but as a resource for guiding its activities.

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The South African higher education qualifications framework and work integrated learning: kill or keep? A town and regional planning perspective

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The National Diploma: Town and Regional Planning is a technology programme offered in South Africa. This three-year qualification includes 12 months of work integrated learning (WIL). The Higher Education Qualifications Framework (HEQF) gazetted in 2007 necessitates the re-curriculation of programmes to fit into new framework. The statement in the HEQF: It is the responsibility of the higher education institution to place students into WIL programmes has put the spotlight on WIL as it has obvious legal consequences. It raises the question: Is it worth retaining WIL in academic programmes, especially given that a WIL component will 'add' a year to the qualification without a difference in the HEQF level of the qualification? This immediate dilemma faces the Town and Regional Planning department at the University of Johannesburg (South Africa).

The paper presenters look forward to disseminating the findings of the qualitative study to solve the dilemma, with students and industry partners being surveyed for their input. A comparison between the South African situation in the Town and Regional Planning qualification structure and that elsewhere in the world will provide additional insight as to the way forward for this programme.

What will employers and students say? Keep or Kill?

Keywords: curriculum design, Town and Regional Planning, work integrated learning

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INTRODUCTION

The University of Johannesburg (UJ) was founded on 1 January 2005 as a result of an amalgamation between the former Rand Afrikaans University (a traditional university) and Technikon Witwatersrand (a polytechnic). The UJ is termed a 'comprehensive' university that offers a mix of general formative (traditional) education, professional and career-focused programmes. It is mainly the career-focused programmes that include a work integrated learning (WIL) component.

The National Diploma: Town and Regional Planning (hereafter referred to as "the diploma") is a technology programme offered in South Africa. This programme includes 11 months (220 working days) of WIL. The Higher Education Qualifications Framework (HEQF) (Department of Education, 2007) states that … *It is the responsibility of the higher education institution to place students into WIL programmes.* It was previously not stated explicitly that the responsibility lies with the Institution, and it was generally accepted that it is the responsibility of the Student

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to secure a WIL opportunity with the department's assistance. This has put the spotlight on WIL as it now will have legal consequences. It raises the question: Is it worth retaining WIL in the diploma programme. This is the immediate dilemma facing the Department of Town and Regional Planning at the UJ.

As part of a process toward an Institutional audit that will take place during 2009, the Department of Town and Regional Planning at UJ underwent a process of Internal Programme Review (Self Evaluation) as well as an External Programme Review in 2007. The Internal Programme Review Panel inter alia suggested that "… a meeting with as many stakeholders as possible be held to discuss how the curriculum could be adjusted to accommodate (changes proposed to the WIL component of the diploma programme) …, and to facilitate buy-in for the placement and training of students in line with the learning outcomes expected." (Internal Programme Review 2007:2)

The above together with the challenges the HEQF brings and in order for the department to make an informed decision that takes into account the end-user of the education product (being the newly graduated student) prompted this research. Quality, fitness-for-purpose and meeting the needs of industry are further important considerations. In this paper the focus is on the question - should the WIL component still form part of the diploma programme.

BACKGROUND

The diploma is one of two qualifications currently being offered through the Department. The diploma programme is unique in the Gauteng Province and no similar programme is offered in the province. Only two other institutions offer the diploma programme within South Africa.

The National Diploma: Town and Regional Planning

The diploma programme is a three year undergraduate qualification consisting of two years of academic and one year of WIL. First year Town and Regional Planning modules are designed to provide skills to students for a Town and Regional Planning environment. This foundation is built on in the second year when students acquire practical skills under the supervision of approved employers through the WIL component. Students are then also required to complete four modules in support of the WIL and in preparation for the third year of study.

Internal and External Programme Review

As part of a process toward Institutional Audit during 2009 the Department of Town and Regional Planning underwent a process of Internal Programme Review (Self Evaluation) followed by a process of External Programme Review.

During the Internal Programme Review that took place on 15 June 2007, WIL was the most discussed and the review panel indicated that this was an area that required attention (Internal Review Panel 2007:2). The Internal Programme Review Panel put forward proposals/suggestions that inter alia included the following suggestion that further prompted this study:

"It is recommended that the structure of the programme be considered, ie to minimize and move the WIL to the last 6 months of the semester (second semester in third year). This will allow companies to offer the students work on completion of their qualification. It will encourage companies to have a student for WIL, as it can be considered orientation time. The students will also be more mature and apply themselves more rigorously to the task at hand. The curriculum can be adjusted to make this change. The committee suggests that a meeting with as many stakeholders as possible be held to discuss how the curriculum could be adjusted to accommodate this change, …" (Internal Programme Review 2007:2).

The Internal Programme Review Panel also found that, although there is a good balance between the theoretical part of the qualification and the practical part of the qualification, WIL is too long and that it is located in the 'wrong year' (Internal Programme Review 2007:5). It is important to note that the Internal Review Panel did not suggest that WIL be excluded. In fact, the panel indicated that "Students are very employable and this is primarily due to the WIL." (Internal Programme Review 2007:8).

The External Review Panel agreed with the majority of the suggestions presented by the Internal Review Panel (referred to as the self-evaluation report). What is however, specifically highlighted from the External Review Panel's report is that the teaching and learning load during the second year (the year in which the WIL is currently situated) exceeds the recommended number of notional hours. The External Programme Review Panel suggested that the offering of WIL during the entire second year of the programme be reconsidered. They further suggested that the time period allocated for WIL be reconsidered and that the notional hours recommended by SAQA be taken into consideration.

AIM

The principle aim of this paper is to address the following questions:

- Is it worth retaining WIL in the Town and Regional Planning academic programmes? Here the opinions of the current students enrolled for the diploma programme were sourced as well as the opinion of Employers in the field of Town and Regional Planning employing the students for the WIL component.
- If it was found that WIL should stay as part of the qualification, when should the students engage with this component?
- If it was found that WIL should stay as part of the qualification, how long should this component be?

These questions were to address the issues and recommendations made by the Internal as well as the External Review Panels.

CONSTRAINTS/ LIMITATIONS AND ASPECTS TO CONSIDER

An aspect that needs to be taken into account and which did not form part of this study, is the requirement stipulated in the Planning Profession Act, 2002 (Act No. 36 of 2002) for registration as a technical planner with the South African Council for Planners (SACPLAN). Section 13(4)(b) of the Planning Profession Act, 2002 (Act No. 36 of 2002) states that a person applying for registration as a technical planner " … has undergone practical training of not less than two years or as may be prescribed by the Council; …".

Another relates to the pressure on academic departments with respect to throughput. Carter (2008:60) captures this in that "*Regulators* are increasing interventionist … in the optimisation of funding and resources required for the delivery of the curriculum and the speed of 'throughput' …". The placement of students for the WIL component (or student seeking WIL opportunities) is reliant on the availability of WIL opportunities as well as the willingness of employers to accommodate such students and this in turn impacts on throughput. A comparison between the South African situation in the Town and Regional Planning qualification structure and that elsewhere in the world did not form part of this study. This will provide additional insight as to the way forward for this programme and will form part of further research in this matter.

METHODOLOGY

A process of qualitative research was used to establish the opinion of students currently enrolled for the diploma as well the opinion of the employers that currently and previously employed students for the WIL component. Structured questionnaires were distributed to 170 students. The questionnaires were randomly distributed.

A total number of 60 questionnaires were distributed to companies who had participated as WIL employers of Town and Regional Planning students since 2005 (since the merger). Whilst this was a convenient sample, these employers were chosen as they have background knowledge of the programme and the students and are deemed to thus be in a position to offer a more informed opinion.   Of the 60 questionnaires sent out, 35 questionnaires were sent to Employers within the Private Sector and 25 to Employers within the Public Sector.

Two questionnaires were designed, one specifically for students and one for employers. There were however, a number of the questions that were the same in both questionnaires.

Phase 1 formed the Data Collection phase where these questionnaires were distributed to the different student year groups and the identified employers.

Phase 2 formed the Analysis of Data phase where the results of the questionnaires were evaluated and the findings documented and interpreted as part of this paper.

INTERPRETATION OF THE RESULTS

Of the 170 questionnaires distributed to students 83.5% were returned. The high return of questionnaires can be attributed to the fact that students were requested to complete the questionnaires during class and collected. Of the 60 questionnaires distributed to employers 30% of the questionnaires were returned. Of this, 22% came from the Public Sector and the rest (78%) from the Private Sector.

Employers and Students were requested to indicate in their opinion if WIL should continue to form part of the diploma. Of the Employers that responded 78% indicated that WIL should continue to form part of the qualification whereas 87% of students indicated that WIL should continue to be part of the qualification. Employers were further requested to indicate why WIL should or should not continue to be part of the qualification. Table 1 provides an example of some of the responses received why WIL should continue to from part of the diploma and Table 2 an example why WIL should not continue to from part of the diploma.

TABLE 1
Why WIL should continue to from part of the diploma

Employer responses
Provides practical learning for the student and opportunity for employer to assess student.
Provides opportunity for student to be funded in final year of study and employer to secure staff.
It broadens the student's scope of knowledge to the broad nature of town planning and its links with other disciplines.
Learns responsibility.
Builds a good base for future development/progress.
Provides the student with a better chance of being employed.
To maintain the linkage between theory and practice.
It prepares students for a permanent work environment and adds value to the student's qualification.

TABLE 2
Why WIL should not continue to from part of the diploma

Employer responses
Limited value
Practical difficulties
Students could spend more time at university in a structured environment and learn more skills.

Both Employers and students were requested to indicate where the WIL component should lie within the diploma. Two lines of thought emerged. The first one favoured the WIL component to be after the theoretical portion of the study. This seemed to be mainly based on the fact that such a student will have the theoretical know-how and will be able to better cope with the challenges faced in a working environment. The second line of thought favoured WIL to be in the second year and the main reason given was that it prepares the student for the third year of study.

Students were requested to indicate if WIL was preparing them better for their third year of study. Of the students that responded to the question 89% indicated that WIL did prepare them better for their third year of study.

In the case of students that responded to the question on whether WIL prepared them better for a permanent work environment 93% indicated that this was so, with only 7% indicating that the WIL component did not prepare them better for a permanent workplace. In the case of employers that responded to the question, 83% indicated that the WIL component of the study prepared students better for the permanent work environment, with 17% disputing this.

The responses to the three questions above clearly show that both groups of respondents perceive that the WIL component adds considerable value.

Employers and students were further asked to rate the effect of WIL on the preparation for a permanent workplace, the effect on technical skills, interpersonal skills, maturity level, the student's self-confidence, on teamwork and on presentation skills. Table 3 is a matrix indicating the student's responses and Table 4 the employer's responses.

TABLE 3
Matrix on student responses to the effect of Work Integrated Learning

	Preparation for permanent workplace	Technical skills	Interpersonal skills	Maturity level	Self-confidence	Teamwork	Presentation skills
No Effect	0	1	0	0	0	3	6
Limited effect	5	12	8	6	9	6	12
Moderate effect	28	25	17	20	18	19	27
Extensive effect	31	27	40	39	38	37	20

From the analysis of the students' responses it can be derived that they considered that WIL had the biggest effect on their Interpersonal skills, their Maturity level, their Self-confidence and Teamwork.

TABLE 4
Matrix on employer responses to the effect of Work Integrated Learning

	Preparation for permanent workplace	Technical skills	Interpersonal skills	Maturity level	Self-confidence	Teamwork	Presentation skills
No Effect	0	0	0	0	0	0	1
Limited effect	1	2	2	2	2	1	3
Moderate effect	4	9	8	8	2	6	7
Extensive effect	12	6	7	7	13	10	5

From the responses of the Employers on the effect of WIL, the Preparation for a permanent workplace, the effect on student's Self-confidence, and teamwork have been identified as having the most extensive effect.

The responses from students relating to the question on whether WIL added value to the qualification showed that nearly all respondents indicated that WIL did add value to the qualification. Most of the current students were of the opinion that WIL should form part of the diploma programme. Whilst employers expressed a preference to appoint graduates with a WIL component, this was not conclusive.

WIL allowed employers to assess strengths of a potential staff member in a practical work environment. It further taught students interpersonal relations as well as the importance of time lines for work and how to work in a team. Significant disadvantages highlighted related to the time needed by employers to train students and to get them "operational". Employers indicated that WIL was a valuable part of the qualification. This now corroborates the responses from previous questions.

Students as well as employers were requested to indicate how long they thought the WIL component should be. Most students indicated that the WIL component should be 11 months. The second choice was 6 months. Results were independent of whether the students were from their first, second or third year. It was found that in all cases the preference was for 11 months with 6 month being the second choice.

In the case of employers, most responded by choosing 11 Months with 9 Months being their second choice. From the above it can be concluded that a period of 11 months for the WIL component was the preferred option. This is, however, in contrast to the recommendations of the Internal and External Programme Review Panels. One of the authors has however experienced that some local authorities, specifically those that employ a large number of diploma programme students, employ students for contract periods of 6 months at a time only.

On the question of when the WIL component should be done the response from employers was that it should either occur during the students' second year of study (as is the situation currently), after the completion of the theoretical portion of the qualification or after the completion of the qualification (and then as an internship). If the WIL component is to be moved to after the completion of the qualification as an internship, this could fit in with the requirement of Section 13(4)(b) of the Planning Profession Act, 2002 (Act No. 36 of 2002) which is, as mentioned previously, a requirement for registration as a technical planner with the South African Council for Planners (SACPLAN).

The students' response was not much different from that of employers. 23% of the students indicated that the WIL component should start in the first semester of the second year and 25% indicated that it should be after the theoretical portion of the qualification but still as part of the qualification. Approximately 12% indicated that it should be after the completion of the qualification (as an internship).

Students were also requested to respond to what they had learned about the Town and Regional Planning discipline, the world of work and about themselves during their WIL period. These questions were posed in an effort to establish what the students' opinion of the advantage of the WIL component was. It was clear from the responses that WIL was not only an opportunity for students to learn about the specific

discipline but that there were vast opportunities to learn about the world of work, as well as to learn about themselves. This supports the general opinion on the value of WIL.

CONCLUSION

From the responses reviewed it was evident that the over-all view from industry partners (employers) as well as the students is that the WIL component of the course should be retained, and should preferably be 11 months.

This provides the Department of Town and Regional Planning at UJ with a huge challenge: to find a balance between the opinion obtained from industry and students alike, the recommendations/proposals received from the Internal and External Programme Review panels, the legislative requirements of the HEQF regarding the WIL component and the placement of students and in addition to this to keep the requirements of the Planning Profession Act, 2002 (Act No. 36 of 2002) for technical registration in mind.

Through the study it became evident that there is support for both lines of thought regarding to the location of the WIL component in the qualification: one favouring the WIL component to be after the theoretical portion of the study and the second favouring the WIL component to be during the second year of study. There are advantages to both. This needs to be taken into consideration when the final decision is made. Consideration could be given to the student being able to choose when to complete the WIL component (during second year or after completion of the theoretical portion). This will bring the necessary flexibility into the diploma programme.

The recommendation from the Programme Review Panels that suggested the WIL component be minimised to 6 months should therefore be considered for adoption by the department. This would address the concern raised regarding the notional hours of the WIL component. Depending on the HEQFs legal implication for the placement into WIL, the option of excluding WIL from the diploma programme would then need to be considered. In such an event the practical experience would need to be acquired after completion of the qualification to meet the requirements of SACPLAN registration.

Will WIL be kept or killed? From the study it is clear that a WIL component should be retained. The position and duration of WIL further requires debate. The question on the legal implication of the HEQF remains and this could result in WIL being excluded from the diploma despite the obvious advantages of retaining it.

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Integrating work-ready learning into the university curriculum contextualised by profession

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The paper presents the University of Technology Sydney's (UTS) 2007-8 curriculum renewal project *'Improving students work-ready knowledge and skills'*. The project aims to improve graduates' professional attributes and employability skills by designing new subjects, career-envisaging modules and integrating into existing subjects short well-designed work-ready learning activities. The activities were designed together with the AACSB, ACS, AHRI, AMI, CFA, CPA, ICAA and GMAA.

We present findings about what is 'work-readiness' from interviews with our professional societies and we identify the key professional work-ready attributes relevant to the contemporary workplace. These findings have informed the design of a matrix of work-ready attributes, understandings and skills. To maximise learner relevance and motivation each work-ready activity is contextualized for each professional course. Practical online teacher support resources are down-loadable to support easier integration of the work-ready activities into the existing curriculum. The matrix of key professional attributes and the beginnings of a collection of work-ready learning activities and online practical teaching support resources is at; <wiki.it.uts.edu.au/workready>.

Keywords: work-ready professional graduate attributes curriculum integration contextualized learning activities online teacher support resources

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INTRODUCTION

Since the early 1990's governments, professional societies and employers have articulated an expectation that universities should produce graduates that are more ready for work in a series of reports, research and recommendations (Mayer, 1992; ACNielsen Research Services, 2000; ACCI & BCA, 2002; DEST, 2004; Precision Consulting, 2007). Universities traditional curriculum focus on the disciplinary body-of-knowledge and profession-based understandings. This focus is no longer sufficient to meet these stakeholder contemporary workplace requirements.

The importance of developing work-ready skills has been discussed and hotly debated in academic literature (Clanchy & Ballard, 1995; Finn, 1999; Holmes, 2002; Barrie, 2005; Barrie, 2006). Barrie and Prosser (2004, p.244) observe that graduate attributes "have their roots in the contested territory of questions as to the nature of knowledge and the nature of a university". Continuing pressure is influencing universities to re-evaluate their graduate professional attributes and resultant learning objectives and outcomes in curriculum design and renewal.

The *'Improving students work-ready knowledge and skills'* project is a UTS 2007-8 curriculum renewal initiative and aims to cumulatively improve our graduates professional attributes by designing new subjects, new career-envisaging modules and short work-ready learning activities to be integrated into the existing curriculum. In consultation with the professional societies represented in the project's disciplines – Information Technology and Business - criteria for successful careers in the respective contemporary professional workplaces were identified (Nettleton, Litchfield & Taylor, 2008). These criteria for success in the workplace, together with findings from the cited reports, were used to identify eleven key professional work-ready attributes for our graduates.

Short work-ready learning activities are being designed by colleagues, educational designers and the project's UTS partners – the ELSSA academic literacy centre, the Careers Service, and the Library. Together with our course's professional societies the learning activities are being contextualized for different workplaces to improve learner relevance and motivation.

Relevant sub-attributes and skill-sets are being developed for each key work-ready attribute to form the conceptual structure of a matrix to support an online collection of generic work-ready learning activities and teacher support resources for easier integration into the existing curriculum.

METHODOLOGY

After a preliminary literature review, six professional societies were interviewed to gather specific data. The interviews were conducted during September to November 2007. The societies interviewed were:

- Association to Advance Collegiate Schools of Business (AACSB) International;
- Australian Computer Society (ACS);
- Australian Human Resources Institute (AHRI);
- Chartered Institute of Marketing (CIM);
- Certified Practising Accountants Australia (CPA); and
- Institute of Chartered Accountants in Australia (ICAA).

When there was no available society or accrediting body for the profession an alternative professional society was identified and include:

- Graduate Management Association of Australia (GMAA);
- Australian Marketing Institute (AMI); and
- Certified Financial Analysts (CFA) Institute.

The interview addressed the following points:

- Generic (non-technical) skills essential for a new graduate;
- Generic skills desirable for a new graduate;
- Current weaknesses of new graduates;
- Skills most important in the future for their profession;
- Meaning of professionalism in their profession;
- Skills that would differentiate a particularly professional graduate;

- Ranking of a number of identified work-ready skills (based on the literature review);
- Suggestions on how universities can improve the work readiness of their students; and
- Recommendations on the best way for universities to help develop students' professional skills.

A summary report (Nettleton, 2007) of key findings was sent to all interviewees to confirm the intention and meanings of their comments.

FINDINGS

The interviews were analysed for themes and the identification of key professional attributes. The two key themes common to all the interviews were 'professionalism' and 'work-ready' and are discussed in turn below.

Professionalism

The first theme that distinctly emerged centred on notions of professionalism. Three levels of professionalism were identified:

1. Superficial level, which defines appropriate professional appearance;
2. Compliance level, which deals with professional conduct and codes of ethics; and
3. Master level, which encompasses leadership and transcendence.

Most professional societies interviewed defined professionalism as encompassing maturity, respecting others, honesty, integrity, acting ethically and taking responsibility. Although this *compliance* level is regulated somewhat by professional codes of conduct and ethics, the concept of professionalism also encompasses *how* a person adheres to the codes - a definition of professional conduct. Although not all professions have a defined code of conduct and code of ethics, similar core themes resonate with each professional body.

While acting ethically, taking responsibility, respecting others and continual learning are all essential to being a professional graduate, there is another level encompassing leadership and transcendence. This *master* level is the way a person projects themselves in the world, above and beyond looking the part (*superficial* level) and adhering to the requirements of the code of professional conduct (*compliance* level). Someone who can be a *change* leader, who is willing to go above and beyond normal requirements, and is proactive suggesting new ideas and better ways of practice.

The professional societies observed that large firms believe that while technical skills are important, they recruit for generic skills because they can train new graduates in technical skills, but often it is 'too hard' to train graduates on the generic skills of teamwork, leadership, initiative, communication, ability to develop rapport with clients, analytical skills, making sound judgments and applying their technical knowledge (Nettleton, 2007).

Work-readiness

The second dominant theme discussed during the interviews centred on the notion of work-ready. These key skills were found to be common across all the professional societies:

- A global perspective;
- Communication skills;
- The ability to work well in a team;
- The ability to apply knowledge; and
- Creative problem-solving and critical thinking skills.

Although the above list is not exhaustive of the graduate attributes suggested by the professional societies, these attributes are the ones considered most important across all the professional societies.

A global perspective

All professional societies identified that employers are looking for graduates who have a global perspective - a broad understanding and awareness of the world. To have a broad understanding of 'the way the world works' assists understanding the context of clients' issues and problems. An appreciation of other cultures, how others live and think and being comfortable in new and ambiguous environments is important for a graduate in any business because the workplace today increasingly has a global and multicultural context. Graduates need the 'big picture' with an understanding of current affairs and the world of business issues and pressures. New university graduates' lack of global perspectives was identified as a key weakness. Comment was that the greatest weakness of new university graduates is their lack of worldliness…

Communication skills

All professional societies highlighted oral and written communication skills as foundations for functioning in any business - the ability to communicate simply, clearly and concisely is critical for global business. Graduates are often required to talk to people with different backgrounds who do not have English as a first language. The ability to listen, question and negotiate is important for all professions. Being able to articulate ideas persuasively and knowing how to communicate appropriately to different audiences is crucial for a new graduate. Graduates in all professions need the ability to translate technical knowledge into messages that other people can understand. Being able to write clear and concise emails and formal letters avoiding misunderstanding, ambiguities and mistakes is a necessity of almost every job in business and IT and an attribute which graduates often lack.

All professional societies shared the view that communication skills were a major problem for new university graduates. Many new graduates do not have the confidence to present or to interact well with clients. Poor English and grammar is considered such a major issue for new graduates that some employers now conduct English competency tests as part of their recruitment processes.

Teamwork

All professional societies considered that teamwork skills are critical to functioning in organisations as most jobs and projects inevitably involve working with others. Graduates need to know how to work in teams, communicate with others, solve problems and reach a consensus. Adaptability and flexibility to work with different departments and levels of seniority is an important feature of teamwork. Today's business consultant needs to be adaptable to ever-changing teams while working on different projects with different people for different lengths of time.

Applying knowledge

While employers perceive that technical and procedural knowledge is easier to teach than other generic skills, the ability to *apply* that technical knowledge is very important for a new graduate. The basic ability to take technical knowledge and use it in a practical sense is something that employers look for such as assessing the impact of technology on identifying opportunities, solving problems, making businesses more efficient and effective and developing new markets and niches. Professions like IT are dynamic and theories and practices are constantly becoming redundant. Methods taught at university are foundations on which professionals will need to continually build and renew. Recognising when a theory no longer applies, coupled with the ability to adjust the theory, apply it in a different way, or create a new theory, is a sign of a work-ready graduate.

Creative problem solving and critical thinking

The ability to apply knowledge is closely related to creative problem solving and critical thinking which are attributes highly valued in all professions interviewed. Creative problem solving is important to any professional position as understanding the customer, what they are looking for and providing solutions is something that graduates are expected to address. Graduates are expected to actively develop their capacity and skills to be better analytical, critical thinkers taking their technical skills, negotiation and teamwork skills and translating their knowledge into action. Being able to solve problems in the context of ambiguity is required in the contemporary workplace.

Sound judgment is also central to a work-ready graduate as problems always seem unique and clients want creative and innovative solutions with state-of-the-art knowledge, not pre-packaged solutions applied to different scenarios. Clients want the professional to identify the problem and provide solutions, people who can see new opportunities and anticipate potential problems in the future. Creating new methods and solutions is a key feature of work-readiness, and imagination is central to being able to do this. One of the weaknesses of graduates is considered to be their lack of creativity and imagination.

IDENTIFICATION OF KEY PROFESSIONAL WORK-READY ATTRIBUTES

Our key professional work-ready attributes have been identified informed by the interviews with professional societies and the DEST framework (ACCI & BCA, 2002). The 2002 DEST framework consists of eight key employability skills: communication, teamwork, planning and organising, technology, problem-solving, self-management, life-long learning and initiative and enterprise. The professional societies highlighted these attributes and also stressed the importance of work-ready skills such as professionalism and ethics, global perspectives and the ability to apply knowledge. In discussion with colleagues, information literacy and research were also identified as key attributes, and the application of knowledge was incorporated into a number of the other key work-ready attributes.

Our identified key professional work-ready attributes are (in alphabetical order);

1. Communication
2. Ethics and Professionalism
3. Global and Local Perspectives
4. Information Literacy and Management
5. Initiative, Enterprise and Creativity
6. Planning and Organising
7. Problem Solving and Critical Thinking
8. Research
9. Self-Management and Life-Long Learning
10. Teamwork and Leadership
11. Technology Literacy

For each key professional attribute we are identifying sub-attributes and skills to form a conceptual work-ready matrix. Generic learning activities are now being designed to address the identified work-ready understandings and skills.

To optimise student relevance and motivation for learning there is a separate matrix of contextualised learning activities for each professional course in the Faculties of IT and Business. That is each learning activity is made relevant for each professions' workplace and perspective. To support easier curriculum integration academics can view and down-load work-ready learning activity outlines and teaching support resources including lecture and tutorial slides, tutorial and classroom activities, case-studies and relevant readings.

The current status of our various professional matrix's of work-ready learning activities can be viewed at; <wiki.it.uts.edu.au/workready>.

CONCLUSION

The development of professional attributes in the existing curriculum is by no means a replacement for lengthy work-placements or on-the-job training. Nevertheless through curriculum renewal universities can more systematically support the learning of our graduates' professional attributes.

The work-ready project at UTS aims to better support the development of work-ready understandings and skills within the curriculum through designing new work-ready subjects, career modules, and an online matrix of generic work-ready learning activities aligned to develop our identified key professional attributes within existing subjects. There is a separate matrix of contextualized learning activities for each profession in the project to maximize student relevance and motivation.

Significant university curriculum renewal and change is notoriously difficult due to the complexity of interests and perspectives. Academic staff involvement in the process of developing and sharing learning activities and experiences is being actively encouraged as the importance of academic ownership of change in the learning of work-ready skills has been recognized (Scoufis, 2000; Sharp & Sparrow, 2002). The project is developing local-area strategies for curriculum integration relevant to local cultures and practices.

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Learning the rhetoric of professional practice

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Rhetoric is the study of persuasive speaking and writing. As such, it is an integral aspect of all professional practice. Professional practice frequently requires practitioners to present verbal and written reports to both clients and colleagues. Such reports need to be not only truthful but persuasive. The rhetoric of practice is rarely explicitly taught to students and tends to be part of the "hidden curriculum" even though it is of such importance.

This paper looks at the ways in which medical students and health practitioners both learn and use rhetoric in daily practice. It is further argued that professional reasoning and decision making, even when working alone, is largely a matter of persuading oneself to pursue one course of action rather than another. The significance of this research is that if the rhetoric of practice was more explicitly taught to students then the process of professional socialisation could be considerably enhanced.

Keywords**:** rhetoric, practice, professional socialisation

INTRODUCTION

Rhetoric has long been a problematic term. Its role and importance in human affairs has been debated for centuries. Plato saw rhetoric as something to arouse suspicion whereas his pupil, Aristotle, saw it as having a proper and essential role in many of the enterprises undertaken by humans. In this paper we follow Aristotle, and argue that rhetoric, for too long ignored, needs to be considered as an essential part of professional practice. As such, we believe that professional education should pay explicit attention to the rhetorical aspects of workplace practices and teach students not only to be aware of professional rhetoric but how to consciously use rhetoric to become more effective practitioners. To support our argument we draw on examples taken from a recent doctoral research project into the reasoning of health professionals (Loftus, 2006). However, we believe that many of the lessons drawn from this study apply to many professions and occupations.

THE ORIGINS OF PROFESSIONAL RHETORIC

We use the term rhetoric in its original sense of the art and study of persuasion. Around 400 B.C., Aristotle (trans. 2004) claimed that different fields of knowledge require different methods and different means of proof, arguing that mathematical proofs normally have no place in a speech and vice versa. Aristotle was convinced of the importance of rhetoric in its rightful place. Descartes (1641/1999) rejected Aristotle's view in favour of an approach that insisted on mathematical standards and mathematical rigour in all fields of knowledge, especially those that pretend to

scientific respectability. Descartes's assumption was that mathematics leads to self-evident truths and precise knowledge in all walks of life. Rhetoric, the art of persuasion, was therefore rejected as unreliable and prone to bias.

Unfortunately, Descartes's simplistic ideas have affected the ways in which many professions have conceptualised themselves. For example, many health professions, like medicine, have tended to see themselves as almost completely dependent on the application of mathematics and science. This has had the result that these professions have simply ignored the role that rhetoric plays in their daily practices. However, Wittgenstein (1956) argued that the axioms that form the foundation of mathematics are not self-evident; they are conventions of language. Therefore, mathematical methods are themselves ultimately dependent on language, and language can be used persuasively to support one point of view or another. Therefore rhetoric, as the persuasive use of language is an integral part of scientific practices, and an integral part of any profession that pretends to scientific respectability. It is time to redress the balance and pay attention to the role of rhetoric in professional practice.

RHETORIC IN MEDICINE

In a recent study of reasoning development in medical students (Loftus 2006) the rhetoric of the daily practice of the health professions was clearly demonstrated in numerous examples. Here is one example in which a medical student gave a detailed account of having to cope with poor rhetoric. The student was watching a long operation. All the surgeons were occupied with the surgery. A pager went off indicating that other health professionals needed to speak to the surgeons. The student was asked to find out what was happening and report back. The student soon found himself listening on the telephone to a junior doctor in the casualty department who had a patient with severe abdominal pain. The junior doctor wanted a surgeon to come and assess the patient as soon as possible. The concern was that the patient might be in need of an urgent operation. As he listened to the junior doctor the student realised that there was a problem with the story he was being given. He knew that the surgeons would need to make a decision based upon the report he was going to pass on to them. That decision would be: is this patient so seriously ill that one of the surgeons must leave the operation and go to assess the patient immediately, or could this wait until the operation was over? The student realised that the surgeons would not be able to make that decision based upon the report he was being given. This was because the report was too vague. The junior doctor in the casualty department did not have clear enough information in his report. For example, he could not be precise about the location of the pain, and this was an item of information the surgeons needed to make their decision. In this particular case the outcome was that the junior doctor in the casualty department reassessed the patient in more detail and gave a fuller report which was then passed on to the surgeons.

When asked to reflect upon this incident the student had this to say about clinical reports.

> "It's just being able to say what you find, and be able to say that … this person is in very dire straits. It's not making up stuff, but it's being able to present it in a convincing and competent manner that they [senior doctors] can say 'All right, this requires my attention.'" (Loftus 2006 p. 190).

In other words, clinical reports need to be persuasive as well as an accurate list of facts and findings, although such lists can be persuasive in themselves. In many healthcare systems senior doctors rely heavily on reports from their juniors and make serious decisions based upon these reports. The senior doctors have to be able to trust the thoroughness and reliability of such reports. One senior doctor interviewed in this research had this to say about clinical case conferences, "a meeting is to make decisions [and there was therefore a need to] present the information that either allows you or the people [present] to make decisions for that patient" (Loftus 2006 p. 193). In order to make these important decisions the senior doctors need a story that not only contains the essential facts about a case but is also persuasive, that is presented in a convincing and competent manner.

The medical profession devotes a great deal of effort to training students and junior doctors in how to present persuasive clinical reports that are delivered in a convincing and competent manner. This is frequently an exercise that is formally examined. The students in the study (Loftus 2006) had all recently completed a long case examination. They were required to assess a patient with a complex problem and report their findings to two senior doctors. One student described his experience of this, saying that he had managed to get the diagnosis and treatment plan correct, and had been able to answer all the questions put to him about the patient's condition. However, the feedback given to him by the examiners was that "you've got to get to the point now where you can lead us to where you want to go" (Loftus 2006 p. 192). The student realised that this feedback meant that he should try and be more persuasive in his reporting. Although factually correct, his report did not have the rhetorical force arising from a convicing and competent manner.

RHETORIC AND RITUAL

There are a number of ways in which a clinical report can be given rhetorical force. In medicine and surgery medical students are taught to give clinical reports in a highly ritualised manner. Such rituals (protocols) help to organise complex information in standardised ways familiar to all doctors. Hearing a report given in such a ritualised manner also helps to reassure listeners that the reporter is familiar with the protocols and routines of medical practice. As one medical student said:

> "I ran through the history and examination in a very sort of stylised way, 'I saw Mr X. His presenting complaint was …' and you know - you've got the litany that you run through" (Loftus 2006 p. 176).

Ritual can thus be a powerful rhetorical device. It establishes what the business at hand is to be about, and persuades listeners that those who have mastered such rituals are competent and can speak with authority. As Perelman once said "Ritual … and rules of procedure fix, with more or less precision, the matters which are the objects of communication" (Perelman, 1982 p. 10).

Persuasive communication is an essential aspect of medical practice. This is important not only in clinical reports between junior doctors and their seniors but also between clinicians and patients. One senior doctor described how he generally presented

patients with a number of treatment options and encouraged patients to decide for themselves. However, if he believed that some options were better than others he tried to persuade patients to choose his preferred option.

> "So I try and explain what the options are, what are the benefits and advantages … as a rule I try and leave it up to them, unless I feel strongly that they should be steered in a certain direction." (Loftus 2006 p. 195).

This is a clear example of rhetoric in action.

INTERPROFESSIONAL RHETORIC

There is a growing trend towards interprofessional practice in healthcare, especially for chronic conditions that are difficult to manage, like pain. Here, different aspects of rhetoric are required. Multidisciplinary pain clinics, for example, foster a collaborative ethos where differences of opinion must be managed in a non-confrontational way. Here is an example of a physiotherapist describing how contradictory findings were dealt with in discussion with a medical colleague.

> "just in the meeting today, the physio student was concerned there might have been a hip component. [The doctor] thought there was more a facet component and so, yes, we got the X-ray to clarify and the hip [component] was there. So that was something that he hadn't picked up on, but then he was double-checking [and asked] did the physio still think there was a facet component and so a discussion went on". (Loftus 2006 p. 194).

The rhetoric used in this situation led into what can best be described as a mutual education discussion, with the underlying attitude being to learn from each other rather than compete. As one physiotherapist pointed out, "I don't think it's like 'you're right and I'm wrong'. It's like how can we resolve this?'" (Loftus 2006 p. 194). This is an example of a group of professionals who have mastered a particular set of rhetorical skills that enables them to construct a collaborative environment that fosters interprofessional work.

DISCUSSION

There is very little in the literature of the health professions about the rhetorical practices that underpin the professions. Notable exceptions are the work of Atkinson (1995) and Montgomery (2006). Atkinson (1995) drew attention to the ways that rhetoric is used in haematology, concluding that rhetorical forms establish authority and attitudes to knowledge and uncertainty. Rhetorical analysis reveals interesting aspects of professional practice that would otherwise go largely unnoticed. Much of the persuasive power of a clinical report amounts to a series of rhetorical arguments based on the structure of reality, such as the notion of cause and effect. The clinical report says in effect, "These are the cause and effect relationships existing in this case". In rhetorical terms this is called a liaison of succession (Perelman 1982). Other examples of rhetorical practices can also be seen at work, such as one practice called *the argument from authority*. Experts were rarely challenged when discussing issues that were exclusive to their own field. Most listeners generally deferred to someone who was accepted as such an authority. The interprofessional discussion described

just above tended to occur only when there was an overlap in the expertise of different professionals, and these discussions needed to be handled with great rhetorical skill, as shown.

It might be argued that rhetorical practices such as those just described might be used when professionals are interacting with colleagues but that many professionals work alone and make decisions alone. However, we take the view that decision making is essentially a social act even when performed alone. Vygotsky (1978, 1986) Bakhtin (1986) and Wittgenstein (1958) have all argued that thinking is the internalisation of talk we learn to have with others first, and in that learning to think we learn to have a dialogue with ourselves. From this viewpoint when a professional is engaged in reasoning and decision making they are essentially having an internal conversation with themselves, as they gather information, judge it and then persuade themselves of the right decision to make. This skill is especially important in fields of expertise, such as health care, where uncertainty is frequently a complicating factor in making decisions. Professional decision making is in large part a question of mastering the rhetorical practices of one's profession that allow such complex issues to be internally debated.

Professional rhetoric has been largely ignored in academic circles. However, rhetoric is a crucial aspect of any profession. We have shown that professionals, such as doctors, do learn the rhetorical practices of their disciplines. It would appear that such teaching is part of what has been described as the hidden curriculum. We argue that such rhetorical practices should be made explicit and taught openly as part of professional practice. There are two important implications arising from such a viewpoint. Firstly, there is a large research agenda opening up. Most professionals are unaware of the extent to which rhetoric underpins and shapes their daily practice. Professional rhetoric needs to be researched in detail for all professions and occupations, so that we can see how professionals deal with the complexity and uncertainty that is the hallmark of so much professional reasoning. Secondly, by explicitly teaching rhetorical practices to newcomers it is highly likely that students can master the skills of professional reasoning far more quickly than they have in the past.

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Engineering admissions criteria: focusing on ultimate professional success

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The majority of Australian Universities use performance in the higher school examinations as the primary basis of admission into undergraduate programs for current school leavers. In 2005 an analysis of academic performance in the UTS undergraduate Engineering program showed a relatively low correlation with Higher School Certificate (HSC) results, particularly for students outside the top performance bands. This led to a rethinking of the admissions processes, and the introduction of a broader admission scheme. This scheme incorporated the results of an admission questionnaire which was designed with substantial input from industry, and which aimed to provide an indication of both likely academic success within the degree program as well as (and possibly more importantly) the likely success as a graduate Engineer. The key criteria related to affinity with, and motivations for, an Engineering career and addressed both the attitude and aptitude of students in terms of emotional intelligence characteristics. In this paper we describe the design and introduction of this scheme, and how input from industry was used to construct a questionnaire. We provide an analysis of early outcomes from the process in terms of student performance, and the extent to which course performance correlates to questionnaire results. We also include recommendations on how these schemes may be used to improve the retention and success of Engineering students and how to better match the aptitudes of engineering graduates with the needs and aspirations of Industry and Business.

Keywords: Admissions Engineering Industry Questionnaire

INTRODUCTION

In 2005 the UTS Faculty of Engineering undertook an analysis of the performance of currently enrolled students (using their Weighted Average Mark – WAM – calculated by averaging the marks across all units, weighted by the credit point value of the unit), and compared this to their secondary school performance, as measured by the University Admissions Index (UAI). The result of this analysis – shown in Figure 1 – indicated that whilst a higher UAI was a reasonable indicator of likely performance in their University Engineering courses, the correlation was surprisingly low (r=0.240). This may be a consequence both of capable students performing poorly in secondary schooling but well at University, and capable students performing well in their secondary schooling but poorly at University. The former relates to students who have high academic capability – particularly in relationship to Engineering - but performed poorly in their secondary schooling due to a variety of factors, such as: motivation; illness; family disruptions; etc. The latter relates to students who demonstrated capability in the HSC but performed poorly at University, possibly due to: loss of motivation due to a poor course choice; personal disruption; difficulty in coping with the transition to University, etc.

TABLE 1
Correlation between course performance (as indicated by Weighted Average Mark) and score achieved in each Admission question

Question	r (Pearson Correlation)
Please describe a specific aspect of your life which demonstrates your interest in studying Engineering?	0.295
Please describe something specific which you have created and how it demonstrated engineering design?	0.482
You need to design a new wheelbarrow for a client…. Please list the first three questions for which you would seek answers, and why you would ask these questions?	0.368
Please describe the approach you take to solving technical problems?	0.307
Please describe which of your personal attributes and skills you believe will most assist you in a professional Engineering career?	0.413

FIGURE 1
UTS Engineering Student performance: comparing the students' WAM (weighted average mark across all subjects taken in their degree) against their secondary school UAI (University Admissions Index)[1]

UAI vs Weighted Average Mark
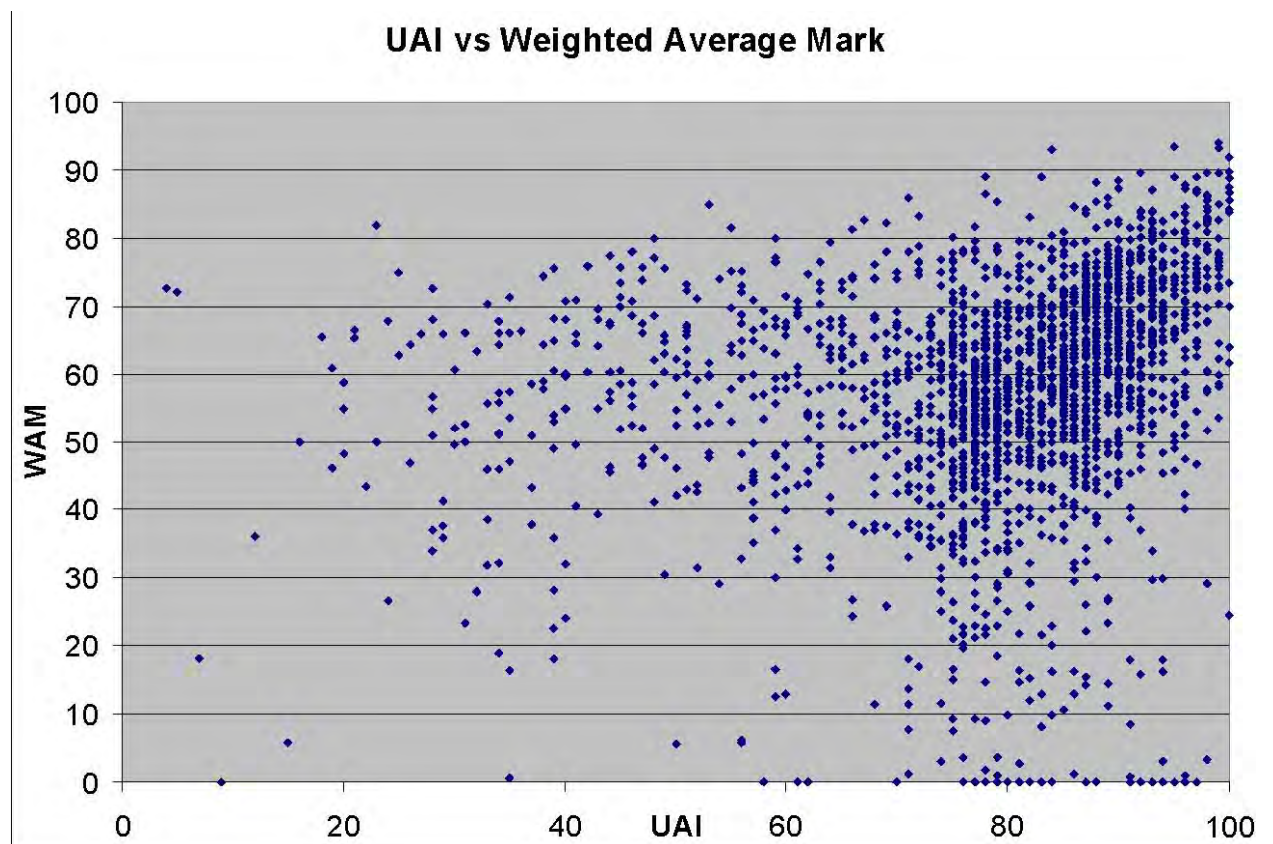
These observations on the poor correlation between secondary school and University outcomes (at least in the context of the UTS Engineering course) led to a rethinking of our admissions processes. It was felt that it was appropriate to consider a broader range of factors in determining the offers of admissions into our undergraduate courses. In particular, given the strongly practice-oriented nature of the UTS:Engineering courses, it was felt that the ultimate goal was not to accept students who could succeed in our course, but rather to accept students who were most likely to succeed as professional engineers. In other words, rethinking the admission process emerged from the understanding that the course was a pathway not a destination, and therefore should be focused on that destination. From this perspective a process was commenced of redeveloping the admission criteria.

DEVELOPING A NEW ADMISSIONS CRITERIA

Having accepted that the UTS Engineering admissions criteria ought to take into account the applicants likely success as a professional engineer, it was considered how this might be able to be evaluated. Previous research initiated within the Faculty of Engineering (Scott and Yates, 2002) studied engineering graduates who had been identified by their employers as being 'highly successful'. This research considered the characteristics that were perceived by employers as having contributed to the graduates' success, and the extent to which University courses focused on these characteristics. This research was useful in providing guidance in understanding those personal traits which might be indicative of a course applicant who was more likely to be successful as a professional engineer. This is particularly true when combined with an understanding of the graduate competencies identified by organisations such as Engineers Australia in their National Generic Competency Standards (IEAust, 1999), and the U.S. Accreditation Board for Engineering and Technology accreditation criteria (ABET, 2002).

TABLE 2
Comparison of course performance by students selected pre- and post-introduction of multi-criteria admission process

UAI Band	Average WAM		
	2004-2005 Sample	2006-2007 Sample	Δ
70-72.5	51.1	54.4	3.3
72.5-75	50.4	55.8	5.4
75-77.5	50.2	57.0	6.8
77.5-80	49.9	56.3	6.4
80-82.5	53.7	58.0	4.3
82.5-85	53.2	57.6	4.4
For comparison only			
90-92.5	63.2	64.8	1.6
97.5-100	73.2	74.1	0.9

1
  Note that students with a UAI below the normal course entry threshold (typically in the mid-70's) would not typically have gained direct entry into the UTS Engineering courses. These students would generally have undertaken other study and/or employment, and subsequently gained entry based on other criteria – often their performance in a vocational or trade course.
2
  These interviews resulted in a number of very interesting observations; for example, one employer observed that the surest sign that an interviewee had an engineering mentality was that, in answering questions, they were keen to be able to draw diagrams to clarify their answers. In other words, he felt that an engineering mentality correlated well with visual thinking.

These sources of information were extended by undertaking a set of structured interviews of 7 employers who had direct responsibility for the selection of graduate engineers to be employed. A series of questions were asked aimed specifically at identifying the characteristics which they were looking for, during the application and interview processes, in making a decision about which graduates they believed would be most likely to be a successful graduate engineer.2

Various surveys and questionnaires used for entry into Engineering programs elsewhere have been investigated. Almost all of these have a strong emphasis on evaluating specific technical knowledge, such as the Graduate Aptitude Test in Engineering (GATE) test used by many Universities in India, and which focuses on an evaluation of the content covered in undergraduate Engineering programs (Palit, 1998). Other institutions have developed specialised tests (such as NUS in Singapore) that fundamentally look at the broader affinity with Engineering and general aptitude - but these tend to be sparse on detail.

From these sources of information a questionnaire was developed which contains questions aimed at evaluating those characteristics that previous research had indicated as possible important indicators of professional engineering career success. The key elements of this were student motivation, interpersonal skills, design talent and technical aptitude. Example questions included in the questionnaires include:

- − Please describe a specific aspect of your life which demonstrates your interest in studying Engineering?
- − Please describe something specific which you have created and how it demonstrated engineering design?
- − You need to design a new wheelbarrow for a client…. Please list the first three questions for which you would seek answers, and why you would ask these questions?
- − Please describe the approach you take to solving technical problems?
- − Please describe which of your personal attributes and skills you believe will most assist you in a professional Engineering career?
- − Please describe what you expect to gain from a UTS:Engineering degree?

A clear evaluation criteria was also developed to facilitate the evaluation process. This questionnaire was then used to modify the UTS:Engineering admissions process for current school leavers (CLS applicants). These applicants are made offers of a place in an Engineering course on the basis of a multiple-criteria entry which uses both an adjusted UAI (Universities Admission Index) or equivalent and the optional questionnaire.

The adjusted UAI is determined by adding additional bonus points to the base UAI for the applicant's first order rank. Bonus points are added to the UAI on the basis of a specified set of subjects undertaken by the applicant. This essentially reflects both preparation, but (more importantly) is believed to be correlated to likely student motivation and interest in Engineering (though this has yet to be formally evaluated).

Those students whose adjusted UAI fell below a given threshold could also complete the questionnaire. (The threshold is currently set at 85, based partly on a more detailed analysis of the data depicted in Figure 1 – which indicates that above this threshold, the UAI is a sufficient indicator of likely success). A weighted combination of adjusted UAI and questionnaire score is then used to rank applicants, and offers are made until all places are filled. Information on the process was provided to all CSL applicants through a range of channels. These include publications of the University Admissions Centre (UAC), open days, mail-outs to schools, and through the Web.

RESEARCH FINDINGS AND DISCUSSION

The modified admissions process was implemented initially for the Autumn 2006 intake of students, and has been used for all subsequent intakes (Spring 2006, Autumn and Spring 2007, Autumn 2008). Over these five intake periods the Faculty of Engineering has made 2001 offers of places into undergraduate degree programs, of which 742 have been made to CSL applicants in the band where the questionnaire is taken into consideration (i.e. adjusted UAI < 85), with the remainder being either non-CSL applicants (i.e. typically mature-age applicants) or CSL applicants with a UAI above the threshold of 85. Of these 742 "questionnaire-based" offers, 609 (82.1%) accepted the offer.

To evaluate the effectiveness of the approach we have undertaken two forms of analysis. The first was to compare the performance of current low-UAI students with the performance of low-UAI students who were admitted prior to the introduction of the multiple-criteria admission scheme.

Table 2 provides a comparison of the performance of students admitted in the period 2004-2005 (i.e. prior to the introduction of the multiple-criteria process) with the performance of a sample of students admitted in the period 2006-2007 based on the questionnaire process. A comparison of the performance of higher-UAI students (i.e. not selected based on the questionnaire) is included to demonstrate the extent to which overall performance changes may have influenced the comparison.

We recognise that the use of historical data in supporting a longitudinal comparison such as this is statistically problematic (given various other activities and/or initiatives which may have affected student performance over this period) it is nevertheless a useful indicator, and would appear to support the argument that the modified admissions process is leading to improved performance outcomes – possibly through selecting those applicants who are more likely to succeed.

It is also worth noting that this comparison – i.e. performance in the course – was not the ultimate objective of the changed admissions process. Rather, it was intended to support the admissions of those students who are most likely to develop into successful professional engineers (as distinct from admitting those students who are

likely to perform highly in the course). This outcome can obviously not be evaluated for a significant period – at least until the students have begun their professional careers.

The second form of analysis was to compare the course performance (by WAM) of those students who have been admitted using the new process with the evaluation (by senior academics) which they received on their questions. This would allow us to evaluate the ability of the various questions to indicate likely capability, and to progressively refine the questions over time. This was carried out using a random sample of 100 students admitted in Autumn 2006 (using course results from 2006 and 2007) and Autumn 2007 (using just 2007 results) and who had completed the questionnaire. For these students we compared their performance in the first year of the course with their scores for each of their answers to the questions in the admissions questionnaire. The resultant correlations are given in Table 1. With a sample size of 100, and $\alpha=0.05$, then the minimum r to give significance is 0.195.

As can be seen from this table, all questions have a positive correlation with performance in the course, which is above the level of statistical significance. This would support the argument that the questionnaire provides additional value in the process of selecting students for admission to the undergraduate degree program.

CONCLUSIONS

Whilst it is still relatively early in the implementation of the multiple-criteria admission processes, early data appears to indicate that it has the potential to provide students with the ability to plan for improvements in performance in their course. Ultimately the objective is to admit students who develop into highly successful professional engineers (rather than necessarily performing well in the academic program) – and certainly the additional criteria were designed specifically to support this. It is however too early to be able to evaluate whether this objective is being achieved. One potential avenue for evaluation, for which we are currently considering the feasibility, would be to determine whether the performance on the additional admissions criteria are correlated to the performance of our students in their extended internship placements. These occur much sooner (typically a 6 month period in the students' second year of study, and another 6-month internship late in their course) and hence might provide useful indicators of the ability of the questionnaire to discriminate likely workplace success.

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Building innovative partnerships for work integrated learning: observations from a community services initiative

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As interest in work integrated learning (WIL) grows, both universities and host organisations seek sustainable models for WIL that promise desired benefits for them and rich learning experiences for students. Adopting a 'stakeholder ethos' (Harvey, 1997) provides one framework for developing such models. Attention is focussed on creating arrangements that will enhance the capacities of all key parties – host organisations, students and universities – in the context of an evolving set of partnership relations.

This paper reports on an Australian initiative within the community services industry designed to build a Student Placement Program (SPP) responsive to stakeholder goals and values. The initiative involved a non-government human service organisation (Salvation Army Crisis Services, Melbourne) and a university School (Global Studies, Social Science and Planning, RMIT University). The SPP represented intent to develop a coordinated model for work placements that was multi-student and cross-disciplinary. It was designed to contribute to the learning, practice and workforce agendas of the host organisation; to provide a high quality placement resource for the School that would inform its own curricula and pedagogy; and to nurture learning communities and social networks for students across professional boundaries within and beyond placement. In addition, the SPP was seen as initial scaffolding for more elaborate, multi-faceted partnership activities relevant to the strategic goals of the host organisation and university.

The paper draws on evaluations and insights from the first three years of the stakeholder model. It highlights critical success factors and areas for improvement. The paper also describes the action learning process that underpins a dynamic and sustainable stakeholder ethos for WIL.

Keywords: work integrated learning, placements, stakeholder, partnership, community services

INTRODUCTION

Balancing the needs of students, employers and universities engaged in work integrated learning (WIL) can be complex and time consuming for all involved (Orrell, 2004). As the importance of a WIL opportunity within a degree program is gaining wider acceptance as one factor in preparing students for the world of work, it is useful to examine and question some of the common models used by universities and employers, and to explore how we might improve the outcomes for students and the opportunities these type of industry/university engagements provide. This paper explores the development and implementation of a multi-student, cross-disciplinary model of placement. Using Harvey and colleagues' (1997) idea of 'stakeholder ethos' as a framework for developing the Student Placement Program (SPP), the partner organisations – The Salvation Army Crisis Services (TSACS) and the School of Global Studies, Social Science and Planning at RMIT University (GSSSP) – aimed to enhance the capacities and opportunities for students on placement, and to further enrich the evolving partnership between the organisation and the university. Informed by evaluations and insights from the first three years of this program, the paper will describe the action learning process that underpinned the development process of the model and highlight the critical success factors and challenges for the future.

WHY THE CHANGE? - PROBLEMS WITH THE PREVIOUS MODEL

Traditional models of student placement, such as those found in many social work, youth work and policy programs, rely on a singleton approach. This model usually involves a single student being placed in an organisation with a supervisor. From a stakeholder perspective this model can be critiqued in a number of ways. It is resource intensive for universities, requiring the coordination of large numbers of students, organisations and individual supervisors, and the development of individual site-relevant learning contracts and individual site visit plans. From an employers' perspective there can be a significant drain on resources for the individual supervisor as it often left to the supervisor to negotiate with the university about the placement, its timing and the learning requirements.

The singleton model can become a very closed system. It doesn't readily allow for an organisation to locate the 'activity of student placement' within a wider organisational context. Conceptually, the singleton model is more closely aligned with the 'added value' approach to WIL (Harvey, Moon, Geall & Bower, 1997). It may enhance adaptability to the work environment, provide additional capacity for discrete tasks of organisational value, and represent a recruitment strategy. However, the opportunity to expand student placements into a learning opportunity for the organisation and the university can be missed. Moreover, from a student's perspective, placement can be an isolating experience (Cooper & Briggs, 2000) as they negotiate the world of work in their chosen profession for the first time and move towards bridging theory and practice. While, for many students, placement is where they first glimpse what it means to 'be a …', for those in less well organised or less well designed placements it can be a frustrating, debilitating or disengaging process.

GSSSP and TSACS set about developing a student placement model that would redress some of these problematic placement issues. At the same time GSSP and TSACS identified an opportunity to enhance their existing research partnership and

develop a SPP model that was a catalyst for multi-level learning and collaborative capacity building for all stakeholders, including but not limited to students. In that sense, the partner organisations were mindful of Harvey et al's (1997) notion of 'stakeholder ethos', one that is associated with 'transformative' as well as 'adaptive' learning by individuals and organisations, and which draws heavily on (non-commercial) partnership principles.

Whilst partnerships may flourish on the enthusiasm and commitment of founding members, it was presumed early on that long term sustainability would rely heavily on aligning processes and outcomes with the strategic goals and underpinning values of both organisations. GSSSP, in its strategic plan for example, had endorsed the higher education agenda of engaging with communities for mutual benefit (as advocated by the Australian Universities Community Engagement Alliance). An assumption of 'distributed expertise' supported this agenda, in its recognition of knowledge held by those outside the university domain (Nowotny, Scott & Gibbons, 2001). This offered common ground with the aspirations of TSACS to respect the practice knowledge of its staff and the lived experience of its clients as rich sources of learning not only for participating students but also for the policies and programs of the partner organisations.

THE PROCESS OF EXPLORATION, DEVELOPMENT, AND IMPLEMENTATION OF THE SPP

TSACS and GSSSP agreed that they would aim for a SPP that would challenge them as organisations to be reflective and to embark on an action learning development process. This required both organisations to define what they wanted from the SPP and collaboratively outline what they wanted to achieve. The very process of interrogating mutual conceptions of workplace learning was seen as an important early phase in setting the climate for the student experience (Martin, 1998).

From the university school perspective, the aims of the SPP were to provide a multi-student placement; to represent a form of community engagement for both the university and the students; to expand the existing research partnership with TSACS[*]; and, to provide a reliable source of student placements for many of the programs within the school[†]. It was also hoped that once this model was developed, the participating degree programs within the school would engage in a reflective process around curriculum design which would take into account students' and industry partners' perspectives. TSACS also wanted to further develop its partnership relationships with RMIT and other universities, and wanted to provide a range of placements that represented the cross-disciplinary nature of their organisation[‡].

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[*] GSSSP and TSACS partnership to date has included research, consulting, Masters and PhD student engagement, undergraduate classes taught on site at TSACS, SPP and TSACS staff providing practice related lectures to specific programs within GSSSP and participating in Program Advisory Groups.
[†] The school of GSSSP at RMIT University has 13 undergraduate programs all of which has at least one formal placement requirement.
[‡] TSACS has crisis response, housing, family violence, youth refuge, family accommodation, young women's programs and primary health care services.

While TSACS had recruited heavily from past student placements, the organisation found that students often lacked some of the skills, knowledge and theoretical frameworks relevant to its understanding of what's needed for working in the community sector. For example, while students were often 'discipline theory rich', many appeared to lack a developed theoretical understanding of the nature of power and, perhaps more saliently, how it operates within worker/client interactions; some lacked the strong gender analysis capacity required in social services; others might struggle with organisational aspects of the world of work. While it is reasonable to argue that students are on placement to learn these knowledge and skills, TSACS wanted to provide a consistent student experience that ensured students would gain these on placement.

From the organisation's perspective, creating the SPP was also an opportunity to engage the entire workforce in a reflective practice process. The SPP required all programs to incorporate one or two students into their team, to explicitly define how their practice would be shared with students and to identify what contribution the team would make to the SPP overall. There is a strong culture of peer support in the organisation, both in teams and across programs, and TSACS want to ensure that the SPP was imbued with this culture in a way that would ensure a level of peer support between students as well. TSACS also hoped having a group of students, resident in the organisation at the one time, would provide an influx of energy and enthusiasm for both the students and their co-workers. This energy and enthusiasm would provide a valuable opportunity for the organisation to reflect on its own practice through the observations from the students' theory rich, 'fresh eyes'. The imperative of transformative learning and practice was well understood by TSACS as a community service agency operating in an extremely turbulent and uncertain environment.

Both organisations came together to work through what they perceived to be important issues from a student stakeholder perspective. They wanted to create a broad based learning environment that challenged the segregated way education tended to define learning (ie youth work, social work, policy work) and enhanced opportunities for students to experience working across a range of fields with a range of staff, including students from other universities. In order to provide an open and consistent WIL experience it was important to maintain a level of one-on-one support, but responsibility for the students' learning now became a team responsibility, with a level of cross-team accountability. Finally it was hoped the SPP would ultimately develop into a community of practice for the students and the organisation (Wenger, 1998) – providing strong peer and professional networks that would extend beyond their placement (Boud & Middleton, 2003).

This process resulted in a visioning document that included principles, broad objectives and an outline of a process for developing the SPP. In designing the SPP it was agreed that primarily we were designing a learning environment and as such we needed to engage with the notion of aligned curriculum and what that might look like outside of a classroom. The foundation stone or anchoring point for the program would be a weekly meeting of the students and SPP coordinator which would include: a group catch up and time for debriefing on the week (sharing tales from the front

line); a weekly topic session; a formal SPP team meeting with an agenda and minutes[*] compiled and completed by the students on a rotational basis; followed by a lunch with the SPP team and any staff members available from the programs. The design and delivery of the weekly sessions became the responsibility of the various program teams with the assistance of an academic from RMIT University.

The SPP challenged existing notions of supervision (Jones, 2004). In effect the SPP created three layers of supervision and support for students. Students had a day-to-day practice supervisor, a placement supervisor and the SPP coordinator (with at least one of these staff members being social work trained in order to meet AASW requirements). Importantly the weekly SPP meetings also created a form of group supervision where students could receive feedback from their peers and discuss practice issues. Their practice became highly transparent, fostering an appreciation of professional accountability in their work. In order to ensure a consistent experience for students, RMIT University and TSACS offered supervisor-training workshops which explored the objectives of the SPP and provided staff, many of who hadn't formally supervised students previously, with information and guidelines.

THE STORY SO FAR…

The SPP has been conducted for three years. The initial program ran with social work and youth work students from RMIT University and social work and occupational therapy students from La Trobe University. Subsequent programs have run with a mix of students from a variety disciplines and universities[†]. Following each iteration, TSACS staff have revised the program, altering things such as the order of session topics, timing of the SPP meetings, supervisor training and student selection processes.

Evaluations to date have been very positive from students, staff, management and the tertiary institutions. Students report the benefit of peer support, and peer reflection, particularly early on in their placements when they are new to the environment. Students also report positively on the value of the structured learning sessions – both the content and the opportunity to hear from a broad range of practitioners from the organisation. Supervisors identify peer support and shared responsibility as important elements of the SPP. They also indicated that they valued the professional development opportunity that being involved with the SPP provided through the initial training and the program itself. Program areas and management consistently reported the value of theory rich students, with fresh eyes that really provided an opportunity to scrutinise, question and explore current practice.

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[*] These minutes were circulated through the agency as a way of connecting all the staff with the exploits and reflections of the students.
[†] In 2008 the SPP will have students from RMIT, La Trobe, Monash and Melbourne universities.

CRITICAL ELEMENTS OF SUCCESS

There are some generally understood elements of successful field / academic partnerships, summarised for example by Anscombe (2001) arising from his case study, that are borne out by the TSACS / GSSSP initiative. They concern the importance of: vision, goals, membership, commitment, action plan, roles and responsibilities, communication, resourcing, evaluation, revision and closing. Beyond these generic considerations, there are certain aspects and issues that the action learning process of this SPP initiative has highlighted.

Establishing a culture where student placements are embraced, in an environment where crisis and case management services are stretched and staff are busy, takes ongoing effort and leadership. Strong direction and commitment from the General Manager (TSACS) has been critical in maintaining momentum and providing resource allocations to ensure the success of the SPP. These resources have included formally incorporating responsibility for the SPP into a TSACS program manager position description (0.6 equivalent full-time). The position coordinates all the activity relating to the SPP including negotiating with the tertiary institutions, training supervisors, facilitating the development of training sessions, administrative functions such as email and computer access for the students, and the formal evaluation after each SPP. The organisation has also committed significant resources in the form of staffing (relief from other duties in order to attend training, develop and run sessions, provide supervision) as well as access to computers, desk space and vehicles. Genuine organisational commitment to student workplace learning backed up by financial and human resources are two critical elements for a successful Student Placement Program.

A third element is the ongoing relationship between TSACS and GSSSP. In many respects, cultural change within universities seems to be a much slower and less nimble process. During the formation of the partnership, GSSSP dedicated staff time to building a shared understanding of goals and working processes, and to the design and implementation of the SPP. Within an institution that is largely structured around disciplinary academic programs, staff positions that span separate program areas can help support the development of cross-disciplinary, multi-level activities. Yet many benefits of such arrangements take time to come to fruition, and there are strongly competing demands on staff resources. Significant personnel changes at RMIT University, together with the often highly casualised nature of student placement coordination in many universities, has often led to a 'ground hog day' type of experience, requiring the SPP coordinator to regularly explain the program to universities contacting for single student placements. However this ongoing relationship is critical to ensuring students recruited to the program are suited to the environment and organisational culture of TSACS, and to reaping the broader benefits of the stakeholder model.

CHALLENGES FOR THE FUTURE

In its fourth year, TSACS will conduct two SPPs (one in the first half of the year and one in the second). It is hoped this will provide a number of opportunities to improve the program, especially as it more fully integrates the SPP into the life of TSACS. TSACS will engage in an ongoing process of evaluation, redesign, student

recruitment, program delivery, evaluation, and so on. This continuing process will also provide TSACS with the opportunity to work towards achieving aims of the SPP that haven't been realised as yet. These include widening the spectrum of student involvement across a greater range of programs, universities and student careers (postgraduate as well as undergraduate); being properly included in processes of curriculum review and development; and, developing more opportunities for practitioner based research conducted collaboratively with universities.

Enlarging the SPP represents an important stage of evolution for TSACS and for its relationship with external stakeholders. The SPP was never intended to be based upon an exclusive relationship with one university, though it may not have come about without an intensive collaboration between the two initiating partners. The organisational development that has subsequently occurred within TSACS as a learning and knowledge creation organisation has tilted its power relations in progressing future arrangements with other higher education providers. Simply, it is better placed to 'call the tune' as to what constitutes quality student workplace learning and productive community engagement. This behoves responsiveness in universities, and those who position themselves accordingly are more likely to become future preferred partners.

One of the clear aims of the SPP program was to formally influence university program curriculum design. Although TSACS staff have provided specific lectures on Family Violence in the Social Work program, to date this has not occurred to any significant degree. Beyond local factors such as personnel changes and the low status afforded placement coordination activities within some disciplines and universities, there are systemic questions regarding openness to outside influence on academic matters such as curriculum development. Whilst various forms of Program Advisory Committees are commonplace requirements in higher education, their role is primarily advisory and consultative. The 'stakeholder ethos' permeating the SPP model suggests something more than this. Expanding partnership principles into curriculum development challenges the guardedness of universities and exposes the lack of infrastructure through which external stakeholders could effectively engage. Running the SPP twice yearly may be a small step towards providing more detailed evaluation and feedback of curriculum relevant evaluation data to the respective Heads of academic programs which will be increasingly compelling.

CONCLUSION

The initiative strongly suggests that the Student Placement Program holds significant benefits for stakeholders prepared to commit to innovative models of student workplace learning that provide transformative as well as adaptive learning environments. Benefits ripple out to the host organisation, building their capacity and confidence in knowledge creating activity, and to the university, engaging them closely in the working realities and practice imperatives emerging from the field. Moreover, the student experience is enriched through the safe but immensely challenging arena the program provides. The initiative also demonstrates the investment required to ensure the program is successful and sustainable, when at the same time it confronts embedded assumptions about knowledge, learning and practice. Given the fast changing contexts of community services and higher education, the unsettling nature of the initiative is perhaps what makes it so valuable.

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Academic rigour versus social relevance: which way should the pendulum swing with regard to experiential learning and community service learning?

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The paper documents, two distinct patterns of meaning construction within a group of ten learners at third year level (NQF 7: HEQF, 2004) at the Central University of Technology, Free State (CUT). Fifty percent of these learners were exposed almost exclusively to a 12 credit module of Experiential Learning (EL) while the other half was exposed almost exclusively to 12 credit module of Community Service Learning (CSL) incorporated into their respective programmes.

Using Faircloughs' (1993) Textually Oriented Discourse Analysis (TODA) texts from those two groups of learners are analysed. What becomes clear are the following:

1. Learners exposed to EL are more oriented to the mastery, vigour and robustness of the discipline, relevance to the job market and pure academic excellence; while
2. The CSL group shows greater amounts of empathy, in comparison, to the plight of their fellow man through their respective disciplines.

The conclusion drawn therefore is that for a more meaningful training of future graduates at a university of technology to take place, both EL and CSL are equally important as they cover diverse but related areas of learning (namely academic rigour and social relevance) for citizenship.

INTRODUCTION

In this paper we argue that Experiential Learning (EL) and Community Service Learning (CSL) are mere different sides of the same coin. The two are interrelated and they co-constitute significant aspects of Work Integrated Learning (WIL). The two may have had different origins (Perold,1998), but they seem to have found common location and operationalisation currently, especially among academics and students at universities of technology in South Africa. What is different between the two is a matter of emphasis.

In this paper we attempt to compare the two so as to clarify the relationships, similarities and differences between the two for the sake of stakeholders, practitioners, beneficiaries, students, industry, universities and communities. In order to systematise

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our discussion we start off first by giving an overview of the whole paper. Secondly we focus attention on the background to the study by way of providing reasons that made this investigation urgent and necessary.

From there we unpack the problem statement so that the research question, aim and objectives of the investigation are clear to all, especially the reader. In response to the above we start firstly with the conceptualisation of the study where among others we explain as to what lens or theoretical framework we used, then we define the four operational concepts in this paper and we finally we interrogate the related literature with the intention of locating the study and the paradigm it propagates.

The methodology section follows to explain concisely but succinctly how we went about collecting and analysing data from ten respondents. This discussion includes reference to the instruments for data collection and analysis as well as presentation of results. In the last section we actually discuss data in terms of themes (or constructs) that enable us to make sense of the data as well as draw conclusions as to the differences and similarities between EL and CSL in terms of their influence on some of CUT graduates' meaning construction repertoires.

WHY THIS STUDY

This study has become urgent so as to reinforce the findings of research that demonstrate that EL and CSL are not necessarily the same discipline nor approach, that while EL emphasises academic rigour, CSL puts more value on social relevance.

In this paper we unpack these subtle distinctions so as to explode the myth that if one is included in the curriculum offering then it is not necessary to include the other as one is the same as the other or a mere aspect of the other. This study has become necessary so as to further disentangle EL from CSL and vice versa.

The paper adds to the voices that advocate for the inclusion of both in all programmes especially at a university of technology in South Africa as there are bound to be far greater returns for an even broader scope of stakeholders. The incorporation of both is bound to result in a well rounded graduate than when only one was offered.

We further demonstrate that while EL also has elements of social relevance, in terms of its offering, objectives, nature and impact, it tends to tilt more in the direction of academic rigour than CSL which is more in the direction of social relevance.

FOCUS OF THE INVESTIGATION

The research question underlying this paper is:

> between EL and CSL which advances aspects of academic rigour more than the other and which advances those of social relevance more than the other according to graduates who were exposed to each respectively, and if these distinctions can be drawn would the two still be referring to the same discipline or two separate ones?

The aim therefore is to disentangle the two at the level of teaching, objectives and impact.

CONCEPTUALISATION

The Lens

Jörgen Habermas and the Frankfurt School established in 1924 (Wuthnow, Hunter, Bergesen and Kurzweil, 1985) seemed to be the most appropriate theoretical framework to enable us to talk about the issues we have outlined above. Habermas tells us that in constituting communities and societies three basic cognitive interests stood at the heart of the process, namely; work, language and power. Put differently, Habermas says that people come together in aggregates of communities and/ or societies in order to be able to work meaningfully and effectively together for the continued existence of the human species.

Another main reason for constituting communities and/or societies was for human beings to be able to talk to one another (language or interpretation) so as to facilitate their collective pursuits, like work, procreation, and so on. Finally when these humans come together there was need to organize them into meaningful and effective units as in community and/or society. Exercise of power was such a mechanism (Wuthnow, et al, 1985).

Habermas goes further to say that corresponding to these three basic cognitive interests there were founded three forms of knowledge, the first of which is technicist and positive knowledge which is mainly descriptive, quantitative in nature and seeking universal laws, large patterns, causality and prediction. This kind of knowledge is necessary in order to enhance *work* and is therefore reliant on controlling of variables, the environment including other human beings. It is the form of knowledge mainly inhabiting the natural sciences where *objects* are the focus of analysis and study. However, this typically *object* oriented knowledge form has been transplanted into the dynamic human sphere where some people believe that because of its achievements in the natural sciences (see for example the industrial revolution) it is also the best form of knowledge for understanding humans as well (Wuthnow, et al., 1985).

But the language basic cognitive interest category has contested the above form of knowledge among humans and advocated for the typically human ones which emphasizes the human dynamics, fluidity and so on as a speaking and interpreting being who has to be approached differently from objects in some natural science laboratory (Wuthnow, et al., 1985).

Finally beyond the interpretive/hermeneutic knowledge form described above Habermas and the Frankfurt school argue for the knowledge form that critiques excess of power and unequal distribution thereof that lead to oppression, exclusion, marginalization, you name it. This knowledge form Habermas and the Frankfurt School define as critical and emancipatory as it questions how things are and positing the possibility of the alternative. This knowledge form sees reality as multiple and non-essentialist depending on the perspective of the beholder (Wuthnow, et al. 1985).

This form of knowledge prescribes humility on the part of the knowledge seeker (researcher) in that he/she has to recognize that his/her respondents are as equally human as he/she is and as such needed to be treated with the same human respect. In

this kind of knowledge form the knowledge seeker does not shy away from his/ her biases he/she affirms them as his/ her starting point. The researcher in this mode is the most important 'research instrument' as she has to interpret and analyse all information on the basis of his declared subjectivity (Douglas, 1970; Fischer, 1977; Plummer, 1983; Burgess, 1988).

This theoretical framework was the most appropriate for us because we were dealing mainly with the *words* of people in written form as our information. We also were inspired to look at the alternative to that which was overtly presented. We also wanted a framework that would advance the emancipatory agenda as described by Habermas. A theoretical framework that critiqued power relations was the most suited for our study as we wanted to lay bare those relations as an entry point. Critical emancipatory theoretical framework was also the most appropriate because it wanted the voices of the marginalized and small people to be heard. In fact critical emancipatory framework is the most appropriate when dealing with issues of social transformation, social empowerment, social usefulness ad meaningfulness.

DEFINITION OF OPERATIONAL CONCEPTS

Work Integrated Learning (WIL)

For purposes of this paper Work Integrated Learning (WIL) is a broad strategy involving multiple sites of teaching and learning making it possible, to combine

> and integrate learning and its work place application, regardless of whether the activity is real or simulated… it is the umbrella term used that combine and integrated learning and its workplace application as part of an enrolled program of study (Academic Board/Board of Technical Studies, 2005)

Academic rigour versus social relevance

Bronfenbrenner (Creese & Martin, 2003) demonstrates the need for a university and its graduates to climb out of the ivory tower and become involved with the daily problems that the community experiences while not loosing the rigour of their science and their learning. This debate has been perennial in the sense that some emphasised the need to be rigorous while the other emphasised the need to be socially relevant. In South Africa today, this impasse has been resolved in that a university more so a university of technology has to be both. Thus in order to achieve this objective both offerings with different emphases need to be accommodated in the curriculum.

Academic rigour therefore implies that a module or subject as taught and applied should not loose its conceptual sophistication, abstraction and 'difficulty' but that it should still require learners to go deep in an attempt to understand the concepts and their application. Social relevance on the other hand implies that learning content should not be removed from the context it will ultimately be applied in or at. It means that learning content should be oriented and targeted to the solution of experienced and felt problems.

Experiential Learning versus Community Service Learning

Many definitions of the two have been provided over the years (See Perold and Omar 1997; Perold 1998; Rothman, Anderson & Schaffer 1998). What works for us in this paper is that Experiential Learning refers to that learning acquired in the place of work while the student is till officially in the training of the university as in work study or internship, while community service learning refers to that kind of learning that students acquire while providing service to the community as in volunteerism, etc. but the learning in both instances have to be formally and clearly provided for in the curriculum offerings.

EL puts a lot of emphasis on the students practising the theory learnt at the university, in the world of work, while still being supervised by the university before formally taking up employment to have a feel and a pre-taste of how the latter looks like (see CTM Standing Committee: Co-operative Education, 2000). CSL on the other hand places a lot of emphasis on the students sharing their skills with the community and learning other ways of knowing from their interaction with these communities. The relationship advocated for in the latter is that of reciprocity and equality between formal academic practice and age-tested community strategies (Howard, 1993).

EL is sometimes called Co-operative Education to emphasise the close relationship between the university (theory) and the industry (world of work). While EL incorporates elements of learning theoretically including practicals (where applicable), at the same time cooperation is also sought with the real world of work where the practice is going to be applied, hence co-operative education taking place between the university and the industry.

CSL also involves elements of partnership between the university, the community and the service provider. The students from the university learn mainly while they are providing a service to the community under the auspices of the service provider (Campus Compact, 2000). They learn more at the level of critical cross-field outcomes about their enrolled for module as well as about alternative thinking and ways of doing things as practised in the communities.

Even at the level of implementation one can clearly see some similarities and differences between EL and CSL. For example both involve action in their respective and diverse fields, preceded by preparations that are different, monitored similarly by the university involving reflections of different kinds after the action in order to intensify the experience (Campus Compact, 200; CTM Standing Committee: Co-operative Education , 2000). The conclusion drawn is therefore that EL and CSL while related tend to draw from different theoretical positions their practices. For example the action in EL is dominated by an intensive orientation to succeed in terms of formal and conventional knowledge required by the world of work while CSL is dominated by an intense will to empathise and be able to see the world from the perspective of the other with her/him. (Mahlomaholo & Matobako, 2005)

The list of areas of similarities and differences between EL and CSL is infinite, what we have done above is to focus on a few salient ones only so that we can be able to draw comparisons in definition and operationalisation. In order to be able do the comparison effectively we then moved to the stage where we used the following

criteria developed by Eyler, Giles and Gray (1999); personal outcomes, social outcomes learning outcomes, career development and the relationship with the institution (university). These were constructs that emerged from the literature but which we found adequately capturing the themes of meaning constructions that the interviewees brought with them.

METHODOLOGY

Respondents

We interviewed ten CUT graduates all in all. These were assigned to two groups (A and B) interviewed separately by the two of us for one and half hour each respectively. Group A was made up of three young men and two young women while group B was made up of three young women and two young men. These graduates got included because they were available during the interviewing sessions and that they were willing to share their experiences. In group A we assigned only those graduates who had an almost exclusive exposure to EL while in group B the exclusive exposure was CSL. The graduate's area of specialisation did not matter, only either exposure to EL or CSL was the significant factor.

Instrument

To interview the graduates we used Ineke Buskes-Meulenberg's Free Attitude Interview Technique (1993) which involved just asking one question which was: *"between EL and CSL which seems to influence your conduct in life currently and in which way?"* In order to encourage the group to talk we used *clarifying questions* as the technique specifies. Where we were not getting the point but long digressions we used the *reflective summary*, also this is what the technique specifies in order to cut the chuff and get focused on essential issues.

Data collection

The interviews were conducted in our Committee Rooms which are relatively comfortable and non-intimidating. Actually everything was done in our power to have the graduates relax and talk freely about what influences them currently in their everyday conduct and how. We tape recorded the interviews verbatim and the approach of going about the interviews were focus group like. This means that not one person was interviewed at a time but that this was like a conversation of five people among themselves, with as researchers setting the pace of the conversations with the questions and summaries as explained above.

Data analysis

In order to analyse the data and the information gathered we used Fairclough's (2005) Textually Oriented Discourse Analysis whereby we focused on text, its production, dissemination and consumption. Then we analysed at the level of discursive practices and finally the level of social structure. We went to and fro across these levels in order to make sense of what was being said. We must hasten to add that the tape recorded interviews were transcribed on paper verbatim for ease of analysis. One of us went

through these transcripts alone to draw themes and sub-themes and then the other confirmed. Where disagreement occurred we debated until consensus could be reached. We thus report the findings based on the interviews.

PRESENTATION OF RESULTS

Personal outcomes

The EL group was very strong on how their learning helped them to get real and practical training and knowledge about their disciplines and what their work situation expected from them. They seemed to place little or no value on whether their learning had any relevance to their community because what was important for them was going up the corporate ladder in the terms set not by the community but by the place of work. To evidence the above this is what the EL group said:

> Question (Q): In which way would you say that your EL training assisted you?
>
> Response (R): You see, my training at the university was improved by my involvement in EL because then I could type, answer the telephone, do reception work, receive customers. I could find real link between my academic work and EL in terms of administration. This link helps me to do practically what I learnt theoretically at work. In this way I will be able to better when I look for a job because I had the real thing.

The transcript of this conversations shows that all EL students had this similar view, in short summarising the discursive practices they were coming from which was informed by the learning they were exposed. There was no mention of the other and how the other would benefit from their knowledge.

On the other hand the same question elicited the following response from the CSL group:

> Q: In which way would you say that your CSL training assisted you?
>
> R1: I think I am a better person now,...who can relate to others and share with them my achievements, knowledge and experiences. All these are due to what I learnt from my CSL classes. Our lecturer used to tell us to respect other people and to look closely at what they had to offer. I tried that once and found that in the end that this became my habit. I love what I see in people and immediately they see that you have an interest in them they show the same respect to you and really hold you in high regard.
>
> R2: In our interactions with the communities we realised how much these people knew even though at face value they looked like they had nothing to offer. I am happy to have had this experience and I am going to share it with my colleagues even in the future.

Comparing the two transcripts one realises that with the former EL group, personal outcomes are defined in terms of the individual success whiles with the latter group, (the CSL) these personal outcomes are understood in terms of broader 'we' conceptualisation of the I. The 'I' seems to become real and realisable when seen in the context of the 'we'.

Social outcomes

On this issue the CSL group was very strong about learning and knowledge being relevant to where we come from and the question of making sure all the time that we never leave behind those who made us who we are. One could actually feel the two groups being different in terms of the emotive factors, with the latter (CSL group) being more articulate in expressing how they felt about themselves and their community while the latter was clear on succeeding in the corporate establishments. This is how the conversation proceeded:

> Q: Now that you have this wealth of knowledge and information in your subject area what are you going to do next?

> R: I must admit that I am at an elevated position now where all kinds of jobs within my field of specialisation are now within reach. I mean you can put me in the bank or an insurance company, even the stock exchange, I now know what to do because EL gave me the opportunity of a life time. Without this knowledge which I now have I would have struggled even to get promoted but now it is just a matter of time. I am in a situation where I really should be respected for what I can offer in the world of business.

The members of the EL group were emphasising their academic and professional prowess. There was little mention nor reference to other people in terms of mutual support. They seem to be saying that, that they have achieved what they have, this was due to their sole efforts. On the other hand, the members of the CSL group were quick to think of others.

> R1: My experiences with CSL has made me realise who I really am. I have come to realise that without the community people we as learners and students at the university, we are nothing because they represent the context where we are to test the value and validity of our learning. If whatever knowledge one has it cannot be translated into action or activities that improves the lot of our people then what is the value of our learning? What I know has value only if it can change and improve the lot of my people especially those.

> R2: I have learnt to interact and work with people especially from a context different from mine. I enjoy listening to them sharing their believes and I like to get along with all people. Fortunately CSL has laid basis for this and mine is to practise, practise practice.

Career development

The EL group talked at length about demands of the world of work, issues of the need for experience, concrete knowledge, train to work everyday, seeing meaning for example of safety gear, wanting to better themselves, to reach the highest level, appreciation of their alma mater for the preparation it provided before they went to real work. Actually a debate ensued here with one or two students feeling that companies were giving less for success and their university having to be more proactive in providing placement and exposing students to varied experiences.

The CSL group had this to say:

> Q: In terms of your career development, would you say that exposure to CSL has played any role?
>
> R: Definitely. My career will be more fulfilling if I know that there are people who are appreciative. You see it is nice to work at a company but it is more fulfilling to be appreciated for who you are by your people for knowing that this is what you can do for them. You know when people thank you genuinely and honestly, it is so fulfilling Sometimes, in fact most of the time, one needs to work because you derive pleasure in improving the lot of your own people especially those who brought you into this world and nurtured you and sacrificed for you to be where you are. It is nice to be able to plough back and let those who made you who you are to really see the fruit of their labour.

From conversations with the EL group one found them focused on detail and nittie gritty of the situations in the work places. The CSL group on the other hand was clear about its focus which centred around the collective, lifting their communities from the squalid conditions of poverty and deprivation, ploughing back, becoming role models to their less fortunate peers, making their learning benefit their communities, one could also hear voices emphasising issues of the collective good, of sharing in the plight of others, of not being able to grow and develop while one was surrounded by the sea of poverty and unemployment. This group at the same time articulated issues of competency but one see clearly that these came secondary to doing good to others.

From the above discussion it would seem as though the two groups' conversations were air-tight in terms of differences but in reality one could feel some overlap here and there although in as far as the majority of the participants were concerned there was a greater leaning in the direction of the mentioned perspective.

CONCLUSION

In drawing conclusions on the above, one realises that the following themes came out very strongly: (i) the individual versus the collective advancement, (ii) assertiveness and competition versus accommodation and collaboration, (iii) competitiveness versus compassion and concern for the other, (iv) excellence versus support for all, (v) accumulation of expertise and experience versus sharing of expertise and relevant resources (vi) subject or discipline specific mastery versus global mastery of humaneness, (vii) company as destiny versus community as destiny, (viii) opportunity to succeed versus opportunity to serve and (ix) limited reflection versus deep reflection on issues of identity and performance.

The conclusion we arrive at is that, if EL and CSL prepare graduates thus differently, they are bound to be different disciplines with different objectives and obviously with different methodologies. This being the case, it is clear that none is inferior than the other because both sets of characteristics elicited by each are needed by a rounded citizen as explained by the South African Education s Critical Cross Field Outcomes. A rich curriculum of a university of technology will be the one that will incorporate both at the same time in order to derive both benefits optimally.

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The role valorisation of students in the workplace: the transformative impact of workplace-embedded speech pathology student units on the core business of both partner agencies and the university program

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The value of workplace learning is often framed in terms of the positive effects that it has on the learning of university students. Less common is discussion of the positive effects that student participation directly has on the capacity of industries to provide extended and innovative services. An historical and still frequently encountered mindset found by universities is that student participation in workplace experience is often framed by industry workers in terms of being extra work and a burden. Less commonly reported is the capacity building transformation that student participation can have on the work of agencies. This paper outlines the transformative impact that speech pathology student units have had on the development of new and extended client services in a range of different agencies in South Australia since 2002. With the success of these embedded student units industry partners have shifted their perception of student involvement from the margins to the centre of their business. At the same time, the impact on the university's speech pathology program has been a shift from perceiving workplace learning as an "add on" to the academic program to one where it is central.

Keywords: capacity building; clinical education; service provision; social role valorisation; student learning units; workplace embedding

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MARGINALISED WORKPLACE LEARNING TO WORKPLACE ROLE VALORISATION

Workplace education for Allied Health students in Australia is in crisis through a chronic shortage of placements. Workplace education has always been a key component of a health professional student's education, though the form and extent of that experience varies across different professional groups. This has been against a backdrop of universities themselves not always understanding or valuing the purpose of workplace education in preparing health professionals. It is an expensive form of

learning and it fails to fit usual models of academic teaching. While university attitudes are changing (Taylor, 1999) workplace education is rarely viewed as central to university business in the same way that academic teaching is valued. In the academic unit to which the first four authors belong, discussions concerning changes to curriculum or timetabling to accommodate workplace learning needs can be met with comments such as "the tail wagging the dog" or "we might as well be at a TAFE".

Turning to industry, the attitudes of the health and education sectors in South Australia to workplace learning for Allied Health students has been, and continues to be, ambivalent. Allied Health workplace education attracts neither Federal nor State funding and has relied on the goodwill of managers and health professionals in these sectors to accommodate student learning. The perception is often that students are additional to usual duties and workload. Running counter to this, with the current acute workforce shortages, many agencies view student placements as a potential staff recruitment strategy. Nevertheless, it has been common in the recent past and sometimes currently for university programs to find managers and health professional staff speaking in terms of students being "not core business", "extra work in an overstretched work environment", "an obligation" and "burden". University programs in such a situation often find themselves posturing between "guilt-talk" and "favour / gratitude-talk" to procure placements. Can stand-offs, conflict and mutual blackmail be transcended?

Social Role Valorisation theory (SRV) (Osborn, 1998) provides a way to understand this state of affairs and provides a framework to change attitudes and practices. The term Valorisation has its roots in the Latin word *valere*, meaning to value or accord worth. The theory has its origins in Wolfensberger's work on Normalisation for people with disabilities. The enabling and establishment of valued social roles is a strategy for empowering people who have been traditionally devalued and marginalised in society. More recently the theory has been applied to other groups who have been given marginalised positions in an organisation (Williams, 2004). We believe the principles of SRV can be transferred to the traditional position of Allied Health students in the workplace. The Speech Pathology program at Flinders University has consciously created a process of work role valorisation where the work that students do on placement in the Health or Education sectors moves from the devalued margins to become highly visible, highly sought after and central to the business of the respective agencies. The conscious intent has been to shift perceptions from "burden" to "asset". This has been achieved through partnering the creation of a number of student-based speech pathology services within these agencies and explicitly demonstrating their innovation and high capacity to meet the respective agencies' needs that couldn't be met as well otherwise. Many of these student-based services receive higher ratings by clients and other stakeholders than services provided solely by speech pathology staff.

ESTABLISHING INNOVATIVE STUDENT-BASED SPEECH PATHOLOGY SERVICES

A number of elements underpin the establishment of these student-based services: the change in approach of the professional association to eligibility for membership, the shift from the placement of a student individually to providing a "critical mass" of students to make a difference to service delivery, and the university program adopting a marketplace perspective that aims to create a workplace educational experience for students that is also realistically valuable to the partner agency.

Like all allied health professionals, speech pathologists are required by their professional association to be eligible to practice on graduation. Speech Pathology Australia (CBOS, 2001) moved away from a process of only recognising hours of supervised direct client contact (330 hours) to a competency model that focuses on demonstrated and assessed standards of practice that embrace the full gamut of work that speech pathologists do. This change has allowed university programs to be flexible in their negotiations with agencies around what constitutes a legitimate student learning experiences on placement.

The second factor has been the shift from placing students individually in a work setting to providing groups of students (usually 4) that provide the "critical mass" to enable an agency to provide more coverage and flexibility in the types of client services that can be achieved. For example, in a school setting, classroom collaboration, small group intervention, individual work, staff education, curriculum planning, classroom consultation and parent education. A student-based service unit of 4 students also provides an excellent learning environment for students. Peer learning and cooperation is encouraged and the small number of students to be supervised is manageable for the clinical educator / student unit manager.

However, the shift in attitude by the university program in its involvement with the health and education sectors has been the main catalyst for change. While maintaining and developing the educational goals for the work placements, adopting a "valuable resource for marketing" approach has transformed relationships from one of begging to one of interdependent partnership for service delivery and education. The program has learned to pay close attention to the service delivery needs of an agency and to tailor an innovative student-based service to meet those needs. For example, with the Christie Downs Schools and St. Patrick's Special School students provide a service across the school year; with Disability SA students provide both a community-based and centre-based service for clients with head injuries being reintegrated into the community; with the Catholic Education Office students provide the language assessment service that determines the eligibility for funding for children with communication impairments. The university program is starting to achieve its goal of shifting student workplace education from the margins of community perception to being a key partner in the provision of mainstream Speech Pathology services in South Australia.

CONCLUSION: THE FUTURE

The first student unit commenced in 2002 and there will be 6 units or more in 2009. The documented success of each student unit has become the model and selling point for other student units to industry. Indeed, the model has become so successful that there is more interest from agencies than we have students to be able to accommodate their needs. The future may hold a distributed network of student units in workplaces where academic and professional learning co-occur. It may even be possible for multi-disciplinary units to develop and / or student units to be formed in regional or remote settings.

However, what is most encouraging to us is that the process of valorisation is having an increasing impact of the place of workplace education in the design and implementation of the program's curriculum. The "tail" in no longer criticised for "wagging the dog" but is recognised as the pivot point around which the curriculum is organised and delivered. This, in turn, is refocusing academic teaching to better prepare students for their workplace learning experiences, to support their learning in that environment and to facilitate students' reflective integration of theory and practice (Boud & Garrick, 1999).

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Preparing students for professional practice: strategies for evaluating work integrated learning within an industry-professional context

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In line with the evolving profile of the university graduate, teaching strategies are changing as one contemporary view of education is to prepare students for effective participation in professional practice. Within the School of Communication at Charles Sturt University (CSU), the distance between the classroom and the professional community is closing. At Kajulu Communications, the on-campus student advertising agency, students learn to apply best industry practice to a range of real-world problems within an authentic working environment. Curriculum development and pedagogy has been informed by applied research as well as continuous industry dialogue, and is based on a belief that university courses should not only serve industry, they should contribute on a higher level, new knowledge that informs and even guides evolving professional practice. This paper reports on research which examines strategies employed within the environment of Kajulu Communications, and specifically professional teaching models that embrace the concept of work integrated learning via constructs such as communities of practice and authentic problem-based learning (APBL). In the process, the paper seeks to identify the pedagogical practices that naturally connect learning to authentic activity, context and culture (Lave and Wenger, 1991, p. 27) as employed in curriculum delivery and specifically, the evaluation of student learning.

Keywords: work integrated learning, APBL; evaluation

APPLIED PRACTICE: WORK INTEGRATED LEARNING

Universities are under increasing pressure from both employers and students to equip graduates with real-world skills and capabilities. Teaching and learning strategies are changing as one contemporary view of education is to prepare students for assimilation into professional practice. As Reeves (2005, p. 22) suggests, it is becoming apparent that employers are seeking qualifications beyond the degree. They want hands-on skills, employees who are good communicators, team players and are dedicated to life long learning. Berryman (1990, p. 46) reinforces the point, suggesting that the ultimate point of education is to prepare students for effective functioning in non-school settings. My objective as a teacher has been to close the gap between the classroom and the professional community by providing both a teaching curriculum and a learning environment that facilitates a seamless transition from university into the professional workplace.

The advertising industry is experiencing what I refer to as a velocity of change. I believe that effective teaching today is a result of constantly evolving strategies that reflect the dynamics of today's advertising environment. I employ a model of authentic intellectual achievement based on three criteria: the development of student knowledge through disciplined enquiry beyond the classroom; disciplined enquiry that replicates the skills and techniques of professionals; and reflection and simulation of problems, issues and situations encountered in the real world. I do this by linking a

theoretical framework to practical learning in a real-world environment. My teaching takes place within the situated learning environment of Kajulu Communications, the on-campus student advertising agency of CSU. The Kajulu model is predicated on students learning by working in a real-world (authentic) environment, and then applying their learning to the development of market-ready national and international advertising campaigns for real clients. For undergraduate advertising students, the experience is much more than simply one of coming to university. It is more like coming to work in a professional advertising agency. My teaching is focused on ensuring that when students graduate they are both critical thinkers and industry-ready to literally 'hit the ground running'. The approach is to create an industry-based, collaborative student environment that encourages open thinking, investigation, innovation and experimentation in learning, and in the application of that learning to the solving of practical advertising problems.

The students and I work together in a professional, collegial relationship, rather that the traditional student-teacher relationship.

The result is that they are motivated to take ownership and responsibility for their actions and outputs, thus fostering independence in learning and a desire to go further – to analyse, challenge, engage, and to produce their best. My pedagogy has been informed and guided through reflection on my own experiences as a practitioner and in more recent times as an academic, and by an understanding of what is required through continuous dialogue with the industries with which we work. My belief is that, in line with the evolving profile of the university graduate, teaching and learning strategies are changing. My own teaching strategies embrace Berryman's (1990, p. 46) concept of student "apprenticeships" and support the concept of work integrated learning via constructs such as situated learning, communities of practice, and authentic problem-based learning (Lave & Wenger, 1991, p. 27; Wee Keng Neo, 2004, p. 31). My overarching objective is to equip students to become effective, efficient and ethical individuals who can contribute meaningfully and work and prosper anywhere in the world.

CURRICULUM DEVELOPMENT

As the CSU advertising course is a 'professional' course, the objective is to comprehensively prepare students for the rigors of the industry they are entering and to ensure their employability. In the process, the development of course curriculum has been informed and guided through the realisation that as a university, the program must first and fore-most be pedagogically sound, not simply responsive to current industry needs. Curriculum design is informed by the gathering of evidence via a number of formalised sources: (i) semester-based subject evaluation by CSU Online Evaluation Management; (ii) applied research and publishing in focused areas of higher education; (iii) formal industry research in the areas of work integrated learning and the development of contemporary practitioner attributes by way of depth interviews and questionnaires conducted during subject and course reviews (McCulloch, 2007, p. 9); (iv) continuous feedback gained from the industry via student internship programs and performance evaluations that provide a direct interface with prospective employers and highlight the contemporary skills and attributes they seek in graduates (McCulloch, 2008, p. 6).

Practical, real-world experience is a valuable asset, but so too is a learning environment that encourages students to question and to engage, an environment that stimulates higher level, critical thinking and independent learning. Situated learning takes place within the (authentic) environment of Kajulu Communications, the on-campus student advertising agency of CSU. Kajulu is a stand-alone entity with its own premises and facilities. It is designed to replicate an advertising agency, from systems and procedures to student roles and responsibilities; to emulate industry practitioner standards, from the agency's premises and environment to the physical and psychological approach students take to the development and presentation of client campaigns. Gulikers *et al*. (2004) refer to this as the 'physical context', a key dimension of authentic learning. This strategy is encapsulated in my vision for graduate outcomes:

> When you leave Charles Sturt University and Kajulu, you are more than graduating.
> You are leaving one agency and moving on to another.
> (Rod McCulloch, 2002)

For students coming to learn, the experience is much more than simply one of coming to a university of lecture halls and tutorial rooms. The student experience is enhanced by the opportunity to learn and to apply this learning in a work integrated, professional advertising environment. I express this: *Come to CSU, and come to work in Kajulu.*

The Kajulu model is predicated on students applying essential theory-based learning whilst working in an authentic environment for real clients, and accepting accountability for the results of their work. In contrast to the rote learning approach, to a large extent students take charge of their own learning whilst working for regional, national and international clients of the ilk of Estee Lauder, Sony Audio Products, Habitat for Humanity Australia and the Royal Flying Doctor Service, as well as for international organisations and companies including the United Nations, Compaq Computers, Florida Tourism, Electrolux Appliances and for the Unilever consumer brand Lynx.

Using a cognitive apprenticeship model (Van Merrienboer, 1997, p. 11), advertising students acquire, develop and use cognitive tools in an authentic domain activity – a real world situation in a real world environment. In practical terms, students do this by operating as advertising agency teams, adopting specific roles and responsibilities, both inspiring and motivating each other within their team and within the context of the natural (and encouraged) competition between Kajulu teams. The team environment encourages interpersonal and cooperative engagement skills. This is further fuelled by the knowledge that, rather than completing text book assignments, they are creating and presenting real campaign projects for real clients who, in many instances, are remunerating Kajulu for the work undertaken on that client's behalf.

> I learnt a lot about working in a team to create a do-able strategy for a real company. The fact that the client could have said 'no' really gave the work we put in a legit reasoning.
> (E.O'N.: Kajulu student, 2008)

The student cohort is self-selected into teams of approximately seven students, in effect creating mini-agencies. These teams replicate the team-based working structures found in professional advertising agencies. Teams decide the individual responsibilities of their members. Invariably these responsibilities mirror the personal strengths and professional aspirations of the individual students, with team members adopting roles such as Managing Director (team leader), Client Services Manager, Research Manager, Media Manager, as well as Creative and Production roles. They maintain these roles and responsibilities throughout their time in Kajulu and represent these roles to their clients. Individually, the students are accountable not only to their clients but also to their fellow Kajulu team members for the delegated responsibilities and output of their roles. Team members work both collaborative and as individuals to solve marketing communication problems. As a team they review the client brief, allocate responsibilities, set goals and then initiate activities. As individuals they apply professionally-based skills and knowledge of communication practice learnt in their first two years to address these goals and objectives.

As each campaign is unique, market and consumer understanding is invariably not limited to the classroom and text book. Students must venture outside the bounds of the institution to learn for themselves and then to collaborate and apply this learning to their team project. They do this by reflecting upon the theoretical knowledge learnt throughout their course, and then applying professional techniques and skills to the development of advertising solutions. The end result is a campaign that not simply wins client approval, but is strategically sound and ready to go to market.

From an academic perspective, learning outcomes and student expectations are detailed in formal subject materials. Client briefs, as in industry, clearly outline expectations and outcomes in terms of the development of industry-standard advertising recommendations. An important aspect of the authenticity of the process is the recognition by Kajulu teams that, along with charging for their work, comes aspects of ethical responsibility and accountability. These are in themselves, critical key leaning outcomes. Up to three Kajulu teams may be assigned to work on, or 'pitch' for a client. This means that these teams are in fact in competition with one another, vying for the client's business as they would in the real world. This spirit of competition and the potential reward of 'winning the business' is a critical motivator and results in work that goes well beyond simply what would suffice to meet subject learning expectations or pass a subject assignment.

Presentations are developed by the student teams to professional standards, in terms of both content and audio-visual and personal presentation techniques, and are assessed to professional standards.

> Working for a real client was demanding, yet very exciting and beneficial. Overall, I genuinely felt that every component of this subject was helpful to my learning.
> (A.H.: Kajulu student, 2006)

ASSESSMENT AND FEEDBACK

Often times, assessment methods in tertiary education are predicated simply on students answering or completing set assignment tasks. These tasks may be theoretical, text book driven and exam-based, in which case answers may simply reflect a model of rote learning, without the requirement for students to reflect on previous learning and accumulated knowledge or create in them the desire to venture further in the assimilation of knowledge and the development of arguments. In contrast, within the industry-professional environment of Kajulu, student assessment is based on authentic problem-solving tasks and a demonstration of both reflective practice and progressive argument, in support of nominated teaching and learning outcomes and both client and industry expectations. In line with the principles of authentic problem-based learning (Wee Keng Neo, 2004, p. 31), assessment within Kajulu is:

- based on appropriate and relevant learning outcomes - these are clearly enunciated within subject materials;
- supported by a list of tangible, measurable and unambiguous criteria - these are detailed in all subject materials;
- based on agreed-to targets of measurement - these are clearly outlined in the assignment briefs and supported by the final client brief;
- conducted with a variety of tools for each assessment task - these comprise both formative and summative assessment;
- managed and influenced by student learning through the learning process.

Assessment serves as a feedback mechanism that allows for a determination of the progress of student learning and identification of a requirement to take necessary measures to close any learning gaps. Hence, I believe that assessment cannot be considered an end process, but rather integral to the on-going process. Learning by doing and then applying what is learnt is inherent in the way students develop their knowledge base in Kajulu. Timely feedback throughout the entire process is the key to team development and performance. Within the industry it is common for weekly 'work in progress' (WIP) meetings to be held to ensure that all work in the agency is being addressed in a timely and appropriate manner. So too in Kajulu, where weekly WIP meetings and reports serve a number of important purposes:

- they provide a big-picture overview of the team's work and progressive output;
- they offer a method of recording accountability for individual team member contribution, in line with pre-determined and agreed timelines and outcomes;
- they provide each team member with set responsibilities - agreed to by both the individual and team;
- they remove the subjectivity and 'personality' from evaluation of individual contribution to the team task by providing clear and recorded expectations;
- they provide the opportunity to offer constructive input on a regular basis during the learning and developmental process - rather then just at the conclusion of the project.

Whilst content is critical in assessing student learning and subject outcomes, in industry team work and presentation skills are significant influencers in an advertising agency's ability to be successful in a client 'pitch' situation. Hence, an authentic and comprehensive model of assessment is employed that considers four key components in formulating final student assessment.

Team Assessment: Campaign development and presentation is assessed utilizing industry criteria:

- − Team presentation skills: professionalism of the team presentation (synergy, conviction), use of appropriate support materials, logical flow, addressing of client questions, and conclusion;
- − Presentation content (in written report form) - breadth and originality, practicality, the addressing of set campaign objectives, performance evaluation and anticipated return on investment (ROI).

> I believe I really drove the presentation and was best able to communicate the objectives to the client.
> (D.D-H.: Kajulu student, 2008)

Assessment and feedback is provided in both detailed written form as well as in face-to-face 'debriefings' with each team at the conclusion of the team project.

Individual Student Assessment: To identify individual student contribution and assess learning within the collaborative team environment:

- − Progressive learning assessment - weekly reviews and mini-tests;
- − Contribution to the team as detailed in weekly WIP reports;
- − Single student project assessment.

Feedback is provided in detailed written form and in face-to-face discussion with the individual student during formal consultation times.

Peer Assessment: Written (confidential) feedback by members of the Kajulu agency team on aspects of team member commitment and contribution, including participation, active contribution, performance of tasks in line with agreed timelines, and ability to contribute to the team effort.

Client Assessment: Formal quantitative evaluation and written feedback is provided by the client, based both on outcomes and on the level of professionalism displayed by their Kajulu agency throughout the entire campaign development process.

> What an excellent experience. It was encouraging to see such good work come our way. Congratulations to you and the Kajulu teams.
> (David Woolbank. Director-Brand Marketing Electrolux, 2004)

EVALUATION OF LEARNING STRATEGIES

The CSU Online Evaluation Management Surveys of the Kajulu student cohort undertaken to measure satisfaction and effectiveness levels of both subject content and academic staff member's approach have consistently returned results that were significantly above the School Mean. Item Means on a Likert scale, where 7 equals *Very Strongly Agree*, are shown for the questions.

TABLE 1
ADV310 Advertising Strategy and Campaign Planning

Core Questions	2006		2007	
	Item Mean	School Mean	Item Mean	School Mean
I found this subject stimulated my learning.	**6.11**	5.25	**6.14**	5.44
The quality of teaching in this subject assisted my learning.	**6.67**	5.13	**6.14**	5.30
Teaching was clearly directed towards the objectives of the subject.	**6.44**	5.22	**6.21**	5.23

(Charles Sturt University Online Evaluation Management Survey, 2006 and 2007)

A quantitative survey of the advertising student cohort in June 2007 identified key areas of student learning as well as high levels of student satisfaction with the Kajulu curriculum (McCulloch, 2007). Utilising a 5 point Likert scale, 5 equalling Strongly Agree, 75% of the 51 closed-ended questions scored an item mean of above 4.0. When responses were analysed, the overall take-out was a stated confidence amongst the students that they were being well prepared to effectively and efficiently enter the professional industry environment, and to be productive from day one. Supporting pedagogical results, proof of the success of the Kajulu model lies with the students themselves. Over the last seven years, Kajulu student teams have won three international student advertising competitions and four national competitions, competing against universities from around the world. Today the CSU advertising course is the most awarded advertising course in Australia and is recognised by the industry's peak global body, the International Advertising Association as a benchmark in the preparation of students for professional practice (Lee, 2005).

Further evidence, and arguably the ultimate measurement of the success of the work integrated learning strategies applied within Kajulu is the level of acceptance of the students by industry. CSU students are seen to be employees of preference, with a graduate employment rate approaching 100%. Indeed, many students secure full time employment in the industry in their final semester of studies, even before they have completed their degree.

> Keep teaching these young people to the current high level and we'll keep employing them.
> (Allan Griffiths. Business Director, Zenith Optimedia, 2004)

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Exploring the *practice–pedagogy* middle ground: progress report on a hermeneutic inquiry into education for practice

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What is an appropriate universtity education for practice in the 21st century, a time when workplaces and the nature of work itself seem to be undergoing continuous change? In this paper we explore the "ideas space" in which the constructs of practice and pedagogy face each other in this climate of change and uncertainty. Our collaboration on the paper arises out of our longer-term work on the first author's doctoral inquiry into "meaning making capability for 21st century university education", which seeks to develop new ways of designing and implementing vocational/professional preparation courses.

Preparing students to cope with uncertainty in the workplace requires rich and careful curriculum planning. To illustrate this we refer readers to a curriculum redevelopment in the early 2000s aimed at helping rural management students to be "job-ready" on graduation. The subject *Cropping Systems* was redesigned to provide students with a support structure for their self-managed knowledge and capability development. We profile that design and use it to introduce our new *four fields of interest schema*, which is proposed as a potentially useful curriculum design tool for appropriate education for practice. The paper also illustrates how hermeneutic research affords fresh insights into deep questions of understanding and human purpose, and how such thinking can be seen as part of university-level education.

Keywords: meaning making capability, education for practice, curriculum development, uncertainty

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The three domains of practice, pedagogy and partnerships featured at the 2008 WACE conference demonstrate a holistic viewpoint that challenges educators to draw these three elements together in education for practice curricula. In this paper we focus particularly on the rich space of possibilities where the constructs of pedagogy and practice meet, thereby recognising the value of partnerships between academic and the workplace. We shall, where appropriate, draw ideas from our research into meaning making in university education as we develop our argument here.

Meaning making refers to the process of moving beyond one's existing frame of understanding into something new. In addition to this notion we are finding that the exploration of this phenomenon is enriched if the ideas of "making meaning" and "finding meaning" (or personal fulfilment, or self-realisation) are held together in our inquiry.

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One glaring characteristic of twenty-first century life is change with all its uncertainty. Workplaces differ in the extent to which uncertainty has affected the way things are accomplished, but even relatively stable organisations can be expected to progressively experience uncertainty in every corner of organisational culture. Education for practice needs to prepare trainees for this kind of work environment. The speed at which new jobs are being defined in our increasingly globalised society is only one index of the changes under way in the workplace. Finding a way to research something that refuses to be pinned down has been a significant challenge for us. In his job as educational designer and in his studies the first author continues to challenge himself and teaching colleagues to redefine what it means to provide an education for practice appropriate to workplace demands.

Our position is this: the challenge of providing a fit-for-purpose education for practice in the twenty-first century will only be achieved if education providers, in partnership with professions, industry groups and/or employers, take students on a journey in meaning-making and capability development in four fundamental domains of discovery: (1) cultivating relevant skills, knowledge and understanding; (2) learning how to thrive and act in the absence of complete information; (3) enacting participation, relating and eventually, leading ; and (4) self emergence-transformation. These domains constitute four basic fields of interest in a robust, fit-for-*greater*-purpose twenty-first century education for practice.

RESEARCHING SOMETHING THAT REFUSES TO BE PINNED DOWN

Within the scope of this paper there is only space to provide a brief outline of the method of inquiry into "meaning making capability" used in this project and its relevance to appropriate education for practice. The research approach has evolved into an integrated set of case studies in textual composition, interpretation and communication – essentially, a hermeneutic or textual interpretive study, located within the interpretive paradigm of research; see *A framework for research implementation and reporting*, (Higgs, Trede, & Rothwell, 2007, p. 38). The texts chosen for illumination of the phenomenon and for theory-building include works by Ken Wilber (2000), Sue Campbell (1997), Ronald Barnett (Barnett, 1997, 2000, 2004; Barnett & Coate, 2005) and Carl Bereiter (2002) – theoreticians with perspectives deemed significant in terms of the research question; texts by the researcher himself, providing opportunity to explore, understand and communicate meaning making processes from personal experience; and texts by university staff and students. Adopting the hermeneutic method was a strategy that sought to shed light on the meaning making phenomenon, in that hermeneutic inquiry (or textual interpretation) is the optimal mode of inquiry capable of uncovering the meaning or significance or value of a thing. For example, Ken Wilber writes: "To reconstruct meaning … I must engage in interpretation (hermeneutics); I must try to enter the shared depths, shared values, shared worldviews of the inhabitants [of the context concerned]" (Wilber, 2000, p. 133). We have found that hermeneutics has been ideally suited to the challenge at hand. Another way of describing this approach is that the choice of research paradigm and methodology has been integral to the ideas that have emerged and multiplied in response to the complex question that was posed.

A CASE STUDY IN EDUCATIONAL DESIGN

The subject *Cropping Systems* was being redeveloped at a time when the then Faculty of Rural Management[i] was considering how its newly adopted set of "rural management capabilities"[ii] (student outcomes) could be effectively embedded across the curriculum. The aspiration among staff was to redevelop the Bachelor of Farm Business Management program such that students would be more job-ready on graduation. Two special challenges stood in the way. First, farm management education is one of those fields in which the curriculum is *not* constructed around a professional or industrial body's specifications, so there was no set of external benchmarks against which to establish the appropriateness of curriculum content. Moreover, agribusiness (including farm) management encompasses a diverse range of enterprises requiring different knowledge and skill sets, which meant students working together in some classes could be destined for significantly different occupations.

The case study educational designer's mission was to make sense (meaning) of *appropriate* curriculum design. This proposition can be further explicated in terms of how we are using the subject redesign case study in the present argument. We detect a ubiquitous sense of uncertainty in 21st century experience, including the university lifeworld; but also some equally compelling yet unexplained propulsion or commitment to move beyond our present stage of understanding. That is, it is a human drive to makes sense of the complex, sometimes chaotic phenomena of our lives and to build our new lived experiences and learning into our current knowledge and sense of self in the world.

In that period of curriculum critique within the Faculty the intention to embed the rural management capabilities into subjects within the program was declared policy (Cochrane et al., 2002, June), but the execution was not as comprehensive in substance as it was in the rhetoric of subject documentation. In examining the activities the faculty members engaged in, we return to the abstract question, what is appropriate education for practice in the 21st century?

To answer this question we turn to a collection of documents that record the design thinking of the *Cropping Systems* development team (Whiteley & McKenzie, 2000). The centrepiece of the design was a chart that specified 45 crop enterprise management competencies organised in eight areas of knowledge and skill: (1) Definition and purpose of a nominated cropping system; (2) land preparation; (3) crop rotations; (4) plant nutrition; (5) planting strategies; (6) crop monitoring; (7) harvesting & marketing; and (8) irrigation. The teaching activities were designed to support students in developing their competence in these areas, but the primary strategy was that students would develop these competencies through a sophisticated assessment regime.

Students were required to enter a learning contract which included the following provisions:

- The major series of assessment tasks was the development by students of four cropping case studies that were real life, "modified real life" or fictional. The goal in each study was to demonstrate the way a business goal can influence the entire crop planning–production–marketing process.
- The four studies were to cover four types of cropping system: high input dryland, irrigation, ley farming (low input, pasture rotation), and alternative (organic, biodynamic, permaculture). Studies 1 and 2 would be extensive while 3 and 4 were more distilled; this would ensure that students became familiar with a broad range of cropping systems and competent in two of them.
- Students were required to develop an individual semester-long learning and assessment plan. They would devise their four case studies in order to demonstrate competence in all 45 competencies. They had to nominate which competencies would be covered in which case studies.
- Each student would have a competency profile chart, a visual scorecard on which progress in achieving the competencies would be recorded by the assessor. The chart was a grid comprising the eight areas of knowledge on the Y axis and up to seven elements of competency on the X axis. For example, for the plant nutrition competency, the elements were:

  o Can state the major elements and trace elements
  o Can explain the role of each element
  o Can identify the primary sources of each element
  o Can describe suitable application methods
  o Can plan the rate and optimum timing for application
  o Can weigh up the cost/benefit of applying ameliorants
  o Can plan nutrient monitoring in Cases 1 & 2.

- Each student's work program was negotiated in the individual learning contract. The case studies would be developed more or less in parallel and submitted in two stages: interim and final reports. In the learning contract students were asked to estimate what percentage of total workload for each case study would be committed at each stage:

  "In the example provided, most of case 1 and some of cases 2, 3 and 4 will be attempted in the Interim Report. In each case the balance outstanding will be submitted in the Final Report. This part of your proposal is not binding; it is a planning tool. Under normal circumstances you should aim to complete about 200% of the 400% total workload in the Interim Report" (Whiteley & McKenzie, 2000).

  Example:
	Interim	Final
Case 1	90	10
Case 2	20	80
Case 3	60	40
Case 4	30	70

- The competency profile chart was used to report individual achievement in the competencies after the interim report and again after the final report. Feedback on attempted competencies could either be "Attempted" or "Met".

− The two case study reports constituted assignments 1 and 2. Assignment 3 was an individual presentation to classmates, either at the distance education class residential school or through ongoing contributions to the subject's online forum. Students were required to "demonstrate a broad understanding of a selected issue facing Australian crop growers, and an ability to present a well-argued point of view in relation to that issue". The expected dimensions of student achievement were specified in an assessment rubric. *High Distinction/Distinction* quality performance was described as:

Residential school seminar	Contributions to on-line discussions
Outstanding achievement by: • presenting a penetrating and critical analysis of an issue • showing a deep understanding of the implications of the issue for cropping managers • communicating the subject effectively and engaging others in penetrating critique and problem-solving	*Outstanding* achievement by: • making a major contribution in one or more on-line threaded forum discussions to the quality of participants' analysis of issues • acting as a catalyst within the [online] forums for creative, exploratory approaches to problem-solving

Credit grade equated to *Commendable* achievement, and *Pass*, to *Satisfactory* achievement in these aspects of performance.

− The final grade for the subject was to be:

based on an analysis of [the student's] final competency profile and grade for assessment task 3. Task 3 is weighted at 30 per cent of overall performance, but final ranking and grading of students will be based on the marker's global judgment of [the student's] achievement of [subject] outcomes, including level of demonstration of [subject] capabilities. Just as an employer would rank job applicants on the basis of overall suitability for a management position, so in this [subject] the marker will rank students, on the basis of evidence provided, according to their promise as managers in a range of contexts and systems (Whiteley & McKenzie, 2000).

DISCUSSION AND CONCLUSION

In this paper we set out to pose and answer the question, what is an appropriate education for practice? We offered our *four fields of interest schema* as one way of identifying four significant dimensions of a fit-for-greater-purpose twenty-first century education for practice curriculum; and we used the case of a subject redesign project to explore those dimensions. So how does Cropping Systems fare vis à vis our proposed curriculum design schema, and does this case study offer any grounds for giving the four fields of interest schema any standing – even provisionally – as a more generally useful curriculum evaluation instrument?

- Regardless of prior learning *Cropping Systems* was designed in a way such that all students would be able to clearly map out a means of reaching the required level of competence by the end of semester. The design thereby meets the first requirement of our schema: "cultivating relevant skills, knowledge and understanding".
- The second requirement, according to the schema, is that students learn "how to thrive and act in the absence of complete information". The design outlined here could be considered *reverse problem based learning*. Rather than present students with cases carefully crafted to ensure students are able to thrive as they make meaning and make judgments in conditions of uncertainty – as problem-based curricula do – students themselves craft both the scenarios and their metacognitively constructed commentaries on them. The new design thus places strong emphasis on the second requirement of the schema.
- The third requirement is "enacting participation, relating and eventually, leading". Students who chose real world scenarios would be encouraged to interact with the managers of those operations and both draw on their experience as well as critique their enterprise management. The third assignment required students to communicate with peers on issues relevant to cropping enterprises. The subject thus gives some coverage of this third requirement.
- The fourth requirement is "self emergence–transformation". The final grade for the subject was to be the marker's global judgment of student achievement of subject outcomes, including demonstration of the relevant rural management capabilities. Capability 5 encouraged students to reflect on their "capacity to achieve". Capability 6 asked them to reflect on their "capacity to realise potential and live a fulfilling life". This subject design thereby sought, on paper at least, to contribute to the course-wide effort to support students' personal development.

In conclusion we draw attention to the "global" (holistic) nature of our position. Students' journey to job-readiness requires that they be taken on a staged, continuously integrating, diverging–converging journey in meaning-making and capability development in our four fields of interest. The intent here is that the four areas of interest of the schema are made ubiquitously explicit or implicit across the whole curriculum, and that student development as practitioners-in-training occurs holistically–progressively. Achievement at the end of each year should see students developing in all four areas. This includes some demonstrated *integration* of skills/knowledge/understanding drawn from their subjects of study. In terms of our definition of meaning making, progression through a professional preparation program should be a continuous process of moving beyond one's existing frame of understanding into something new. The redesign of *Cropping Systems* was consistent

with the four fields of interest schema. We conclude that there are emerging grounds for a belief that a reinvigorated understanding of meaning making holds promise in preparing students for an uncertain and changing 21st century workplace.

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[i]   At that time the Bachelor of Farm Business Management, of which this subject was part, was a program of the Faculty of Rural Management of The University of Sydney, Orange Campus. The campus and its programs transferred to Charles Sturt University in 2006.

[ii]   The rural management capability set was akin to graduate attribute statements that many universities espouse, but conceived with special reference to qualities considered integral to being an effective professional or manager in a rural Australian setting. They were developed by the Faculty of Rural Management based on the intimate understanding of staff of that work environment; see Cochrane, Mahony, Bone, & Squires (2002, June) for details.

The challenge of assessing student capabilities in legal internships

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A fundamental aspect of work integrated learning is the ability of students to perform in the work place. Alignment theory therefore suggests that the assessment of work integrated learning should include an assessment of students' actual workplace capabilities. Apart from pedagogical issues, feedback from students indicates that they expect performance in the work place to count significantly towards the assessment of work integrated learning. The assessment of students' capabilities in legal internships is, however, problematic. It will be impractical for the academic supervisor to directly assess capability if there is a large number of students in external placements. If evidence of capability is provided by the student, the student's ability to articulate his or her own capabilities will interfere with the validity of the assessment. If evidence of capability is provided by the supervisor then the assessment is heavily dependant on the individual supervisor and may be unreliable. This paper will examine the literature relating to the assessment of capabilities in work integrated learning and will consider how pedagogical theory applies to assessment of internships in the legal profession. The paper will be informed by the author's experience in coordinating an undergraduate internship subject in the QUT Law School. It will recommend that a mix of evidence provided by the student, the workplace supervisor and the academic supervisor should be used to assess student capabilities. The paper will propose a model for the assessment of workplace capabilities in legal internships that relies on evidence from a mix of sources.

INTRODUCTION

Traditionally, legal skills training occurred in the professional workplace after completion of University studies. However, there is currently general agreement that the basic function of a law school is to prepare its students for the practice of law (Stuckey, 2007); legal skills training is no longer solely the purvey of the professional. Stuckey (2007) argues that one way of ensuring that students are prepared for legal practice is by engaging them in work integrated learning so that they have the skills and experience necessary to be effective employees in the "real world". Work integrated learning provides a context for students to develop their skills, to see the link between theory and practice and support students in making the transition from university to practice (Shirley, 2006).

Given the importance of work integrated learning in legal education, it is important to understand what work integrated learning is, and how it can be assessed in an undergraduate program. According to Brodie & Irving (2007) work integrated learning involves three components; learning theory (understanding how to learn), critical reflection and capability (ability to perform in the workplace). Alignment theory suggests that all three components must be assessed. Most work integrated

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learning subjects use a range of tools, such as reflective journals and student presentations, to assess learning theory and critical reflection. These methods of assessment are of limited use in assessing workplace capability because they are based on evidence of learning provided by the student which is not necessarily verified by an objective source. This paper will consider the difficulties inherent in assessing capability and how these difficulties may be overcome. The paper will first set out the context in which assessment of capabilities in work integrated learning is being considered; two undergraduate law units being coordinated by the author. It will then substantiate the importance of assessing capability in work integrated learning courses and will consider the difficulties involved in making such an assessment. Finally, it will propose a model for the assessment of workplace capabilities in legal internships that relies on evidence from a mix of sources, the student, the workplace supervisor and the academic supervisor.

THE CONTEXT – WORK INTEGRATED LEARNING IN LAW

Work integrated learning is not a clearly defined term and can refer to a range of different learning situations. This paper focuses on work integrated learning in legal internship programs where students are provided with academic learning support while they complete workplacements in either the public or private sector and receive academic credit upon completion of the placement and associated assessment. In Australia, such programs are usually referred to as internships although in the United States they are more commonly referred to as externships.

The author is the coordinator of two internship subjects in the QUT undergraduate law program, LWB420 Internship and LWB421 Learning in Professional Practice. In LWB420, students complete an internship in a government legal office. The placements are organized by QUT and there are only limited numbers (20-25) of placements available each year. In LWB421 students organise their own placement in a private legal office and there may potentially be a large number of students enrolled in the subject. LWB420 has been offered by the QUT Law School since 2004 and has been coordinated by the author since 2006. LWB421 is being offered for the first time in semester two 2008.

A feature of both these programs is that students are supervised in the workplace by a supervisor who is not an academic and who is not employed by the University. Supervisors are from a range of different workplaces, have different levels of experience and time available for supervision, different supervision styles and may be motivated to supervise a student by various factors. In this context, the supervisor's assessment of the student's capability to perform in the workplace may not be reliable.

THE IMPORTANCE OF ASSESSING CAPABILITY

Student capability, the ability to perform in the workplace, is an integral component of work integrated learning and should be included in the learning objectives of the subject. Student capability in this paper refers to the student's ability to perform in the workplace and includes knowledge and skills as well as attitudes and aptitudes that are part of professional competence (Paloniemi, 2006). Workplace capability is included in the objectives of both LWB420 and LWB421. For example one of the

objectives of LWB421 is to "apply legal skills in a professional working environment". Alignment theory suggests that assessment tasks should be selected that tell us whether and how well each student can meet the criteria expressed in the objectives (Biggs, 2003). Accordingly, the assessment of work integrated learning should include assessment or workplace capability.

The assessment of workplace capability is also important in order to provide feedback to students on their own performance. Stuckey (2007) argues that recording student performance, providing prompt feedback and training students to receive feedback are key principles that should be met by work integrated learning programs in law. While feedback on student performance could be provided by formative assessment, comments made by students in the formal evaluation of LWB420 Internship indicated that some students were dissatisfied with a supervisor's final report which did not contribute towards the summative assessment. It is therefore suggested that workplace capability should be included in the summative assessment of work integrated learning in order to ensure alignment of learning objectives and assessment, to provide feedback to students on their performance and also to meet student expectations.

WHY ASSESSMENT OF PERFORMANCE IS DIFFICULT

While it is clear that student capability should be assessed, it is not clear how it should be assessed. The assessment could be based on evidence provided by the student or the workplace supervisor or on evidence collected directly by the academic. There are difficulties associated with each of these methods of assessing capability which need to be addressed to ensure that the assessment is valid and reliable.

Brodie & Irving (2007) suggest that currently assessment of work integrated learning in undergraduate courses is primarily based on evidence provided by students to support their own claims for learning, such as in presentations and reflective reports. While the first two aspects of work integrated learning, understanding how to learn and critical reflection, can be assessed on the basis of evidence provided by students, the assessment of capability on this basis alone is flawed. If evidence provided by the student is relied upon, then what is assessed is not necessarily whether students have demonstrated that they are capable, but rather their ability to articulate that they are capable (Brodie & Irving, 2007). As a result, assessment of capability should look beyond the evidence provided by students.

The workplace supervisor is an alternative source of evidence of the student's capability. However relying on assessment of student's capability by employers raises issues such as quality assurance and the reliability of the assessment (Brodie & Irving, 2007). The supervisor's assessment may not be reliable because it is heavily dependent on the professional ability of the supervisor (Delahaye, 2005, p359; Nichols, 2002). Workplace supervisors may not have the specialised skill that is required for assessment (Costley & Armsby, 2007), and it is questionable whether it is possible to ensure each supervisor has a consistent perception about what they are assessing and what standards are expected. There may also be resistance from workplace supervisors to being directly involved in the assessment of students.

Despite these issues in relation to assessment by workplace supervisors, it may still be useful to include the work-place supervisor in the assessment of work integrated learning (Costley & Armsby, 2007). Where this occurs steps should be taken to address the concerns in relation to reliability and quality control. The institution may provide some guidance as to what is expected where workplace supervisors are involved in assessment of students. For instance, there may be a requirement that they be offered training in relation to assessment and provided with information in relation to the institution's assessment policy.

The use of standard criteria to be applied by supervisors in assessing student capability may improve reliability and quality control. It has been suggested by Delahaye (2005) that the supervising lawyer's report on which the assessment is based should include a list of skills and performance objectives with a simple yes/no/partly assessment based on the observation form criteria. An alternative to a list of skills and performance objectives would be to use standard criteria in relation to expected workplace skills. Poikela (2004) suggest three levels on a scale for assessing workplace learning and knowing; satisfactory, very satisfactory and excellent. According to Poikela (2004) the assessment criteria were highly valued by work supervisors and teachers and resulted in more focused and concrete assessment than previously.

The issues in relation to quality assurance and reliability would be avoided if the assessment of capability was made directly by the academic supervisor. However the academic is not present in the workplace and even if the academic had the resources to attend the workplace of each student, such a visit would only represent a brief sample which might not be representative of the overall workplace performance. An alternative would be for the student to provide direct evidence of work completed in the placement. For example, Stuckey (2007) suggests that student performances in their placements should be digitally recorded. Digital records can then be included in the student's portfolio of work and can be reviewed by the academic. The recordings would enable feedback to be provided to the student on their performance and would also enable them to self-evaluate their performance. For these reasons, the idea of recording student performance in the placement has great appeal. There are, however, practical difficulties such as technical capacity and confidentiality concerns. It is suggested that digital recording be an option open to students as a means of evidencing their work for inclusion in a student portfolio.

PROPOSED MODEL

The discussion above indicates that evidence of student capability should be obtained from a mix of sources; the student, the workplace supervisor and the academic supervisor. A collaborative model for the assessment of legal internships that relies on evidence from a mix of sources should be developed to ensure that capability is properly assessed. An appropriate assessment plan suggested by a collaborative model would include a placement plan individually negotiated between the academic, student and supervisor; a student portfolio or journal which includes student assertions as to capability and direct evidence of work undertaken in the placement and the supervisor's report. The academic would approve the placement plan, assess the portfolio evidence and moderate the supervisor's assessment.

The first step in a model for assessment of capability in work integrated learning is to determine what capabilities are going to be assessed. According to Walsh (2007) the student is the person in the best position to understand his or her own practice situation and therefore to establish the framework for learning which will be assessed. Further, individually negotiated learning agreements enable alignment of course objectives, teaching and assessment (Biggs, 2003). A collaborative approach to learning suggests that the student's learning goals should be agreed upon by the student, the workplace supervisor and the academic, however, the primary responsibility for devising learning goals should lie with the student. One way of implementing a collaborative approach is for the academic to establish broad learning objectives; the student, in consultation with the workplace supervisor, would then develop particular learning goals and specify how they will attain those goals. The resulting learning plan would be agreed to by the workplace supervisor and would be subject to approval by the academic supervisor.

The learning goals established by the learning plan would form the basis of the subsequent assessment of the student's capability. The student would be assessed on the extent to which he or she has met the agreed learning goals. The evidence relied upon to make this assessment would be provided by students and workplace supervisors. It is appropriate that the student's own claims in relation to their capabilities be summatively assessed. There are various methods which could be used for the student to make such claims for example a learning journal or portfolio, response to selection criteria, class presentation or individual interview. Presenting evidence of capability is in itself an important skill for career development and it is appropriate that students should be assessed on their ability to "sell themselves" in a work context.

Where possible the student's claims in relation to their capabilities should be supported by direct evidence provided to the academic. This evidence may be in the form of samples of work included in the portfolio, digital recordings of work performance or an "on the job" assessment by the academic. Where students are in a in a large number of different work placements the ways in which direct evidence can be provided should be flexible enough to meet the needs of all students.

The workplace supervisor should be involved in the assessment of the students' capability by providing a final report. Ideally this report would contribute to the summative assessment and would not be merely formative assessment. Where the supervisor's report is summative the supervisor should be instructed in relation to the university's assessment policies and clear criteria for the assessment should be established. While the supervisor may be required to allocate a mark for the student's workplace performance, responsibility for the finalisation of these marks should rest with the academic who has the necessary expertise in relation to assessment to ensure quality processes are followed.

CONCLUSION

This paper has demonstrated the importance of assessing student capability in legal internships. As a result of the examination of the literature and consideration of the author's experience in coordinating legal internships a number of principles applicable to the assessment of student capability in work integrated learning in legal internships have been identified:

- The student should establish the framework for his or her learning in consultation with the workplace supervisor and the academic.
- The student should be assessed on their own claims in relation to their capability.
- The academic supervisor should collect direct evidence of the student's capability. The means of collecting evidence and the type of relevant evidence should be flexible enough to satisfy different workplace requirements.
- The workplace supervisor should also assess workplace capability according to well established and understood criteria.
- The workplace supervisor should be provided with information in relation to the university's assessment policy, graduate capabilities and applicable standard criteria for assessment.
- The student should have an opportunity to view the supervisor's assessment and respond to it.
- The overall responsibility for summative assessment (grading) of capability lies with the academic.

These principles suggest that an appropriate model of assessment of capability in legal internships would involve a collaborative approach where assessment is based on the report of the workplace supervisor, the student's claims as to their own capability and evidence of capability provided to or collected by the academic supervisor. While the supervisor's report may play a key role in the assessment process, the final responsibility for grading would rest with the academic.

The assessment plan suggested above will be used in LWB421 Learning in Professional Practice in semester 2 2008. The appropriateness of the collaborative model will be evaluated by the collection of student feedback, interviews with workplace supervisors and by the author's own reflection on and evaluation of the assessment process.

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Information Technology (IT) for settlement: the development of a community-based learning component for an undergraduate computing unit

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This paper reports on a practice-based initiative aimed to encourage a broader understanding among first-year computing students of how information technology impinges on every facet of modern economy and society. The initiative seeks to strengthen the link between computing studies and the real-life IT needs within the community; in this instance, it responds to the IT training needs of The Victorian Immigrant and Refugee Women's Coalition (VIRWC). VIRWC, a not-for-profit organisation, promotes access and equity for immigrant and refugee women. VIRWC requires help in providing IT literacy training for a group of approximately forty immigrant and refugee women a year. The need is for personalised tailor-made training, focusing on settlement issues and in particular: housing, health, banking, language, and education.

To address this need, a community-based learning component will be incorporated in a first-year unit of an undergraduate computing course. To meet the requirements of the component students will work in groups on developing *Settlement Resource Kits*, conduct IT induction workshops for immigrant and refugee women, and write a reflective report about their experience; the component will account for 20% of the total assessment of the unit.

This paper describes the development of the community-based learning initiative; outlines its benefits to the stakeholders; and, discusses the challenges associated with its development, implementation, and sustainability.

Keywords: community-based learning, community partnership, curriculum innovation, experiential learning, information technology, Australia.

INTRODUCTION

According to Brown, Collins, & DuGuid (1989), context and situation are essential to all learning, so students need to engage in real activities that have purpose and meaning. This facet is also associated with the experiential way of learning, described by Kolb (1984) and Kolb & Fry (1975) as a cyclical process passing through four stages: experiencing, reflecting, concluding and testing. The experiential method was specifically developed to link theory to practice in a way that would promote *deep* rather than *surface* learning.

In response to the benefits of situated and experiential learning to students, universities across Australia have started embedding work integrated learning (WIL) and learning in the workplace and community (LiWC) in their courses (Keating, 2006). Victoria University (VU) incorporated LiWC in its strategic plan as one of its Five Commitments, Commitment 2: "VU will create job ready and community aware graduates whose courses have at least 25% learning in the workplace including opportunities for service learning in the community" (Victoria University, 2007, p. 6).

While this aim is to be implemented by 2010, many courses at VU have long included LiWC components. In some courses, such components have always been an integral part mandated by professional bodies; hence, engineering courses include industry-based internships, nursing courses include clinical practices, and education courses include pre-service teachers' placements; in other courses, LiWC elements were included in a less regimented manner, and usually involved final-year students; for instance, final year computing students work in teams to develop software systems for clients external to the University.

The introduction of Commitment 2 at VU requires a systematic and systemic approach to its implementation to meet the 25% LiWC objective. It also encourages a review of the existing curricula and pedagogies to provide students at all year levels with opportunities to experience LiWC. The challenge is for course designers to identify ways in which their course can incorporate the 25% LiWC objective. This paper presents one response; the development of a community-based learning component for a first-year introductory computing unit.

COMMUNITY NEED

Victorian Immigrant and Refugee Women's Coalition (VIRWC) is a not-for-profit organisation, that acts as an independent, state-wide advocate for immigrant and refugee women. It promotes access and equity for immigrant and refugee women and works towards achieving cultural, social, economic, political, and educational equality. In March 2007, at an *Eliminating Racism* forum, the Executive Officer of the Coalition shared her concerns about the difficulties that many immigrant and refugee women have in adjusting to life in Australia, and the difficulty of managing their daily lives and their children's education because of lack of basic computing skills. VIRWC expressed the need for a basic IT training related to these issues for a group of approximately forty immigrant and refugee women a year (most of them in the lower socio-economic Western Metropolitan Region of Melbourne in the Cities of Hume and Maribyrnong).

Various educational institutions offer introductory computing courses, but these courses tend to focus on a specific software package, or overall generic computing skills. The needs of the Coalition were different: its patrons required personalised tailor-made IT training focusing on settlement issues and in particular, housing, health, banking, language, and education. The training needed to take into account the heterogeneity of the participants in terms of their previous IT experience, command of English, and cultural background. A unique, custom-made response was required.

RESPONSE TO COMMUNITY NEED – IT FOR SETTLEMENT INITIATIVE

The community need provided an opportunity to enact the objectives of the University's strategic plan and in particular its LiWC component. Staff from the School of Computer Science and Mathematics at VU in consultation with VIRWC decided to launch an initiative that would achieve dual outcomes: an educational outcome, namely the development of a community-based learning component in a computing course; and a community outcome, namely facilitation of settlement of

refugee and migrant women. The community-based learning component was given a working title of *IT for Settlement* and a grant of $20,000 was secured to support its implementation.

Various possibilities were considered regarding the placement of the component in the computing course; the requirements of the component were carefully examined, as were the syllabi of the various course units, and the skill and maturity levels of students (year level). It was decided first-year students would be capable of meeting the requirements of the component and that first-year students were likely to benefit most from engaging in this community-based learning experience. A first year mandatory computing unit, Introduction to Computing and the Internet, was selected as the unit in which the component should be embedded. The rationale for the selection was twofold: a curriculum that was the best fit for purpose, and the mandatory nature of the unit. The curriculum includes topics such as "Internet connections, Web design and authoring, characteristics and functions of browsers, resources on the Internet, surfing the Internet" (Victoria University, 2008); the study of these topics would develop in students the skills necessary to respond to the VIRWC's needs. In addition, the fact that the unit is a mandatory core unit of the course means that every student in the course would experience community-based learning.

OPERATIONAL AND ASSESSMENT DETAILS

Once a suitable course unit for the incorporation of the component had been determined, its design and implementation details needed to be developed. After further negotiations with the VIRWC, it was agreed that the *IT for Settlement* component would involve the development of a basic, integrated online resource related to settlement issues, and the provision of IT training in using the resource. Considering the extent and nature of the task, it was decided that it should be realised as an assignment spanning approximately three weeks of classes in which the students will:

- search for, review, and evaluate available online resources related to settlement issues;
- work in pairs on developing a selected part (e.g. housing) of an overall integrated online *Settlement Resource Kit*;
- assist migrant and refugee women in learning how to use the *Resource Kit* in an induction workshop; and,
- write a reflective report about their experience.

The assignment will focus on the main settlement issues of newcomers including:

- Housing – somewhere to live
- Employment –work, or setting up a business
- Education – suitable schooling and education options for children and adults
- Health services – doctors, dentists, hospitals, medicines, emergency care
- Essential services – electricity, gas, water
- Transport – public and private, road rules and licenses
- General services – banking, telecommunications (telephone and internet)
- Shopping – source of favourite foods, ingredients, grocery items, clothing, etc.
- Social – new friends, going out, tourism, pets

- Language – help on arrival
- Internet service – choice of an Internet service provider and tools to control Internet usage in the home.

Each pair of students will select one of the above topics, or propose an additional one, and research the available online resources on the topic. The research will involve an evaluation of the available resources in terms of their usability for the intended users; matters such as ease of locating and accessing the resource, as well as simplicity of the provided information will have to be considered – according to VIRWC, many of the immigrant and refugee women have limited computing experience and a limited command of English. Next, each pair of students will create a Web page containing links to the selected suitable online resources on their topic, and the individual topical pages will be combined in an overall *Settlement Resource Kit*. Students will then train the immigrant and refugee women on how to use the resource. To evaluate the usefulness and quality of the online resource developed by the students, the participating women will be asked to carry out a set of tasks related to the resource. In addition, they will be asked to complete an evaluation sheet at the end of the workshop to assess the training session. Lastly, the students will reflect on the entire assignment experience and report their reflections in a final report. The assessment of the assignment will account for 20% of the overall assessment of the unit and it will include three tasks: evaluation of the topical online resources, development of the related Web page, and the reflective report.

RELATIONSHIP TO WIL AND ENGAGEMENT THEORY

The *IT for Settlement* component fits the description of *contextual learning* – one of eight broad models of work integrated learning derived by Calway & Murphy (2007). Contextual learning "brings real-life experiences into the classroom setting", encourages students to "learn from doing in a structured way", and "ensures that students play an active role in their own education" (Calway & Murphy, 2007, p. 15). Most importantly, this model ensures that "ideas, skills and insights learned in a classroom are tested in real life" (Calway & Murphy, 2007, p. 15), rather than studied in isolation; thus *context* is interpreted as *real life*. The model provides the students with an opportunity to apply knowledge to a situation rather than placing them in a work situation; thus it encourages students to learn by applying rather than attempting to make them job-ready. Moreover, this type of WIL is integrated into course content and tends to include a reflective component. The *IT for Settlement* community-based learning component meets all the criteria of contextual learning in that: students develop their Internet skills and knowledge in the context of real-life needs of refugee and immigrant women; they learn by developing an online resource for the community members; and they reflect on the experience.

The *IT for Settlement* component supports even better the premises of Engagement Theory (Kearsley & Schneiderman, 1999). Engagement theory suggests that students must be engaged in their course work in order for effective learning to occur; the positive impact of its application on students in Australian and international settings has been reported in Miliszewska, Horwood & McGill (2003) and Miliszewska & Horwood (2006). The theory posits three primary means to accomplish engagement: (1) an emphasis on collaborative efforts, (2) project-based assignments, and (3) non-academic focus. The theory is based on the idea of creating successful collaborative

teams that work on tasks that are meaningful to someone outside the classroom. Its core principles are summarised as *Relate*, which emphasises skills that are involved in team effort; *Create*, which regards learning as a creative, purposeful activity; and *Donate*, which encourages learners to position their learning in terms of wider community involvement. To this end, the *IT for Settlement* presents itself as a perfect example of a real-life application of engagement theory as it is structured around its three key components: students work in pairs (relate); and, each pair is responsible for the development of a Web resource (create) that is important to a local community (donate).

BENEFITS, CULTURAL IMPACT AND WIDER OUTCOMES

The *IT for Settlement* initiative offers a number of unique benefits to its stakeholders:

- Students will gain an appreciation of the importance of IT in society through participation in this community-based learning component;
- The opportunity to relate computing knowledge to real-life needs of the migrant and refugee women will bring relevance to students' learning and raise their social awareness;
- The increased interaction between students, and students and community members will help enhance students' communication skills;
- The *Settlement Resource Kit* for new migrants that will be compiled during the project will continue to serve as a useful resource for new migrants;
- The detailed plan for embedding the community-based learning component in an introductory computing unit will be a useful resource for staff involved in teaching the unit in the future;
- The initiative is premised on sound educational theory.

The *IT for Settlement* initiative includes participants from several different sectors including higher education (staff and students), not-for-profit organisation, and the community. Hence, it has the added advantage of benefiting from the diversity of the cultural backgrounds, experiences, and approaches of all its participants while addressing a genuine community need. According to VIRWC, many immigrant and refugee women find it extremely difficult to manage their daily living and their children's education because of lack of basic IT skills and this initiative will empower these women to take charge of their own life and families. In a virtual *role reversal*, young adults will be teaching older women and passing on their skills and expertise in a real-life project with direct outcomes; this will promote cultural understanding among participating students. And, the *Settlement Resource Kit* will be developed using simple English for people with English as a second language, and will also provide a practical way to help immigrant and refugee women improve their English skills. In addition, community women undertaking the *IT for Settlement* training will be encouraged to mentor their fellow women community members and encourage them to attend future training programs. It is envisaged that once the basic program is fully operational and sustainable, the development of additional programs based on this model would follow; for example, *IT for working in Australia* – a potential resource for people returning to the workforce.

CONCERNS AND RESPONSES

The *IT for Settlement* community-based learning component represents and promotes the philosophy of LiWC, and academics consider it an excellent opportunity to enhance the learning experience of first-year computing students. Although well intended, the initiative has raised a number of concerns including: one, the feasibility of students' developing a useful resource; two, the logistics of organising the training sessions for refugee women; and three, students' ability to provide the training.

To ensure that students should be able to produce a useful *Settlement Resource Kit*, they will be expected to utilise existing online resources provided by various government agencies and community organisations. To satisfy the logistical demands of the training workshop, it was agreed with VIRWC that it would be conducted in a computing laboratory at the University in mid October 2008; the date suits VIRWC patrons and is within the academic semester (an essential consideration in a case involving students and an assessable learning component of a study unit). To improve students' training skills, they will participate in a mentoring session to be conducted by professionals from a Teaching and Learning Support unit; the session will draw on existing models of IT training for people with low levels of IT knowledge.

CONCLUSIONS

According to the Executive Officer of VIWRC, the *IT for Settlement* initiative has "immense potential in terms of facilitating settlement for participating refugee and migrant women and their families". Academics involved in the development of this initiative are equally optimistic regarding its benefits to the participating students, staff, and the University. Collaborations between the various participants have emerged as an important element of this initiative: collaboration between the students when working in pairs on the development of the *Settlement Resource Kit*; collaboration between academics and VIRWC in identifying the needs of immigrant and refugee women; and, collaboration between VIRWC, computing academics, and educational professionals in facilitating the implementation of the IT training workshop. In addition, the collaboration on this initiative gave rise to further participation of VU students in community-based learning. Currently, a team of four final-year computer science students is working on a real-life project of redeveloping VIRWC's website; the re-development project is being assessed as part of students' coursework in a third-year Project unit.

The *IT for Settlement* initiative is only one example of developing a community-based learning experience for first-year computing students. Although unique, the initiative provides a framework that could be applied to other members of the community who could benefit from an increase in general IT knowledge for everyday living, for example senior citizens.

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Employers' perspectives on work-integrated learning in project-based workplaces

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The property and construction industry is uniquely impacted by project-based work environments; this creates special challenges for collaborative education. This research is based on investigating the attitudes of employer's towards the use of formally assessed internships. The study comprised two stages; firstly a series of pilot interviews were undertaken with employers to test a number known issues. Secondly, the results from the interviews were used to refine a set of questions that were put to a large focus group of employers who were invited from across the property and construction sector. The results showed that many organisations expressed considerable goodwill towards collaborative education with universities. However, the challenges caused by project-based work environments restricted their ability to provide comprehensive learning opportunities. This research focuses on the distinctive issues associated with work-integrated learning in the property and construction industry

Keywords; collaborative education, project-based work, property and construction

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INTRODUCTION

The aim of the paper is to examine the expectations of employer towards the introduction of a formally assessed internship program as part of the undergraduate degree. This has been considered an improvement on the existing arrangements where a range of informal work experience had become the norm. Past research has indicated that work-integrated learning significantly contributes to the enhancement of workforce development. In addition, it represents a key Federal government policy to make the tertiary education sector work more closely with employers to assist workforce development.

Much past research has suggested that improved learning is the result of university/industry partnerships (Costley & Armsby 2007; Curtis & Lucas 2001; Harvey, Moon & Geall 1997). The research has called for the introduction of closer links in order to provide "transformative" opportunities for students". Harvey et al, (1997) p11 states "it is not about delivering 'employability skills in some generic sense, rather it is about developing critical lifelong learners…so the focus needs to be on empowering students to become critical learners."

The development of a partnership between the University and industry in providing work-integrated learning (WIL) that complements the program of study is widely suggested as being a panacea. It has been argued that without partnerships, students may not get the range of experience they need and may struggle to find the linkages between theory and practice in the real world. (Garanvan and Murphy, 2001). This is particularly the case in the property and construction, where industrial experience is

valued highly by employers. However, the nature of the project-based work environments creates many educational challenges. The next section of this paper considers the unique challenges created by project-based work environments which are common in the property and construction industry.

Project-Based Environments

Construction takes place in a demanding work environment which impacts on its workforce in a variety of ways. The industry is characterised by a continuous cycle of boom and bust that creates negative consequences for learning in all stages of the cycle. The project-based nature of work and the uncertainty associated with it, means that many employees face frequent relocation to maintain continuity of employment.

Construction is a high-risk industry characterized by organizational and physical uncertainty. Profit margins are slim and schedules are tight. In addition project delays and time overruns are common resulting in serious financial penalties for many projects. Research by Lingard and Francis (2004) showed that the nature project-based work placed considerable pressures on workers causing major stress; the results showed that this stress not exist in other types of workplaces. These work pressures would also have an impact upon firms employees' and their interactions with work experience students. Project-based environments create a unique set of circumstances that do not exist in other types of work-places.

The learning experiences within the property and construction industry have largely been ignored by researchers. However, there is a growing body of evidence to suggest that learning experiences play an important role in shaping the next generation of attitudes and behaviours as well as determining individual and organizational cultures. It has been widely reported that, Australia will face a significant labour shortages. The hardest hit industries are likely to be those that cannot attract high calibre, younger employees and employees from groups whose participation in the workforce is growing. Closer attention to work-integrated learning experiences in property and construction industry is therefore timely. The next section of the paper discusses employers' perspectives on work-integrated learning.

Work Skills and Generic Attributes

Past work by Crebert et al (2004) looked at the development of generic graduate attributes during engineering work placements at Griffith University in Queensland. The research found that students were aware of the importance of industry work in the development of graduate attributes. The authors point out the once in the workplace students learn how to "fit in" which relates to working with their peers to achieved company outcomes. Working "collaboratively" with others enhances their skills in the workplace.

As well as the positive attributes of students doing work experience, program directors to be mindful of student expectations and the fact that many may be unrealistic in their approach to the workplace. Mello (1998) emphasised that students on placement need to be aware that work experience is very different from what they are used to in the traditional classroom. In the workplace it is the responsibility of the student to actively manage their learning development process. Students undertaking

work experience need to be comfortable taking the initiative, asking for assistance and confronting problems. The next section reviews the motivations of employers in participating in WIL.

Employer Perspectives

According to Callanan and Bensing (2004) it was not surprising to find that employers cooperate with because they gain a number of advantages. Employers reported that internships provide a "risk-free" method for companies to evaluate prospective employees; try before you buy. The internships schemes provide a convenient stream of motivated human resources that were comparatively less expensive than other recruitment alternatives. In addition, the internship model acts as secondary marketing tool, because students that returned to university "spread the word' and ideally provide a favourable endorsement of the firm to other students.

Past research (Robson, 2007) in property sector in Melbourne suggested that due overwhelming need for employees within the industry there is a continual demand for work-placement students. However, it is clear from the research that employers often struggle to provide adequate learning environments for students undertaking work-placements. In the study of property professionals Robson (2007) noted that most of the employers used terms such as "expected the students to be willing to learn", "be enthusiastic", "have the ability to undertake simple tasks under instruction" and "be proactive". And one employer even mentioned a shortfall; this was having insufficient time available to train the work-experience student. In many cases it is unclear how learning is best achieved via industrial employment. The next section considers the impact of work culture on the student experience.

Work Culture

The property and construction is a very mature industry which has been not affected greatly by changes in modern technology. The industry has many characteristics and cultures that have evolved overtime, the work cultures are affected by the project-based work and employer attitudes. Research by Garavan and Murphy (2001) studied job placements, their research indicated that students were affected by employer expectations and attitudes. The results suggested that employers expected a 100% commitment to the job. They were not concerned about a student's extra-curricula actives or social life. The research stated employers expected high achievement rather than valuing being "nice" and "trying hard". The authors went on to suggested that employers have certain expectation of dress code and an adherence to particular organisational practices

According to Garavan and Murphy (2001) some organisations believe that students brought skills to the organisation were not appropriate and in come cases not valued. This resulted in the students needing a high level of feedback, which was often not forthcoming. According to the research students often tried to make changes in order to conform better, however; in many cases these efforts went unnoticed or at least unacknowledged.

Past research has called for the introduction of closer links between university and industry. Harvey, (2000) stated that the focus needs to be on empowering students to become critical learners." However, the impact of the project-based work, together with the attitudes of employers, create an environment that is less that ideal for learning. The next section describes the research instrument used to elicit views of property and construction employers to WIL.

METHODOLOGY

The aim of the paper is to examine the expectations of employer towards the introduction of a formally assessed internship program as part of the undergraduate degree. The research contained two stages; firstly a pilot study comprising interviews with employers. Secondly, this was followed by large focus group discussion with a wide range of property and construction employers.

The pilot study comprised 3 semi-structured interviews in which the participants were asked about issues associated with project-based work environments. That was followed by a series of questions about the business motivation for employing work-experience students. The exploratory interviews comprised open-ended questions relating to the following; 1. How are work-experience students useful to a business? 2. What problems are associated with work-experience students in a business? 3. What is the importance of generic skills to the business? 4. What employment arrangement does your business prefer for work-experience students?

The interviews highlight a number of employer attitudes that were validated in the second phase of the research. A large focus group of industrial employers was arranged to probe the issues first tested in the pilot interviews. The focus group comprised 21 Directors and Senior Mangers that employ students in the fields of property and construction. The participants were known to the researchers from past personal contacts and all had considerable experience in employing students from the host university.

RESULTS AND DISCUSSIONS

The results of the exploratory focus group highlighted many positive and negative aspects of work-integrated learning. The overwhelming response from employers was that they were keen to employ students mainly because they were having difficulty finding staff. All of the employers were supportive of work-integrated learning and displayed considerable goodwill towards the program. It also became fairly obvious that students were also interested in working, and that they were in the mostly well paid. It may be worth mentioning that many of the focus group members had themselves been graduates, and they had a good understanding of the university processes. In essence the themes discussed could be distilled in three main areas, namely; Work Time Arrangements, Skills and Attributes, and Work-Place Culture.

Work Time Arrangements

There were many very strong views expressed about the work time arrangements for students. It became clear that from an employer's perspective, students become more useful as the amount of time that they can contribute to the project increases. Past

research by the authors (Robson, 2007) shows that employers want as much time with students as possible; the more the better. However, focus group participants were reminded by the facilitator that long working times may not be in line with the objectives of the student or the university.

The tensions between the demands of the work-place and the educational objectives of the student and university are sometimes at odds. The industry participants of the focus group robustly defended their positions, indicating that two days or less was insufficient to justify their involvement in any work-integrated learning arrangement. One of the respondents stated that;

> "When a student becomes part of a work-place their time is owned by the employer. The work-place is not a university and the student worker needs eventually to become productive to the firm"

The industrial respondents considered that work arrangement should be not less than 3 to 4 days per week, which ideally continues over a long period of time. Employers prefer to have students for at least one year, but agree that six months can work in some circumstances. The employers expressed a number of reasons for their views. Firstly, they suggested that when students only spent 1 or 2 days in the job it left too little time in which to get to know the people and the work associated with each project. This seems to be an important issue in project-based work. Secondly, project-based jobs change very quickly, and an individual does not have enough time to make an impact on the project if their work visits are too infrequent.

It summary it should be noted that by the end of the focus group the industry respondents were unanimously in support of work-experience prior to graduation. They were adamant that the work experience should be done late in the course and not in the first or second year. And that sufficient time, in the region of 3-4 days per week, should allocated for the work-placement.

The results of this research were consistent with past research that indicated industrial firms are primarily interested in work-integration to recruit future workers. (Callanan and Bensing 2004; Robson 2006). This outcome is exaggerated by the effect of project-based work, which is invariably a fast changing environment. What is now clear is that firms prefer long placements, instead of short placements, and that they prefer students to work latter in their course when they are likely to be more productive. It also signals a warning for universities that they may need to put in place measures to protect students from excessive overwork during WIL. Past research has suggested that open and frank communication between all stakeholders is a necessary precondition to a successful work-integration scheme (Garavan and Murphy, 2001).

Skills and Attributes

The employers were asked about the generic skills and attributes that the student brought to the work-place. Past research has shown that generic skills were those like; communications, time management, and critical thinking are valued very highly by employers (Watson, 2002). These attributes should be developed during a university degree as a consequence of the educational process. There was general agreement that

most students display competent generic skills and that they contribute positively in the work-place. However, one employer suggested that written communication was poorly developed in many students

> "We find that literacy is a major issue coming into our business. People (students) can't write a letter, with all due respect they cannot write, you cannot put them in a room and say write me a letter from scratch they (will) start looking for things to copy and paste.

After hearing the above experience the issue was probed more deeply to determine the extent of the problem. While there was some general discussion around the topic there were no other specific examples mentioned. It may be reasonable to suggest universities are doing a fair job at developing generic skills in their students. One participant stated:

> "The reason why is because the university equips students with a set of (generic) skills that are taken into the workforce and then those skills are expanded through practical experience.

In addition, it is clear that property and construction employers do actually seem to recognise the importance of generic skills. One participant commented;

> "… for me there needs to be more of a two way dialogue to make sure that (student) competencies are truly rounded out; are truly rich enough to capture both what higher education has to offer, together with the huge amount of wisdom and knowledge that exists within the industry"

While employers expressed some reservations about a few individual students, on the whole firms were satisfied that the students had sufficient skill to eventually become productive workers. This research supports the work by Zusho and Pintrich (2003) that found that if students believed that they could undertake certain tasks then their ability to do so under stress were improved and their use of learning strategies increased. The type of learning that takes place in the workplace enhances this type of motivation and self-efficacy levels, as everyone is learning together and over the same time frame.

In summary the effect of project-based environments would seem to improve the generic skills of students to; work in teams, communicate and manage time. The employers were generally satisfied with competence of the students, and believed that the work-place improves their capabilities in the longer term. The next section discusses the impact of the work-place culture on creating the right environment for learning.

Work-Place Culture

There is something of a paradox for organizations that attempt to socialise graduates into their cultures. Bowden and Marton (1998) point out that organizations desire strong cultures, but at the same time want to allow the unique qualities of graduates to impact on the work situation. Past research indicated that the employers do not always provide good feedback to students in the work-place. This was said to detract from the

learning experience because it does not provide clear directions to the students. There was a great deal of discussion about values and culture associated with industry which may not be part of a student's university experience. One employer suggested that;

> "While we're talking about skills and attributes (which is necessary, but), culture and value alignment is probably more important to us than the actual skills that they're coming out of the university with. Give me someone with reasonable literacy, give me someone who is aligned to the culture of the business, and the values of the business, and they'll be great."

The focus group participants spoke at length about the idea of "fitting in" but it was not clear exactly what that meant for the industry. Past research has suggested that it could be related to a range of issues from dress code to adherence to particular organisational practices (Garavan and Murphy, 2001). However, the participants did seem to be able to articulate much about the cultural and value alignment. In relation to the issue of culture one participant commented

> "We like to call them solid citizens, they're not just fantastic performers, but they're aligned to where the business is going. We'd rather have one of those people than a prima dona any day of the week.

Clearly, the one of the benefits of WIL is the introduction of the student to the cultures and norms of the industry. Research by Robson (2007) suggested that if students are informed in advance about the different environments and the educational reasons supporting them, they are more likely to be supportive of the work experience. If students know and expect the learning process to be different, as work experience is, they understand the value of the independent and creative thought processes; this can be shown to them as being highly sought after by industry.

CONCLUSIONS

Much past research has called for the introduction of closer links between university and industry in order to provide "transformative" opportunities for students. However, rather than promote understanding between higher education and industry, the high levels of work currently available seems to have put pressure on universities to re-examine their relationship. This seems to be occurring in an environment where tertiary education may have become undervalued by both the student and employer. This research has shown that the student salary levels are high and that employers find it difficult to attract talented staff. This research explored the steps which could reconnect student learning with the demands of industry.

This research can report that employers were generally supportive of work-integrated learning and most displayed considerable goodwill towards the university. However, employers recognise that work and education do not have the same priorities. This research supports the work of Crebert et al (2004) who suggested that employers believe that work-places are not primarily a learning environment. Further research is necessary to develop mechanisms to support change in the work-place in order to facilitate better educational outcomes. This remains a challenge for the project-based environments common in the property and construction industry.

This research showed that employers embrace work-integrated learning because it provides access to the human resources that are necessary for the future of their businesses. In addition, it became fairly obvious that students were also interested in working, and that they were well paid. As a result there was a coincidence of need between the student and the employer. This paper has argued that the emphasis needs to be put back on the learning experiences that are the result of work. The property and construction industry is characterised by a high level of project-based work. The impact of this type of work places challenges on industry to provide effective learning environments for students.

The results of this research suggest that there needs to be a better understanding of stakeholder's attitudes to; work-time arrangement, skills and attributes and work-place cultures. Project-based work is known to require long working hours. Consequently, universities need to be aware that in some circumstances students engaged in WIL need protection from excessive work demands. In addition, the universities should provide students with an appreciation of the different attitudes and expectations that exist in the work-place.

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Cape Peninsula University of Technology and the South African Navy – a skills developement offensive

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Recognising that lasting change is possible when organisations form a partnership, Cooperative Education constantly strives to foster and improve partnerships with all its primary partners.

The South African Navy (SAN) is one such partner, which provides employment and bursaries to approximately twelve Mechanical Engineering students at Cape Peninsula University of Technology (CPUT) annually.

The common thread linking all partners and the Work Integrated Learning (WIL) process is skills development. In turn, skills development underpins the nation's growth strategy.

The SAN recently acquired three type 209 submarines and four patrol Corvettes as part of the Arms Deal. The acquisition of this technologically advanced equipment and a shortage of critical skills have necessitated a need on SAN's behalf to re-visit their skills development strategy. WIL was earmarked as one facet of this strategy.

CPUT's WIL syllabus and assessment methods and the SAN's Task and log books shall form the basis of the considerations.

This paper will attempt to explore and discuss how the SAN's and CPUT's WIL programs can be merged to produce a mutually beneficial outcome for all partners. What will be the profits that can accrue to all partners? What elements of this process, if any, can be replicated in partnerships of a similar nature?

Keywords: Business, Development, Education, Partnership, Skills

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INTRODUCTION

> Business-Education partnerships serve business and industry by providing reciprocal activities such as in-service training to employees, use of facilities, student directed projects, software development or market research. They also serve to strengthen instruction in academic skills and to enrich the educational process through the talent, idea power and unique human resources that can be provided by the personnel of participating businesses (Canadian Chamber of Commerce, 1992).

The South African Navy (SAN) and Cape Peninsula University of Technology (CPUT) have an ongoing partnership by virtue of the number of SAN students, in all disciplines, studying at CPUT and ultimately completing their Work Integrated Learning (WIL).

In the Western Cape the SAN has bases at Wingfield, Saldanha and Simonstown. The SAN's core business is "To win at sea". The SAN has acquired a complement of new vessels over the last two years. These include three type 209 submarines and four patrol corvettes. Training and education of the SAN's personnel have become a top priority in order to ensure competency in the operation and maintenance of these technologically advanced vessels. The ever changing and complex art of warfare has made this an imperative.

"The South African Navy is currently experiencing a skills deficit..." (Pringle, 2008).

The SAN has targeted its human resources retention and skills development strategies as one of its prime priorities. The SAN has experienced an outflow of skilled personnel. This can be attributed to the current flourishing economy sectors and the lure of higher salaries in relation to that which is being offered by the SAN. They are unable to match private sector salaries so instead it needs to ensure that its employees experience job satisfaction and are appreciated. This can be achieved by developing, educating and advancing its employees. With this objective achieved, the full potential and aspirations of its work-force can be realised.

Industry and Commerce plays a pivotal role in Cooperative Education's integrated learning model. In turn, WIL forms an integral component of Cooperative Education. Due to this association WIL was earmarked as one facet of the SAN's strategy "....of navalising and inculcating the SAN's culture" (Krieger, 2008) for its Mechanical Engineering students.

Problem Statement

The SAN, represented by Lieutenant Commander Basson Goussard, initiated the intervention by convening a meeting with the author on 3 December 2007. During this meeting a proposal was lodged to introduce training programs prior to, and during the WIL period. These programs would complement and be aligned to the requirements and criteria of the WIL syllabus, yet also serve the SAN's imperatives of personnel skills development and advancement.

Objectives

The key objectives of this paper are to achieve the following:

- To introduce and merge the SAN's pre-requisites for WIL with that of CPUT.
- To integrate and align the SAN training programs with the CPUT WIL program.
- Expand on the advantages and benefits for the main stakeholders, the students, the SAN and CPUT.
- Explore the possibility of replicating all or certain elements of this process in partnerships of a similar nature.

Literature Survey

CPUT's Mechanical Engineering WIL guidelines and log book were utilised to provide insight into the Institution's needs with respect to the WIL promotion requirements, syllabus and assessment criteria and methods.

The SAN's relevant task books were consulted to outline the tasks, projects, and assessment methods which were required for the period prior and during the WIL period.

Relevant reports, articles and journals were researched to gain insight into business-education partnerships and skills development.

DISCUSSION

"…four classifications for business-education partnerships based on the process the partnership employs" (Flo & Smith, 2000).

Even though these are not limited, it has been established that the majority of business-education partnerships could be branded into four classifications, being:

- Consultative partnerships are structured for the objective of receiving public input around change or to collect ideas for future policy.
- Contributory partnerships are fashioned to assist a particular organisation or the community more generally.
- Operational partnerships are work sharing arrangements in which parts of a given task are delegated to specific parties.
- Collaborative partnerships are set up to share resources, risks and decisions.

The SAN – CPUT relationship can generally be classified as a collaborative partnership, however, it is unique, and in that it was created to resolve the more immediate needs of the SAN.

The majority of partner companies, generally, adopt an "accepting" and passive stance with respect to inputs and recommendations pertaining to the WIL promotion requirements, syllabus, learning outcomes and assessment methods, to name but a few. These aspects are normally dealt with as a collective in the Employer Advisory Board meetings.

The bulk of the Employer responsibilities are determined by the educational institution. These responsibilities relate to training plans, company induction sessions, supervision and mentoring, student evaluation, meaningful employment and so on.

This partnership, from the outset, established CPUT and the SAN as equal partners in this venture. The SAN had a framework, training and manuals plans outlining their proposed complete WIL model. This proposal included the promotion requirements, syllabus, learning outcomes, supervision and mentoring and so on. This proposal was matched to CPUT's generic model and consensus was reached on compatibility.

This commitment and initiative on the SAN's behalf justifies it as an equal partner, in that, risks, resources, commitments and decisions are shared equally with CPUT.

Promotion Requirements

CPUT requires that before students register and commence with WIL, certain criteria must be met. The students need to have successfully completed twenty two subjects, including the major subjects (Fluid Mechanics 3B and Strength of Materials 3B) on the highest Diploma level. They are also required to attend a minimum of eighty percent of the Work Preparedness Skills Program (WPSP) including submission of all the associated assignments and related documentation. (Questionnaires, curriculum vitaes, etc.) The CPUT Cooperative Education Coordinator will ensure that the students meet these pre-requisites.

The above-mentioned pre-requisites were formulated and agreed upon in conjunction with the Industry Advisory Committee and the Mechanical Engineering academic department. This was implemented to ensure that students are adequately prepared socially and technologically prior to commencing WIL.

The SAN's proposal was that their students complete two training programs prior to the commencement of WIL. The programs will be completed during the vacation periods whilst the students are studying on a full-time basis towards the Diploma. These programs, mentioned below, will be solely assessed by the SAN subject matter experts who will serve as assessors.

Frigate-Small Guidebook (FSG) - This program focuses mainly on the tracing and identification of the ships systems i.e. fresh water pipelines, fire mains, alarms etc. The assessment methods mainly entail physical demonstrations and written evaluations.

Harbour Watchkeeping Officer of the Day, centres on emergency situations which could arise on or off the vessel. These include bomb threats, fire or disaster situations. The assessment methods focus on simulated scenarios and the assessments are based on written examinations, physical inspections and an oral presentation to a SAN panel.

Both programs are modularised and it is envisaged that the average student would require completing both these courses during the vacation periods over a twelve month period. These programs provide the students with an understanding and knowledge of the vessels' systems and safety protocol.

The WIL Period

CPUT's assessment methods include a one oral presentation, project report, logbook and skills portfolio which are submitted at established intervals over the course of a minimum twelve month period. These assignments are based on tasks, activities or projects, aligned to the WIL syllabus. The students' skills and competencies are assessed according to pre-determined criteria set out by the WIL syllabus. These assignments will be assessed by CPUT's assessor (Cooperative Education Coordinator) as well the SAN assessors.

The SAN's requirements during this period requires that the students successfully complete the Task Books Module "A", "B" and "C" concurrent to the WIL period. The modules are completed onboard the vessel whilst at sea. It encompasses areas such as maintenance, watch-keeping, problem solving, using technology and so on. The modules will be assessed as the students show sufficient competency in a given field via verbal and written assessments and workplace inspections. CPUT's WIL tasks and assignments will be sourced from these modules which must adhere to the CPUT syllabus.

The SAN modules and CPUT assignments will be assessed by the SAN assessors and on completion, a "Certificate of Completion" will be issued by the SAN. This certificate will serve as proof of the Employer's (SAN) assessment of the students' competency in the workplace. In conjunction with this, CPUT's tasks and assignments will also be assessed by its assessor to ensure compliance with the Institution's requirements.

"Whatever the type of business-education partnership, the benefits must be realised by all partners or the arrangement is not a partnership" (Grobe, 1993).

Employer (The SAN) Benefits

- Employees are "sea ready" and have a working knowledge and understanding of its critical equipment i.e. its vessels and craft. The seamless transition from students to competent seamen and engineers with the SAN's culture infused in them satisfies one of the key objectives of this partnership.
- A structured program which formally integrates and merges CPUT's requirements with the SAN's operational needs. This forms the backbone of this partnership.
- The promotion of skills development and also filling skills shortages. This is a key imperative and objective of this initiative for the SAN and the country. In part, this will alleviate the skills shortage in certain sectors and could be the catalyst to retard or reverse the current trend.
- Ensuring successful workplace productivity and increased morale. The skills and training imparted during this process will ensure the students have compatible competencies to produce consistent results on a sustained basis in the core business areas desired by the SAN.

- A means of ensuring job satisfaction. Personnel who are well educated and trained normally have a fair measure of security and confidence. Especially so, if a clear and definite career path has been mapped in the organisation. This contributes to a sense of ownership and relevance in an organisation.
- A direct influence on the quality of education. This partnership demonstrates that Industry plays a leading role in providing facilities, resources and skills which complements the theoretical instruction offered in the educational institutions.
- A return on investment in human capital development. The success of the SAN's training programs is directly related to student success and throughput rates. As with every private and public sector organisation, agency or company, the SAN is obligated to provide tangible evidence of educating and developing their workforce.

Student Benefits

- Career advancement and a Maritime Qualification such as a Marine Engineer Officer or Weapons Engineer Officer. This enhances the student's position in the organisation and provides fertile grounds for further studies and promotion.
- A structured training program with relevant learning areas and outcomes. This is coupled with dedicated mentors and assessors to provide guidance and supervision to the students. These are major factors which influence and contribute to student success.
- Financial and remuneration incentives. A gratuity will be payable to students on the successful completion of the combined training programs and WIL. Financial incentives are not always a lasting reward but is regarded and understood as compensation in recognition of achievement of a professional and organisation objective.
- A time saving factor in attaining two qualifications within one timeframe. The student will achieve a maritime qualification and tertiary institution qualification within one timeframe. This eradicates task and assessment repetition.
- A solid foundation of learning coupled with practical application to several skill areas. The training programs provide well developed building blocks in all the phases. The modules are designed to allow the students to develop at their own pace. The programs are also multi-faceted as it has learning areas in communication, safety, use of technology, commercial awareness, team work to name but a few.

Institution (CPUT) Benefits

- Enriching the curriculum – Reinforces the student's understanding that what is learnt in the Institution applies to the world of work.
- Ensures student's success and throughput. The exposure, support and mentorship received by the students will ensure that the WIL projects are applicable and relevant in order for it to be completed successfully. The SAN programs are custom designed to complement and facilitate the WIL process.
- Developing skills. The SAN's pre-WIL programs will impart knowledge and skills to the students which will positively benefit and enrich their problem solving and analytical skills on their return to the institution on the resumption of their studies.

- Broadens perspectives beyond their own Institution. This is particularly pertinent to the Institution's personnel who will be exposed to pertinent and innovative assessment methods and other subject matter experts. The demands of industry and commerce are constantly changing and the Institution has an opportunity to ensure its programs are relevant, dynamic and flexible to meet these demands.
- Serendipity - Unexpected and positive benefits and opportunities arise out of partnerships of this nature. Examples of these rewards could be unlimited. These range from free positive marketing exposure, increased SAN student numbers, research funding, to name but a few of the spin-offs.

The benefits as listed, accruable to all stakeholders, are the most pertinent and relevant for its present needs. By its very nature, profits associated with any partnership is only limited to the imagination, passion and involvement of all stakeholders.

Elements which can be replicated in other partnerships

The most defining element of this partnership entails the implementation of the SAN promotion requirements for their students. These requirements sets the tone and forms the basis of the learning and cultural experience of the students during WIL. Based on the SAN's skills retention and training strategy, their requirements provide an articulate road map which prepares and equips the students for their operational and organisational needs. These needs form an integral component of the mission and vision of the organisation. It can be said that most, if not all, large and medium companies subscribe to a mission and vision, which can be accessed to provide insight to what the promotional requirements should be.

All parties need to engage in, and initiate communication on a sustained basis to foster partnerships of this nature. Companies, large or small, must be at liberty to present their customised WIL model for discussion. Larger companies employing numerous WIL students from different educational institutions normally bears the burden of catering for a myriad of promotional requirements, syllabi, assessments methods, learning outcomes and so on. These needs could be harmonised and structured to the host company's needs. Similarly, small and micro companies could also benefit as they might not be able to provide all the necessary learning areas and facilities as the larger companies.

It is imperative that a training and development plan is in place to ensure that tangible and achievable goals are set for all parties. Students require clear direction in their learning and career development paths. Companies need to achieve results such improving their skills base, satisfying employee aspirations whilst meeting operational and organisational targets.

CONCLUSION

The pilot phase for this partnership was formally approved by CPUT's Mechanical Engineering Department on 02 February 2008 and will get underway with students commencing with their WIL in July 2008.

The progress of these students needs to be closely monitored during the pilot phase. Regular feedback sessions will be implemented to elicit their opinions of the merged

program, in order to gauge its strengths, weaknesses and successes. This would require regular meetings between the SAN and CPUT personnel in the infancy stage of the pilot phase.

Regrettably the SAN students were not involved in the planning stages of this partnership. Time and logistics constraints prevented their inputs in the process. Fortunately this intervention has addressed the majority of concerns raised by previous SAN WIL students. These relate to relevant WIL tasks and activities, appropriate supervision and mentorship.

"The commitment to skills and development has been the cornerstones of this country's human capacity policy from the beginning" (Pityana, 2006).

The Joint Initiative for Priority Skills Acquisition (JIPSA) was officially launched in Pretoria, South Africa on 27 March 2006. This Government initiative can be broadly described as a human resources development strategy for South Africa. The SAN subscribes to and supports this initiative. They are also realistic and recognise that some of the skilled personnel will be lost due to attrition and migration to other sectors of the economy. The SAN is aware of the need to ensure that they have sufficient skilled personnel to meet their operational needs while also enriching and invigorating the skills pool of the country.

Can this initiative be replicated in other industries and applications? The SAN is in a fortunate position of having an excellent training infrastructure and expertise base to undertake and support this venture. The answer might lie in companies or industries forming a sector collective, which has common skills development fields and goals. The general principle of this initiative can be adopted by most, if not all companies and industries. The key to this intervention is to have lucid, realistic objectives reinforced by specialist developed training modules and subject matter assessors.

The Sector Education and Training Authority's (SETA) role is to help implement the National Skills Development Strategy (NSDS) of South Africa and to increase the skills of the people in the various industry sectors. Part of the strategy is that employers have to pay one percent of their annual salary outlay, called a skills levy, to the South African Revenue Services (SARS). Companies can however recover up to seventy percent of this levy on submission of evidence that training has occurred. This must be substantiated by acceptable documentation such as, approved training material and supporting evidence. This authority primarily serves as a vehicle for grant disbursement, sector skills planning, developing and managing regulated training and quality assurance of workplace learning. This authority can also be engaged as a partner in an endeavour of this nature. Unfortunately there are long lead times and the completion of excessive documentation constrains ventures of this kind. There are however merits in engaging a partner of this stature. Funding is a crucial component of any skills development program in order to plan and execute it successfully. SETA's can provide funding if a skills plan is available and approved. Quality assurance of workplace learning is an added benefit as it accredits the program and the training provider.

Large power generation, petrochemical, maritime or manufacturing companies would extract maximum benefit from an initiative such as this. Normally these entities would have a structured hierarchy, set company culture or vision, specialised plant and equipment, complex systems or processes and require long term dedicated employees. The focus band, generally, would be lower to middle management engineering candidates or employees.

A well defined training and development plan, coupled with formal modularised training material and experienced mentors (subject matter experts) would form the cornerstone of this partnership. This can be listed as an enabler for large, financially strong companies but can also be considered a barrier for smaller companies. The common enabling denominator for both company sectors would be the assistance, support and expertise offered by the educational institution.

This intervention was initiated by like-minded stakeholders who recognised an opportunity for change and have mobilised people and resources to ensure that this occurs. Partnerships prosper when trust, respect and an understanding of each other's needs and capabilities develop between partners.

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Internship program – old practice in a new domain

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The Faculty of Information and Communication Technologies (ICT) at Swinburne University of Technology has a large number of International postgraduate students completing Master degrees in the ICT discipline.

For some time, it was noted that what was missing from these degree programs was the opportunity for the students to gain exposure and experience in the ICT domain which is seen as a distinct advantage for students by employers.

To provide students with a competitive advantage upon graduation, an Internship Program was developed in early 2007 with the first cohort of students going through the program in Semester 2, 2007.
To succeed in such an ambitious project a number of changes needed to be made in the development, planning, acquisition and placement of students in the Internship Program. The traditional model of Industry Based Learning (IBL) could not be used in the Internship Program. Internships have worked well in the past in other disciplines such as Medicine, Nursing and Education so this old practice needed a new domain to embrace.

17 students were enrolled in the program in Semester 2 2007 and this paper will follow their journey. This paper will discuss the process, constraints and success of such a program being run for the first time in the Faculty of ICT.

Keywords: Internship, Collaboration, Partnership

INTERNSHIP

Internship programs have been founded in areas of Medicine and Nursing in the health sector for over 50 years (Roth, 2003).
Similarly, Engineering students in Australia have been involved in Internship programs for over 40 years (Mouzakis and Leung, 1996) (Mouzakis and McPhee, 2004).   The same can be said in the Education domain where students have traditionally participated in an internship program.

Internship programs fundamentally allow the student to experience independent work which is moderated by experienced mentors at the workplace and University staff. The teaching–learning triad of mentor, intern and educator enhances the overall conditions for learning.
It is this experience and mentoring that has driven the development of the Internship program for our students in the Faculty of Information and Communication Technologies (Faculty of ICT) at Swinburne University of Technology.

INDUSTRY LINKS

The Faculty of ICT at Swinburne University of Technology has a proud tradition of engaging with Industry on a number of different levels. From the traditional 12 month Industry Based Learning (IBL) partners through to our Bachelor of Information Technology (BIT) scholarship sponsors and our Final Year project clients, the faculty has a strong connection with the Information and Communication (ICT) industry.

The Internship Program needed to stand alone and not impact on the very successful programs that were currently running in the Faculty of ICT. We could not jeopardise the Scholarship program that has been running for 20 years or the traditional IBL programs that have been very successful over the last 18 years. The Internship Program was different but at the same time had core attributes that were found in all the other programs we run.

The Internship Project focused on Small to Medium Enterprises (SME's) who had capacity to provide projects to students, but were not large enough or had the funding to take an IBL student. This strategy worked well and in Semester 2 2007, 16 organisations participated in providing 17 distinct projects for the Internship Project students.

THE STUDENTS AND THE LEARNING OBJECTIVES

Students completing Undergraduate degrees at Swinburne University of Technology have had an advantage over Postgraduate degree students, as the IBL program and the BIT degree allow the students to gain experience in the ICT domain. This was a significant hindrance for students who completed Postgraduate degrees. This employment experience in the AICT discipline is seen as a distinct advantage by employers (Diversiti Report,2006) for graduates These factors influenced the development of the Internship Program which had the following learning objectives:

- Improve student awareness of a range of issues associated with professional practice.
- Further develop professional and personal skills.
- Apply student practical skills and theoretical knowledge into an IT industry context.
- Develop student understanding of business processes and organisational structures.
- Develop professional contacts and networks within the IT industry.

The University has developed a number of key graduate attributes that will help to produce graduates who:

- are capable in their chosen professional areas.
- are entrepreneurial.
- are adaptable and manage change.
- operate effectively in work and community situations.
- are aware of different environments.

THE PROCESS

Students wishing to participate in the Internship Project would be in the final year of the Master of Information Technology or Master of Technology (Information Technology) programs in the Faculty of ICT. It was also mandated that students complete the Professional Employment Program (PEP) and participate in the interview selection process. Furthermore, students would undergo an application and interview process in order to undertake this unit.

Students are matched to a project in a process which maps the student area of study with the requirements of the project. This is done by the Unit Convenor who is an academic member of staff.

Projects obtained for the inaugural class required students to be involved in systems design and development, research and development, business analysis, testing and user liaison to name just a few.

All projects were carried out under the supervision of an industry mentor with additional supervision provided by an academic staff member of the Faculty of ICT. All internships were undertaken under the close supervision of the Unit Convenor who met weekly with the students to discuss and ensure progress. In addition the students are visited on placement approximately half way through the semester with an interview conducted between the student, industry mentor and the academic supervisor. At the end of the placement, students present their work in a 20 minute presentation which is done at the host's premises.

EVALUATION OF SPONSORS

The Internship Project provided sponsors with the opportunity to evaluate the significance of the program and whether it met their needs.

The following is just a small example of the feedback that was provided by a number of hosts. We have deliberately removed the identification of the host organisation.

TABLE 1

Host Organisation	Industry Relevance	Other Comments	Overall Appraisal of Program
Host 1	I think the Internship program is extremely relevant to the banking technology sector. It promotes the continued engagement between business & academia, with a view to ensuring vocational outcomes in higher education	We will be looking hard to find another project for the next round of placements, given the success of this placement.	Very Good
Host 2	Highly relevant	This is a great program. Please expand it. E1C wants to make more use of the program and is more than happy to contribute in any way it can. We are confident your candidates get invaluable experience and that this makes them more employable. The candidates bring up to date skills to industry. Thank you so much for this! PS: Your mature and realistic approach to IP simplifies this work and is itself a great incentive for industry to do what it can for candidates without risk.	Excellent
Host 3	It has huge relevance. I would always prefer to hire graduates with some experience in the real world.	Thank you for this opportunity. It has made me rethink our policy of requiring graduates with at least 1 year prior experience. I wish all the developers here had his independence & enthusiasm for work.	Excellent
Host 4	I think it's a great programme and would recommend it to other companies requiring expertise in the IT area.	We would be pleased to have another student if and when you repeat the programme.	Excellent
Host 5	We found it to be very beneficial and most relevant in our business and would encourage other businesses to partake in this program.	Very well conducted program by Swinburne University!	Excellent
Host 6	I think the program provides invaluable local commercial experience to the students. I review many CVs and I believe that having a local industry placement on their CV will give the students an advantage over other applicants. It shows they are able to apply their academic knowledge in a commercial environment & have the necessary communication skills to work for a local company.	No comments provided	Excellent

Host Organisation	Industry Relevance	Other Comments	Overall Appraisal of Program
Host 7	Very relevant. It's both an opportunity to develop technology that is specific for my business requirements with minimal resources and a great opportunity for the student to work on a real life project and experience different types of business, as well as develop their resume.	I was really impressed with the quality of the program and students work and professionalism. I would recommend this program to other businesses and to become an Industry partner.	Excellent

Please note: Host comments have not been amended for expression and syntax.

STUDENT FEEDBACK

It was important that we allowed the students to provide some evaluation of the Internship Project as well. Below is a collection of responses that we received from the students.

TABLE 2

Student	Comment
Student 1	I would be happy if I could spend more time on this project.
Student 2	I think there should be more such projects.
Student 3	Overall, subject arrangement was good. Internship project has given me an excellent opportunity which I expected.
Student 4	It is an excellent subject for final semester. PGrad students to gain industrial experience.
Student 5	This program is really helpful to gain real industry experience. It is very valuable to gain this experience before we get to the environment. And I really thank those who put effort in to make this possible.
Student 6	As far as I am concerned, this program has been a grand success and helped most of the students to gain industry exposure & then to get jobs. I thank all the people and staff who had done a great job in making this program a grand success.
Student 7	This course was excellent. The only thing I am concerned about is time -I think each individual should be provided extra time and technical support if possible. Thanks
Student 8	Is there is possibility of having twice credit points on this subject and 3-4 days of project in a week?
Student 9	It would be more beneficial for the students to be given more time for this subject in the company. Also lengthen the time for this subject. Making 2 or 3 students for a project based on the size of the project.
Student 10	If possible then please make this subject for 2 semesters.

Please note: Student comments have not been amended for expression and syntax.

CONCLUSION AND FURTHER INVESTIGATIONS

The Internship Program has allowed a group of talented post graduate students to receive some valuable experience in the ICT discipline. At the time of writing this paper, we can confirm that 13 of the 17 students have corresponded with the author and these graduates have full time employment. The author has not been able to make contact with the remaining 4 students to ascertain their employment status.

The results and the comments that have been made by the students and the representatives of the host organisations indicate that there is value in providing an Internship Program to our post graduate students, which ultimately enhances their chance to gain employment in the ICT industry.

Further work should be carried out to investigate the time taken for graduates of the Master of Information Technology and Master of Technology (Information Technology) to obtain a full time position in the ICT industry. The results of this investigation would be presented at a similar forum.

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Technology as a teaching/learning strategy for workplace experience in nursing: complementary or contradictory perspectives?

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Work integrated learning, or clinical education, has long been a part of undergraduate nursing courses. However, the increasing work intensity of many clinical environments combined with ongoing challenges regarding the availability of placements, calls for additional teaching strategies to support the development of *work-readiness* for practice. This presentation will describe a suite of online scenarios that are designed to complement and extend the clinical placement experience of undergraduate nursing students. It also examines technology as a practical strategy for achieving enhanced pedagogical outcomes in this area of the undergraduate curriculum. The scenarios are built around four key *Decision Points*. Each scenario is supported by a range of on-line resources that include authentic patient documentation, policy and professional guidelines/requirements etc. Students can also *consult* with virtual experts as they make their decisions. Multiple choice tests are included with each scenario and students are required to work through these until they achieve 100% accuracy. The complexity of the scenarios increases from Year 1 to Year 3 with incrementally higher expectations in relation to the types of decisions that need to be made. Students are also provided with an opportunity to recognise *mistakes*, and to determine how they would respond to such issues. Serial evaluations conducted over the past three years are uniformly positive, although have raised a number of issues regarding *better* ways to use electronic strategies such as these in our teaching with students. Reflections on the usage of a *blended* environment in which technology and the workplace converge to enhance students' learning outcomes and the development of *work-readiness* for practice are offered.

Keywords: clinical education; online teaching; work integrated learning; workplace learning

Going on clinical placement can be a very daunting prospect for nursing students who are studying to become health professionals. They have to apply theoretical knowledge to clinical situations, and work for the first time with patients and health professionals. Being able to put theory into action within real-life situations enables students to make sense of what can seem unrelated or unimportant to them as novices, and generates an enthusiasm and excitement that inspires them to learn and to begin professional practice. However, students find that practice in the real world is often complex and unpredictable, and presents significant challenges in terms of effectively applying their theory to practice. Our reflections on these challenges stimulated us to begin developing a suite of online resources which are designed to build students' confidence and commitment to high quality learning as they face these challenges.

These resources are part of an innovative approach to flexible learning that aims to support and enhance workplace-related learning for undergraduate nursing students. The main objectives are to promote the development of skills in problem solving, critical thinking and reflective practice, and the application of these skills within our students' practice environments. Online delivery creates a flexible bridge between the on- and off-campus learning environments by integrating the workplace and the

university. The purpose of the online scenarios is to build our students' confidence and competence for practicing in real-world clinical situations through the use of an integrated strategy that blends learning in simulated clinical settings with learning in the *real world*. The online scenarios are provided through the following web-based environments:

- The Clinical Decision Making (CDM) program;
- The Medication Administration (MedAdmin) program; and
- The Wound Care (WoundCare) program.

For the initial development of the scenarios, we drew on earlier work by Herrington and Oliver (2000) and Herrington, Herrington and Glazer (2002), particularly in relation to the design of authentic learning environments. More recently our work has been further informed by the complementary work of authors such as Boud and Prosser (2002), Agostinho, Meek and Herrington (2005) and Herrington, Reeves and Oliver (2006). Engagement in the learning experience is also stimulated by the problem-based learning design that we use to develop the scenarios. Students are challenged to think deeply as they make connections between relevant theory and the clinical information presented to them. We chose PBL as an enquiry process because learning is driven by the problem, and the control and direction of the learning can be shifted from being largely controlled and directed by the teacher to emphasising self-directed learning by the student (Barell, 1998). PBL also provides us with an approach that mimics the complexity and 'messiness' of the 'real' clinical world that our students encounter.

One of the implications of our student-driven approach is that students can get frustrated that the answers are not obvious, there isn't necessarily one right answer, or finding the solutions is not easy. By complementing students' online work with face-to-face discussion sessions they are able to talk through and reflect critically on the issues with peers and staff. This group interaction adds valuable breadth and depth to the scenario-based learning experience and is highly appreciated by students.

> I've learned heaps. When you're out in the real world information comes in different forms. You need skills in knowing what to find and where to find it. The MedAdmin program helps you to learn this.
> (3rd yr Nursing student, 2005)

The scenarios have been designed to be able to be accessed 24 hours a day, whenever they are needed. This set of programs is distinctive in the way that they bring the workplace into the university environment and the educational environment into the workplace. The online programs foster student engagement and learning by helping them: build their confidence and practical skills in a virtual and risk-free environment; make connections between the learning of theoretical principles and knowledge application; and reflect on their practicum experiences.

The three programs - the Clinical Decision Making (CDM), Medication Administration (*Med*Admin), and *Wound*Care programs – all contain clinical scenarios which are embedded across the first, second and third year of the course. The fundamental themes of complex problem solving, critical thinking, decision making and reflection on practice are woven across the scenario-based programs. The online environment allows us to realistically present students with important but

difficult, challenging and even potentially life-threatening situations that they may or may not encounter during their clinical practicums. For example, the Medication Administration program contains scenarios whereby students must interpret drug orders, make drug calculations, and then *administer* the drugs correctly. The scenario for first year nursing students presents a fairly simple drug administration situation, while the third year scenario is more complex, with more considerations of side-effects, drug interactions, and drug order errors. Student learning is scaffolded by an immediate *virtual* context that provides access to a range of on-line resources that include authentic patient documentation (e.g., observation charts, progress notes, X-rays, pathology reports etc.), additional clinical information, relevant professional guidelines, and national policy frameworks. Students also consult with virtual experts, such as fellow nurses, pharmacists and medical practitioners, as they work through each stage of the scenarios. The scenarios include cases that are unusual which students might not otherwise encounter, and chronic cases that students can follow over time in a way that would otherwise be impossible.

> The scenarios are very realistic. Having all the documents is good…helps you get better at working with them. Also good to have the 'buddy nurse' etc.
> (2nd yr Nursing student, 2004)

These scenarios have been developed in collaboration with industry partners, clinical practitioners, as well as health consumers. Importantly, the scenarios are also informed by the growing body of knowledge that we have gained through student interaction, the evaluations that we have systematically conducted over the past four years, and our reflection on these results and students' learning outcomes. Representative comments from students include:

> It allowed me to think things through at my own pace. It also gave me an idea of what to expect if I hadn't been on prac before. Helps to improve first years' confidence for prac.
> (1st yr Nursing student, 2003)

> It actually made me think back on all I'd learned in theory and had to apply it in practice. A really good challenge and fun and interactive in the process.
> (3rd yr Nursing student, 2004)

Evaluation of the online programs has been ongoing over the past four years. The formal aspects of this have principally involved the use of focus group discussions and survey questionnaires. Successive cohorts of students and industry representatives have been involved in the evaluation. The feedback we have received has been instrumental in helping us to reflect on our teaching and continually improve the pedagogical and technical quality of the online scenarios. The programs have received consistently high evaluations from students and workplace supervisors. Evaluations conducted during 2004/2005 resulted in the following levels of *agreement/strong agreement* from students (n=236): The CDM program helps me to develop problem solving skills (86%), critical thinking skills (93%), and decision making skills (92%).

Recent evaluations conducted in 2007 resulted in the following levels of *agreement /strong agreement* from third year nursing students (n=58): Using the Med-Admin program is a good way to develop your decision making skills (86%), helped me develop skills in critical thinking related to medication administration (86%), and is a

good way to learn about medication administration (81%). Students also *agree/strongly agree* that the CDM program is applicable to *real world* settings (91%) and promotes reflection and discourse about practice (92%). The quantitative results are supported by students' qualitative comments which highlight the value that they place on learning from the online scenarios as well as the *real world* of practice:

> These are great. Really helps to integrate the theory and help it make sense.
> (2nd yr Nursing student, 2005)

Achieving quality outcomes through students' engagement in their learning is a constant challenge. The increasing busyness of students' lives impacts on the study time that they have available and their willingness to go the extra mile with deep, rather than superficial, learning processes. These pressures are compounded by the added intensity of the clinically based courses that our students undertake. The online scenarios provide us with innovative and flexible ways to facilitate students' development of generic skills such as problem solving, critical thinking and reflective practice.

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Clash of cuisines or thriving canteen? A case of a community enterprise providing a site for Work Integrated Learning (WIL)

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Community enterprises provide opportunities for the delivery of accredited training in a supportive and real life workplace environment. This paper describes community enterprises as a Work Integrated Learning (WIL) training platform; it comments on their suitability to develop employability skills while addressing cultural barriers; it emphasises the importance of reciprocal benefit in WIL partnerships; and, it suggests creative strategies for developing effective and sustainable partnerships between tertiary education institutions, government and the non-government sector. The focus is on quality of accredited training and documented employment outcomes achieved in a win-win environment for all stakeholders.

As a case in point, the paper describes a specific WIL initiative developed as a partnership between Victoria University, a primary school, and two tiers of government. This partnership enables a not-for-profit community enterprise - multi-cultural canteen at a primary school - to act as a site for WIL; the participants - mainly mature-age African women - study for Certificate II in Hospitality (Kitchen Operations) in the context of operating the canteen. The canteen project was designed to provide the participants with accredited Hospitality training, improve their English language skills, life and employability skills, and launch a pathway to on-going employment. The project also aimed to provide the school with an opportunity to operate a break-even business delivering a quality, affordable lunch service tailored to the needs of students.

Keywords: community enterprise, cross-cultural communication, inter-sector partnerships, mature-age learners, vocational education & training, Australia.

INTRODUCTION

Work Integrated Learning (WIL) is often seen as a strategy to support the employability of graduates (Calway & Murphy, 2007). In the current policy environment, however, Calway and Murphy (2007) recommend that the WIL philosophy should be expanded to include other learning and social imperatives. This paper argues that community enterprises provide an environment that addresses both the workforce readiness imperative and human and social imperatives identified by Calway and Murphy (2007). Thus, community enterprises facilitate the achievement of the social and economic agendas outlined in recent Federal Government policy statements (Gillard, 2007, quoted in O'Connor & Moodie, 2008) and the Victorian Government's A Fairer Victoria 2008 policy statement, (State of Victoria, 2008). Moreover, as community enterprises are a form of Intermediate Labour Market (ILM), their outcomes can be assessed against international ILM benchmarks to gauge their effectiveness as WIL environments.

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This paper draws on Victoria University's experience of managing a Neighbourhood Renewal Employment and Learning program funded by the Department of Human Services from 2004 until 2007. Through this program, Victoria University worked with residents, Federal, State, and Local government, non-government organisations, and community groups to establish, or strengthen, three community enterprises – a tool library and carpentry workshop, a landscaping and maintenance service, and a school canteen. The paper draws on Calway and Murphy's (2007) definition of WIL, defines the concept of community enterprise, and briefly describes three community enterprises before analysing one of them – a school canteen - in more depth as a WIL training platform. It concludes by reporting on the outcomes of the school canteen experience in terms of performance against international benchmarks.

WIL AND COMMUNITY ENTERPRISES

According to Calway and Murphy:

> Work-Integrated Learning should be the general term given to learning that occurs through undertaking a component of industry/professional practical experience while studying … WIL should be expressed through the imperatives of: work readiness; life-long learning; human and social potential; … and Work-Integrated Learning should engage active and/or action learning. (Calway & Murphy, 2007, p. 18)

Within this broad definition Calway and Murphy identify eight types of WIL including contextual learning and vocational education. Contextual learning aims to give students the opportunity to apply what they have learned to a real-world example/experience. Vocational education is where most learning occurs on the job (Calway & Murphy, 2007).

The Brotherhood of St. Laurence defines community enterprises as:

> businesses that are developed to meet specific community needs and which deliver social outcomes in a way that is financially sustainable. The objectives … range from increasing community participation … to creating training and employment pathways for people in disadvantaged communities (Bond, 2008, p. v).

As discussed below, with reference to the three community enterprises supported by Victoria University's Employment and Learning project, these objectives make community enterprises excellent sites for contextual learning and vocational education, and for WIL programs that address both work-ready and social and human potential imperatives.

Tool library and carpentry workshop

This established community enterprise was assisted by Victoria University in partnership with the three tiers of government to upgrade its Occupational Health and Safety (OHS) and administrative systems. Now that the carpentry workshop is OHS compliant, it is used to deliver community employment programs in which participants learn how to make items required for community projects and undertake non-accredited training under the supervision of a trade instructor. In terms of Calway

and Murphy's WIL typology, this is contextual learning where participants have "the opportunity to apply what they have learned to a real world example/experience" (Calway & Murphy, 2007, p. 15).

Landscaping and maintenance service

This service was developed after a consultation with the local community, which identified a need for affordable gardening and maintenance services for local people, and a need for local training and employment opportunities. The service is managed by, a non-government organisation (NGO) which tenders for local Office of Housing landscaping and maintenance work and has also developed a local business clientele. The NGO recruits local people as trainees for nine months and delivers Certificate II level accredited training; the training occurs mainly on the job, but some day release is available to participants to attend a Registered Training Organisation. In terms of Calway and Murphy's WIL typology, this is vocational education where "most learning occurs on the job" (Calway & Murphy, 2007, p. 14).

School canteen

This WIL initiative was developed to address three objectives: industry skill shortages; provision of a supportive workplace training environment for disengaged local residents, especially sole parents and people from culturally and linguistically diverse backgrounds (CALD); and meeting the needs of a primary school for a financially sustainable canteen. The initiative was developed as a partnership between the University and the primary school and formalised through a Memorandum of Understanding (MoU) between the parties; the MoU was based on the concept of reciprocal benefit. The participants in the project are mature age women, mostly from CALD backgrounds, especially African. The Anglo participants tend to be sole parents with very little, if any, prior work experience or post secondary education.

In this WIL program, the primary school accepts students in Certificate II in Hospitality (Kitchen Operations) for Practical Placement in the school's canteen. The University enrols the students and trains and supervises them in the school canteen during their six-month part-time Hospitality course. This model is in line with a National Centre for Vocational Education and Research recommendation "for a greater integration of the learners' experiences in the workplace and educational settings. …. The educational provider might be expected to exercise leadership in bridging what is learnt in the two settings" (Choy, Bowman, Billett, Wignall, & Haukka, 2008, p. 29). In terms of Calway and Murphy's WIL typology, this is vocational education where "most learning occurs on the job" (Calway & Murphy, 2007, p. 14); it is also "intentional, organised real-world and accredited, having an active educational structure" (Calway & Murphy, 2007, p. 18).

THE SCHOOL CANTEEN IN CLOSE UP

WIL in the school canteen aims to equip students with the skills to take an entry level position in the workforce, or to start an apprenticeship. To achieve this objective, students need to learn specific trade skills, generic employability skills, and English language skills.

Trade skills

Hospitality trade skills, including fundamental knife skills and basic methods of cookery, are taught one day a week in a community training kitchen. In addition, two days a week, the skills are practiced through the *real-world* activities required to provide a nutritious, multicultural lunch at the school canteen and to cater for school functions; these skills are mapped against the units of Certificate II in Hospitality (Kitchen Operations). The training model works well and participants especially appreciate the benefits of constant practice; as one of the students noted, "When (the trainer) first showed me how to slice the vegetables, I thought I'd never learn, but now after two months, I can do it" (Newell, 2008).

However, the learning that occurs is much more than rote learning by repetition. As Billet argues:

> Every day work – 'just doing it' - engages workers in an active and constructive process of learning through their participation in goal-directed activities…. This is because the individual has had to identify and select ways of performing the task and then monitor and test these means. (Billet, 2001, p. 76)

An example in the canteen is the teaching of knife skills and a standard set of ingredients for wraps. After the standard wraps have been made for several weeks, students may be directed to make up additional wraps based on their own selection of ingredients.

Generic employability skills

The authentic workplace environment provided by the school canteen also ensures the development of generic skills in participants including: planning, time management, teamwork, communication, personal presentation, and literacy and numeracy. These skills are needed to complete a range of tasks to a high standard and to a tight daily time line. Tasks include ordering stores, implementing a system for taking school lunch orders, timely food preparation to fill orders, implementation of the Food Safety Plan, maintaining hygiene, and banking monies.

In addition, the canteen provides an excellent environment for the development of cross-cultural communication skills where participants experience negotiating solutions to cultural conflicts in the workplace. For instance, a number of cultural issues relating to the wearing of the kitchen uniform have been successfully addressed; strategies included wearing a head scarf under the chefs' cap, and wearing two aprons over the chefs' pants – one at the front and one at the back, to provide appropriate modesty. Another cultural issue involved the handling of pork; for some participants, it was not a problem, as long as they were not required to eat it; for others, there was an additional requirement to wear gloves when handling pork; and, a minority could not work at all with recipes requiring pork.

English language and literacy skills

Students were prepared for their participation in the school canteen through enrolment in Certificate I in Hospitality; this training clarified student literacy and English language skills, and ensured that they had their Food Handling Certificate before commencing work in the school canteen. Victoria University delivered the Certificate I training in a community venue with the support of local government in order to reduce barriers to participation such as transport difficulties and lack of confidence to attend a University campus. The trainer also responded to the students' low levels of English by using visual aides to reinforce learning, for example role-playing, and demonstrating safe lifting techniques.

Learning is enhanced in the workplace because "Indirect guidance provided by other workers (e.g. comparing listening, observing) and the physical environment (the workplace and its tools) provide visual clues that aid our thinking and learning" (Billet, 2001, p. 70). This is particularly important to learners whose first language is not English or who have little experience of classroom learning. An example from the canteen was when a student packed the meat in the fridge on top of other food items, despite earlier classroom instruction on food safety. When the trainer saw what was happening, she moved the meat and demonstrated correct storage. Subsequently, the lesson about correct food storage was reinforced whenever the student accessed the fridge and saw food correctly stored. Regularly hearing and using the same vocabulary and instructions also enhanced students' language learning. This was documented in the post course evaluation in which five of seven respondents said that their English and/or literacy skills had improved during the course (Newell, 2008).

Development of human and social potential

The school canteen, does more than deliver trade skills, generic work skills and English language and literacy skills in a real-world environment: it also develops social and human potential (Calway & Murphy, 2007). Firstly, participants in the WIL project have reported that their hospitality training has impacted on the food they serve their families. For instance, when the students first began preparing fruit salad for the school canteen, one participant remarked that she had never cut up fruit before; she later reported that she was now serving fruit at home (Newell, 2008).

Secondly, the WIL project provides a practical strategy for addressing childhood obesity by providing healthy, multi-cultural and affordable lunches for the school community. As one parent wrote, "I'm a working mother who flys (sic) by the seat of her pants. I'm so happy my daughter has hot meals for lunch" (Newell, 2008).

Moreover, because the canteen menu has been developed to meet the needs of the multi-cultural school community, it also broadens school students' cultural horizons. As one of the Anglo primary school students said at a school function, "Kofta's the best!"

EVALUATION OF THE SCHOOL CANTEEN WIL INITIATIVE

Calway and Murphy's (2007) insistence that WIL needs to meet both work-ready and broader social imperatives is timely. As outlined in the Australian Government's, Skilling Australia for the Future Discussion Paper 2008, "The Government has an ambitious agenda, focussed on economic and social reforms to drive productivity and workforce participation." (Department of Education, Employment and Workplace Relations, 2008, p. 1). This includes assisting "job seekers to participate in training … so as to acquire the skills they need to participate successfully in the workforce … and play a full role in Australian life." (Department of Education, Employment and Workplace Relations, 2008, p. 6). The Victorian government has also announced a "revitalised effort to improve workforce participation among adult jobseekers with low skills and other disadvantages" (State of Victoria, 2008, p. 14).

To be successful, training and employment programs for the socially excluded have to address the way that, "The different strands of disadvantage interlock and are highly interdependent, 'so that progress in overcoming one limitation, say, unemployment, can be inhibited by related factors like limited funds, poor health, inadequate training or having a criminal record,' writes Vinson." (O'Connor & Moodie, 2008, p. 11). This interlocking of disadvantage requires a specialised training and employment response. Intermediate Labour Markets (ILMs), including community enterprises, are one such response. According to Finn and Simmonds, "ILMs may best be defined as a diverse range of local initiatives that typically provide temporary waged employment in a genuine work environment with continuous support to assist the transition to work" (Finn & Simmonds, 2003, p. 4). The authors add that common elements in successful ILMs include: targeting of the most disadvantaged, support services and access to training.

Evaluations of ILMs internationally have identified a number of benchmarks against which the outcomes of specific ILMs can be measured (Mestan & Scutella, 2007). These benchmarks and the school canteen outcomes are summarised in Table 1. This evidence demonstrates clearly that the school canteen meets or exceeds all, but one, international benchmarks for effectiveness as an ILM; job outcomes are the only underperforming area. However, this might, be due to the relatively short (six months) duration of participants' involvement in the canteen program. Improvement in job outcomes from the project can be anticipated if the program increases in duration to the international standard of nine to fifteen months (Mestan & Scutella, 2007).

Interestingly, the ILM benchmarks do not specifically measure training outcomes. In the case of the school canteen, 82% of participants (9 of 11) achieved Certificate II in Hospitality (Kitchen Operations) and the other 18% of participants (2 of 11) achieved Certificate I in Hospitality. This is a very pleasing WIL outcome.

TABLE 1: ILM BENCHMARKED OUTCOMES OF THE SCHOOL CANTEEN PROJECT

Benchmark	Measure	School Canteen Outcome
Target group	At least 50 % unemployed for over two years	73% (8 of 11 participants)
Drop outs	20 % or below	Nil
Job outcomes	60 % into work	45% (5 of 11 participants)
Durability of job outcomes	80 % of those getting jobs still at work after six months	80% (4 of 5 participants)
Proportion to higher than 'entry level' jobs	50%	Not applicable to entry level training
Contribute to the provision of services	No measure specified	Sustainable canteen service delivered

CONCLUSIONS

This paper has demonstrated how a community enterprise, a school canteen, can be managed to address the work-ready and human and social potential imperatives identified by Calway and Murphy (2007). The canteen is an example of WIL that can assist in the attainment of State and Federal government agendas for increasing workforce skill levels and social inclusion; moreover, it can be benchmarked against international standards for ILM effectiveness. The application of those standards has helped identify an aspect of the canteen project that needs improvement: job outcomes. Discussions are underway about how to respond tho these findings and better meet the needs of the long-term jobless participants.

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Barriers to skills transference: the challenges in health professional education

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Introduction: In nursing a perennial debate concerns the so-called 'theory-practice gap' - the notion that knowledge gained in universities does not translate well into ward environments with a resultant deficit in clinical competence. It is uncertain whether this gap is unavoidable or if it is a manifestation of the teaching approaches used. This paper presents data from an Australian Research Council Linkage project examining how undergraduate nurses engage in learning in clinical settings. This paper examines how skills and knowledge gained within the university's clinical laboratories are transferred into the reality of the clinical environment.

Method: A series of one-on-one interviews have been conducted over a two year period with second and third year nursing students (n=28) participating in a preceptorship clinical placement model. Data are transcribed and imported into NVivo 7 for analysis.

Results: Findings suggest that there is some dissonance for students relating to individual's learning style and/or the authenticity of clinical preparation. In particular, how students engage with the opportunities provided in the simulated lab and whether they are able to make the connections into practice. Transference into practice is also inextricably associated with the affordance that the workplace offers to the students and the readiness of clinical staff to provide learning opportunities.

Discussion and conclusions: Student preparation for the real world of a professional clinical practice is challenging. This is accentuated by the 'parallel universes' of academia and the workplace and how to maximise the learning opportunities afforded to students across health profession disciplines.

Keywords: learning transfer, undergraduate students, workplace learning, nursing

INTRODUCTION

Learning transfer from the university to the clinical setting is crucial, given the substantive differences between the educational setting where skills are learnt and the workplace in which they are practised (Burke, Jones, & Doherty, 2005). Unlike other workplaces, healthcare students learn in an environment where they are participating in direct patient care, and where decisions regarding life and death are commonplace (McDonough & Osterbrink, 2005).

Several factors affect knowledge transfer; knowledge must be acquired sufficiently in the first place and information that is too context-specific may not easily transfer to other contexts (Mestre, 2002). For transfer to be successful it is important that skills transcend the setting in which the knowledge was created and used (Billing, 2007). Field (2004) proposes that the difficulty of skill transfer from one situation to another is most likely one of the 'root causes' (p. 562) of the purported theory-practice gap. Moreover, Smith, Clegg, Lawrence and Todd (2007) found many students cannot understand theoretical concepts from reading a text, unless they can relate it to experience.

According to Morgan (2006), the purpose of clinical placements is to provide students with the opportunity to make the link between theory and practice in the workplace and facilitate the transition from student to competent graduate nurse. However, simply completing placements in the clinical environment does not guarantee that the nursing students' professional practice will improve (Henderson, Winch, & Heel, 2006). These workplace experiences need to be effectively facilitated in order to achieve the learning objectives and provide an optimal learning experience.

Universities' clinical laboratories (labs) provide an opportunity for students to develop and practise their skills before going out into the real world of clinical placements (Childs, 2002). Congruence between what students learn in the lab and what they actually do on clinical placements is important in reinforcing their clinical skills and the sequencing of clinical placements relative to clinical labs is a critical factor in maximising learning outcomes (Morgan, 2006). Recently, the fidelity of clinical skills labs has been challenged. Despite their technological sophistication, Levett-Jones et al. (2006) contend that there are some workplace learning experiences that simply cannot be replicated in a classroom, such as communicating with patients and their families, interacting with the larger healthcare team and managing competing demands and priorities.

Central to students' learning in the clinical environment is the invitational quality of the workplace (Billett, 2006). Provision of a learning environment that welcomes and supports novice practitioners, along with opportunities for students' active participation in patient care rather than being relegated to observational roles, have been identified by graduates as important contributors to learning (Hartigan-Rogers, Cobbett, Amirault, & Muise-Davis, 2007). Registered nurses who act as preceptors play a vital role in maximising the participation of students in learning activities during their clinical placements. However, students sometimes have difficulty accessing their preceptors during their placements, particularly in situations where registered nurses are obliged to act as preceptors as part of their role and students sense that the nurses are not interested in them (Dolan, 2003).

Nursing students need to feel supported and confident in the skills they have learned in university, even if they differ somewhat to the way in which nurses on the ward perform the same skill. Cheraghi, Salasi and Ahmadi (2008) suggest that nurses do not always provide the care in practice that they were taught in the classroom. Students reported it was easier to conform to the improper way of doing things, rather than challenge the nurses (Cheraghi et al., 2008).

This paper reports on the factors both within the university and clinical environments that influence the transfer of learning for undergraduate nursing students between the two settings.

METHODOLOGY

This large longitudinal study is framed in the paradigm of ethnomethodology (Holstein & Gubrium, 2005) focusing on the study of work and learning, particularly the methods individuals employ to engage in the university and workplace settings and the associated learning. Qualitative and quantitative data collection methods have been utilised in the project, including a series of individual interviews, surveys and field work observations by research team members of students' interactions with healthcare workers during clinical placements.

Presentations about the project and an explanatory statement outlining the project were provided to cohorts of Bachelor of Nursing students. Twenty-eight second and third year students were voluntarily recruited from two campuses of a major university in Victoria. Students ranged in age from 19 years to mid 50s and included 4 males. Ethical approval was obtained from the participating healthcare organisation and both universities' ethics committees. All participants were invited to create a pseudonym to maintain anonymity.

The data presented is taken from students' first one-on-one interview which focused on the participants' work history, participation in the clinical setting and the factors that shape their learning experiences in clinical settings. All interviews were transcribed verbatim and entered into NVivo-7 and content analysis was undertaken. Four key concepts: curriculum, pedagogy - property potentials (i.e., the opportunities available for learning), personal epistemologies, and impact of workplace, were initially identified through reading of the interview transcripts and field work observation. These four concepts were utilised as a platform for analysis and initial coding of the first interviews, and led to the identification of further subcategories. Two text queries 'reality' and 'clinical skills', were conducted on the data and thematic analysis from the text queries uncovered four aspects that appear to influence the transference of learning.

FINDINGS AND DISCUSSION

The first theme 'How I learn' focused on learning styles and related to the students' identification of their individual learning preference. Being able to actively participate in clinical skills enhances their learning. Some students indicated they learn by observation as opposed to text book theory as illustrated by second year student James: *"I'm a visual learner so I guess by learning, like by actually seeing it, I learn a lot more"*. Similarly, Miranda reports that when: *"it was all book work and class*

work, I don't learn as well that way". Whilst this hands-on experience in the clinical setting is integral to students' learning, the authenticity of the experience offered is also important to their learning.

The second theme, 'Lack of engagement – it's not real' related to students' experiences in the university clinical labs, in particular the perception that these labs were not considered to be doing the 'real thing'. They were considered to lack realism because the interpersonal communication and interactions that occur with real patients are absent. On clinical placement however: *"you're actually working with patients and listening to them talking to them"* Anna (second year student). Students recounted that labs were lacking in authenticity as Stef (second year student) describes: *"…I think I learn a hell of a lot more on clinicals, than I do if I'm sitting in a lab at uni, mainly because it's real life as opposed to pretend with the dummies in uni"*. Consequently students also indicated the way they performed clinical skills in the workplace was different to the way they would otherwise practise the skill in a clinical lab.

A critical determinant in the students' transference was the invitational quality of the clinical placement, or lack thereof, as several participants experienced. The third theme 'Lack of affordances', related to students' experiences on their clinical placements where the opportunities to engage in a clinical activity to augment their learnt practices may be discouraged. This was often through staff indifference to the presence of the students and the potential learning opportunities for them as highlighted by Jayne, a second year student: *"Oh I just don't like being in the way and if the vibe comes off that we are just in the way... it's really hard to even put you best foot forward because you think they don't really want us here"*. Several participants recounted similar experiences of not being made to feel welcome by the clinical staff such as Emma (second year student) who observed that: *"Students just get ignored"*. Such experiences generated an air of resignation on the students' behalf with regard to them attempting to seek learning opportunities.

The engagement of the teacher is another crucial factor in the transference of clinical skills and underpins the fourth theme 'Teacher Impact'**.** This theme related to the influence of the teacher, both formal (i.e., academic staff) and informal (i.e., registered nurse), on the student's engagement in learning. Contrasting learning experiences were voiced by the students with some students reporting very positive experiences where the teacher involved them in all activities, explaining practices in detail. For example second year student Jayne recalls a preceptor she described as: *"the nurse for dummies, cause she explained it really well"*. On the contrary, some students experienced placements where little learning occurred, due to a lack of engagement by the assigned preceptor. Zara (second year student) highlights the need to: *"Make sure the preceptor has agreed to having a student and wants to have a student. . . The first thing she said to me was 'I prefer to work by myself so I don't know what you're going to do whilst you're here' "*. Students identified how this impedes on their learning, for example being left to complete mundane tasks such as bed making, thus not being able to apply newly acquired skills learnt in their clinical labs, into practice in the clinical setting.

CONCLUSION

Knowledge transfer in nurse education today, both within the university setting and the clinical workplace is influenced by several factors. Critical in students' engagement is the intricacies and receptiveness of the workplace and the impact of the individual teacher, whether academic or clinical staff. It should not be assumed that all nurses should or are able to teach students, and the findings serve to highlight the importance of the preparation that is required to be an *effective* preceptor. Given the current shortage of nurses and increasing complexity of healthcare delivery it is essential that the education of today's students prepares them for the transition into the workplace. A shared educational partnership between healthcare organisations and universities is required to meet the needs of not only the university and clinical staff, but most importantly the needs of nursing students.

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Workplace learning, supervision and pedagogy

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The connection between workplace learning and supervision has not readily been made. This paper discusses what is meant by workplace learning and its connection with establishing a culture of learning within organisations based on productive and critically informed reflective supervision. While some learning in the workplace can and does take place without the provision of supervision sessions more often learning is more effective in the context of a learning partnership or a supervisory relationship. I argue that organisational fortunes depend on effective supervision; supervision that specifically reflects critically upon the social context of the organisation's structures, behaviours, social interactions as well as the ability and flexibility of organisations and its workers to be able to respond and adapt to the knowledge that emerges from this reflection.

In conclusion I argue that if organisations want to create thinking and reflective workers in an increasingly complex organisational culture and socio-political environment then creating an opportunity for learning and providing for supervision that uses critical and productive reflective processes within a workplace pedagogy should be an important part of organizational practice.

INTRODUCTION

Learning in the workplace or workplace learning is increasingly acknowledged as an important site for the construction and development of knowledge workers. Workplace learning includes exploring the demands and expectations of the organization's structure, its values and mission statement in the context of worker performance and organisational output as well as managing each new management's change strategies and idiosyncrasies (Thompson, 2006; Boud & Garret, 1999). Workplace learning involves introducing and managing cultural change with the managerial and the educational aspect of the workplace. While workplaces are gradually being recognised as important sites of learning and where organisational and worker learning are beginning to be viewed as enhancing organisational productivity and the development of worker expertise, the role and function of supervision as an integral part of this learning has received little attention.

It is possible for some workplace learning to take place as a result of human resource (HR) policies and practices such as learning, training and development programs and specific recruitment and career strategies. However, I argue that more often learning is more effective in the context of a learning partnership or formal or informal supervision- such as one-on-one, group, with peers, with specific communities of practice or within the context of a self-reflective practice. Jones (2004) argues that organisational fortunes depend on organisations providing workers with a 'protected space' to think, discuss, reflect and address with a senior worker, peer or colleague the personal, professional, social, political and cultural context of the organisation

within which they work. This formal space or supervision if linked to workplace pedagogy can play a significant role in supporting organisational effectiveness and increasing worker satisfaction and productivity.

DEVELOPING A LEARNING CULTURE

Thompson (2006) argues, that if organisations take a dynamic approach to learning and development by creating a learning culture then learning becomes a relatively naturalistic way for workers to learn and assimilate specific roles, skills and interactive experiences while working. Evidence from studies into workplace learning suggests that introducing integrating learning activities in the workplace can have measurable effects on the overall work productivity as well as on the ability of employees to make sense of their area of work and the work culture that informs that activity (Boud, Cressy & Docherty, 2006). The workers are then equipped to create and sustain values, knowledge bases, processes, skills and systems which promote effective responses to change, innovation and productivity in the workplace and which also helps them make decisions at the point of discovery without having to turn to line managers for advice or rely on control and monitoring systems (Thompson 2006; Gould & Baldwin 2004). It is also a means for organisations to address any residual historical barriers or socio-political economic and cultural aspects of organisational behaviors that could impede new learning and which would have a negative effect on worker participation, promotion, and progress. For example Probert's research (1999) demonstrates how opportunities for and barriers to learning are unevenly dispersed across the workforce – a workforce, she argues, based on the construction of work and workers that privileges men over women. Other writers draw attention to other structural barriers such as workers from the dominant culture are mostly privileged over ATSIC peoples and people from other cultures and language groups (Feagin & McKinney, 2002).

WORKPLACE LEARNING:

Workplace learning occurs when organisations develop, support and promote policies and practices for staff and place these policies at the heart of its human resources strategy and operations. Polices and practices include: *double-loop learning, co-operative team work, developing communities of practice, conducting formal and self evaluation and on-site training, developing direct dialogue mechanisms between workers and managers, introducing and fostering further education and continuing professional development*. These policies and programs are designed and developed to promote and support a learning environment. This approach is aimed to open up communication between all parts of the organisation, both laterally and vertically, and involve all staff in the process of learning as well as creating a more flexible, adaptable, productive and innovative organisation (Gould & Baldwin, 2004). These practices are in contrast to the previous practice where workers mainly learnt the established rules, protocols, procedures and culture 'on the job' and then reproduced them uncritically in the workplace effectively closing off any new learning that might be useful or productive for the individual, the group and/or the organisation (Gould& Baldwin, 2004).

Workers with fixed skills and work practices are replaced by an educated workforce - by workers that are flexible, with well developed re-skilling and re-learning capacities considered necessary for high productivity and niche production that will help ensure the organisation's market leadership (Usher, 1999). Essentially workplace learning is about moving away from the dominance of the production paradigm to the dominance of the knowledge economy in workplaces (Boud et al, 2006) and where the psychological element of work also becomes a negotiated space. That is the management of subjectivity is becoming an important if not the *new* central focus of organisations. The exploration of the workings of the organisation from the inside position means that information can be elicited that cannot be accessed from the outside. While current scholarship about how organisations learn as well as how learning in organisations occurs is gaining momentum and popularity, little is said about where, when, how and in what type of learning environment these significant opportunities can be explored and hopefully realized. It seems obvious that instituting effective supervision can provide a structure and process for this learning to occur.

WORKPLACE SUPERVISION

There are many ways in which supervision, either formal or informal, can provide the means and methods for exploring the way organisations are succeeding as learning institutions. Supervision in the workplace can extend learning by helping workers develop worker expertise and to place this learning within the context of existing organisational processes and accountability systems thus impacting positively on organisational productivity. Having access to a planned and focused supervision that stretches both the supervisor's and supervisee's creative, critical and reflective abilities has the potential to enhance the organisation immeasurably.

Linking supervision as a significant site for organisation and worker learning important opportunities for the workplace can arise. In particular supervisor and supervisees can identify such things as: how learning in organisations is conceptualised; what type of learning is promoted, legitimated and validated in organisations; how it relates to organisational structure and behaviour; how work is designed, structured and organised (i.e. by gender, ability, ethnicity etc); how it can be utlilised to respond to organisational needs and to identify what barriers are evident that impede learning. By providing time and resources for supervision sessions that focus on the above concerns it is possible to create a work culture that is more readily accepting of change or more critically reflective of the change process and could, as a result, generate best practice options for workers to think and act in more organizationally aware ways (Thompson, 2006, Gould & Baldwin 2004; Fook, 2004). Additionally most workplaces are increasingly asking their employer/ manager/ employee to manage new challenges and changes which are occurring at the individual level, organisational structures and cultural contexts simultaneously. In particular managers and employees are asked to manage such diffuse concerns as; competing and potentially conflicting interests, organisational pressures around workplace conditions and practices and ever changing OH&S and risk management processes and concerns that are all part of the new managerialism. These factors and their impact on worker performance can also be explored in supervision sessions.

It is even more necessary and obvious to use supervision sessions if organisations and agencies are concerned about providing the knowledge growth gained from individual, group and organisational learning to be available to all concerned in the organisation. Gould and Baldwin (2004) present three stages for effective supervision sessions. These stages can provide a structure and opportunity to facilitate learning in the workplace and for the conscious exploration of new and existing knowledge concerning organisational and practice behaviour which links individuals, groups and organisations. The stages include the following: *Elaboration* – where skills are developed and improved by learning from and in practice; *Expansion* - where critical reflection can create new knowledge for effective service delivery; *Externalising* - where building on theoretical and practical insights can contribute to the organisations growth and capacity building (p.5).

While supervision is used in professional settings predominately as one-to-one it seems more effective to explore the idea of workers forming *communities of practice* as more informal means of establishing supervisory sessions in workplaces where there are large numbers of workers and work settings. Communities of practice are defined as groups of people or 'knowledge workers' who come together within organisations or specific fields of practice across workplaces to learn from one another and participate in a knowledge-exchange system. They are held together by a common interest and a desire to share problems, experiences, insights, information, and best practices in order to deepen their knowledge by this interaction with the groups and the individuals who make up the group (McKenzie & van Winkelen 2003).

In addition to providing a vehicle for establishing supervisory opportunities and sessions, the use of communities of practice can: provide mechanism for worker collaboration within the organisation for fostering learning; establish a common baseline of knowledge in the subject area; speed up the exchange of ideas across the knowledge area; help organisations and workers stay ahead of knowledge development; help increase job satisfaction and worker motivation; and help workers take charge of their own learning as well as learn how to retain their own marketability across the sector. The change of pace within organisations and rate of knowledge development means that it has become difficult for individuals to do this independently and for organisations and workplaces that are spread across several geographical sites. In acknowledging the complexities of the workplaces the strategic and effective use of supervision can provide managers and workers with a rich and realistic picture of what is happening and how to enact change in ways that incorporate the concerns and realities of the organisation.

Examples of communities of practice as sites for supervision in organisations are:

- *Community of Practice* – Individuals voluntarily come together as groups because of their shared interest in the subject area and a desire to further their knowledge for the benefit of developing best practice for the organisation.
- *Centre or Hub of Expertise* - Experts about a highly specialised knowledge are appointed by the management to be a resource for the organisation. Employees can access this information thought the hub or centre.
- *Work Groups* – People from the same section, department or work group come together with a shared responsibility for a services or resource and collaborate for best practice results.

- *Project and Research Teams* – People come together as cross functional learning or research groups in order to avoid duplication of work; share process; use resources efficiently; participate in collaborative thinking to work jointly on project implementation or research recommendations/findings in order to ensure a larger audience for their work outcomes.
- *Virtual Communities* – Online collaborative forum for any of the above purposes or enabling the continuation of exchange of ideas pre or post meetings.
- *Student Units* – Similar to work groups but with students who have dual function with the workplace as the host organisation as well as the educational institution seeking specific professional training and education (McKenzie & van Winkelen 2003).

CRITICAL AND PRODUCTIVE REFLECTION AS PEDAGOGY

The use of supervision in organisations to explore how they learn and how they become learning organisations also requires specific processes are available for this 'work' to happen. Essentially critical and productive reflection is an important process gaining credence in this area (Boud et al, 2006: Fook, 2004). Gherardi & Poggio (2006) define productive reflection as a pedagogy for opening up spaces within organisations to re-think goals of how employees are formed. Productive reflection provides the means for organisations and workers to acquire the skills and knowledges to accommodate, adapt, reflect, challenge and/or respond to the complexities of the work and the many aspects of the workplace culture (Fook, 2004). Its focus is to unlock vital creative forces in the workforce while engaging organisational members in the creation of new identities, meanings and communities inside work at the same time bringing changes in work practices. Using reflective processes in supervision sessions, workers are encouraged to learn at work by reflecting on the work itself, the organisation of work and the social interactions at work and to draw lessons from that reflection in order to develop new work patterns, behaviours and identities (Boud et al, 2006; Fook, 2004). For example, by exploring language, myths, rituals, values, behaviour, assumptions, rules, sanctions, ideologies and workplace culture workers are able to reflect on their role, function, input, commitment and enthusiasm for their work and their place in the organization or agency (Boud et al, 2006; Fook, 2004).

This examination of organisational culture, design and management and its context needs to be undertaken alongside open discussions about important, events, and actions that occur daily, weekly or over an extended period of time. Informing these explorations key questions such as: What is the structure of the organisation? What is the primary purpose of the organisation? What are its goals? What is the culture of the organisation? What activities go on within the structure? Who has the power? Where is the decision-making focused? How do decisions get made? How do they get implemented? Who sets the direction of the organisation? How? Why is the workplace important? In what way is it important to what you do? Why did you choose this particular organisation? What do you hope to get from being a part of its functioning and mandate? How do the relationships within the organisation affect the organisation? can guide the process. This conflation of work with learning forms the basis of the workplace learning.

Further by applying a critical lens this reflection will also open up for contestation the ways organisations reproduce socio-political and cultural relations in work and at work, such as class, gender, ability and any other social fault lines that characterise inequality. What is learnt from these reflections can be argued to be *adding value* in direct and tangible ways for the workers, mangers and the organisation as a functional unit. The use of critical and productive reflection within the supervision sessions can facilitate workplace learning in ways that capture the issues raised and knowledge learnt and enables workers to reflect on this knowledge for use in further learning and development.

Importantly critical and productive reflection can also help workers identifying the 'shadow side of organisations' (Fox, Martin & Green, 2007). This shadow side is the un-discussed, the un-discussable and the un-mentionable behaviours, decisions and power plays happening within the culture of the organisation but outside public comment and recognition (Fox et al, 2007). These unspoken behaviours are the games people play that impede accountability, transparency and democratic participation- such as defensiveness, games of power, control and deception, silences, and taboos in discussing and communicating about key issues.

Overall, the use of critical and productive reflection in supervision sessions can point the way to a new focus on learning that critically mirrors the current complexities of the social, cultural, political, economic and instrumental aspects of production in workplaces (Boud et al, 2006).

CAUTIONS

While workplace learning is gaining currency in both organisational theory and work/culture studies caution is needed in adopting these practices into workplaces uncritically. The linking of workplace learning with increased productivity and economic buoyancy assumes knowledge is a product that can be marketed and managed. Likewise workers can be treated as subjects of a particular kind who can also be managed or shaped to be more efficient and productive in their work. This shaping of worker subjectivity can been seen as a form of coercion that pushes workers into accepting, valuing and working to achieve an alliance of their personal goals with organisational objectives. This interrelationship could assume that work and personal objectives are one in the same. It is easy to see how work can then become a source of all learning, as the only meaningful and essential activity to self fulfillment. Work and non work aspirations and identities can become blurred as a result. That is: to be a better worker is to be a better person (Usher, 1999). The worker's ability to run their own lives becomes enmeshed in the organisations desire to produce productive workers.

The use of critical and productive reflection as outlined earlier can militate against the total lost of subjectivity and the use of critical questioning also outlined can help to ensure a balance is achieved between the personal goals and those of the organisation, where learner autonomy and a critical independence can be maintained.

CONCLUSION

While learning organisations, through institutional structures, policies, programmes, practices and routines, create opportunities for worker learning, these organisations can, at the same time, create and foster a culture that values learning for its staff and thus places organisational learning at the heart of its human resources policies, strategy and operations. By investing in human capital a learning culture will emerge in organisations willing to undertake such an endeavourer. Introducing and supporting the practice of supervision and where supervision is clearly prioritized in the organisation and placed equally along side of training, professional activities and an explicit commitment to continuous learning can be regarded as best practice. In conclusion, I argue, that placing supervision as an integral part of these learning activities will also ensure the organisation enhances it short and long term future.

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Key employability skills in civil & mechanical engineering: student perceptions vs. employer realities

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The primary aim of the Work Preparedness Skills Program (WPSP) at the Cape Peninsula University of Technology (CPUT) is to facilitate the seamless transition from student to employee. To this end, the WPSP is presented in the semester prior to Work Integrated Learning (WIL) for the Civil and Mechanical Engineering disciplines. Recognising that the transition requires more than just technical skills, the WPSP strives to impart a host of employability skills to the students.

As part of the CPUT ongoing quality assurance cycle, the WPSP undergoes regular review to ensure relevance of the course content. Employability skills underpin the placement process, which in turn, forms an integral component of WPSP.

This paper is based on research using questionnaires and follow-up interviews to determine what employer organisations recognise as the key employability skills. The students' perceptions will be tested via questionnaires to gauge the correlation with employer expectations. A comparison will be drawn not only between employer and student responses but also between the Civil and Mechanical Engineering respondents to test if commonalities exist across these disciplines. The study will be augmented with a desk top study of International Employability skills trends.

The knowledge gained should add impetus to successful student placement. In doing so, the ongoing quality assurance focus on WIL, will in part, be satisfied.

These results will be used to refine and restructure the WPSP to be more receptive to employer trends and demands.

Keywords: Employability Skills, Student Perception, Employers Reality, Commonalities, Quality Assurance

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INTRODUCTION

"Cooperative Education programs aim to prepare students for the workplace by developing generic and specific competencies useful to the student and employer" (Rainsbury, E., Hogdes, D., Burchell, N., & Lay, M. 2002). The Work Preparedness Skills Program (WPSP) plays a vital role in preparing Cape Peninsula University of Technology's (CPUT), Civil and Mechanical Engineering students for their initial entry into the world of work. This student preparation program is offered in the semester prior to Work Integrated Learning (WIL). Amongst others, this program imparts skills such as work ethics, professionalism, communication, reflective competence and self management.

Historically, one of the key features of CPUT's Cooperative Education program has always been a commitment to the achievement of quality work placements for all eligible WIL students. In 2007, the new South African Higher Education Qualification Framework (HEQF) made it mandatory for programs with a WIL component to ensure placement of all eligible students.

Part of CPUT's commitment to the quality of WIL programs is ongoing review and improvement of the WPSP. Included in this review process is taking cognisance of and being responsive to changing Employer needs and labour market trends, both nationally and internationally.

The CPUT's Engineering student population is drawn from diverse social, economic and cultural backgrounds. It therefore stands to reason that their frame of reference will be different with respect to the importance of recognising key employability skills.

This paper will expand on the research conducted into the Key Employability Skills in Civil & Mechanical Engineering from the perspective of students and employers. A comparative study of the respondents was completed to identify cross discipline key employability skills. It is important to note that the Key Employability Skills referred to do not include discipline specific or technical skills for reasons specified below.

These research findings will be used to refine the WPSP to ensure it meets the Employer and Students needs.

METHODOLOGY

The authors decided to mainly focus on the so called soft skills rather than the discipline specific or technical skills which would differ to a large degree for the two disciplines. "Soft skills also referred to as interpersonal, human and people skills; place emphasis on personal behaviour and managing relationships between people." (Coll, R., Zegwaard, K., & Hodges, D. 2002)

As starting point a desktop study was conducted of relevant literature relating to skills and competencies contained in conference proceedings, journals and skills surveys. (see e.g. Coll, Zegward & Hodges 2002: Rainsbury, Hodges, Burchell and Lay 2002: Employability Skills 2000 – Canada; University of Kent – Employability Skills webpage)

Information gathered from partner organisations over the past nine years were also used to refine the list of skills used in the research instrument. Rainsbury, Hodges, Burchell and Lay found that "Hard and soft skills are now regarded by many authors as being complimentary, with successful individual performance in the workplace seen to require both types of skills….." The hard skills which were identified through this process were numeracy, computer skills, information management and drivers licence.

Surveys-Questionnaires were designed and distributed to students and employers across both disciplines. In this questionnaire 19 skills were rated a: vitally important, b: less important or c: not important. Follow up interviews were conducted with employer organisations to confirm the outcomes of the research.

Sample

A random sample of 50 students per discipline was asked to complete the survey instrument during the first WPSP class. This was done to ensure that the student perceptions were their own and not influenced by the course content.

A sample of 20 established partner organisations for both Mechanical and Civil Engineering companies were approached to complete the employers' version of the research instrument. These organisations were selected as a representative sample of employer organisation. Additional criteria such as partnership history, size of organisation and number of WIL students employed were also taken into consideration. In order to ensure randomness to that sample, the first 10 returned surveys were used for the data analysis.

Data Analysis

The statistical software package called SPSS version 16 was used to analyse the data by means of descriptive statistics. Cross-tabulations were used to represent the frequencies of responses for each of the skills by the different departments' students or employers of students. The outcomes were then also represented in bar charts which were developed in MS Excel 2002. The Spearman correlation coefficient was calculated from the ranking given to the skills by the students and employers.

RESEARCH FINDINGS

Figure 1 below shows the top 10 skills for each discipline. Note that Persuading for Civil Engineering and Numeracy and Systematic Thinking for Mechanical Engineering rated in their respective top 10 giving a total of 12 skills in the table. 80% of the respondents for both disciplines rated the following skills as vitally important: Reflective Competence, Self Management, Professionalism, Problem Solving, Planning and Organising, Leadership, Team-work and Flexibility. Communication was rated vitally important by 100% of the respondents. In the ranking of all 19 skills Civic responsibility was ranked as vitally important by the lowest number of respondents (22 for Civil Engineering and 23 for Mechanical Engineering)

FIGURE 1
Civil & Mechanical Engineering Students Feedback

Students Top 12 Skills
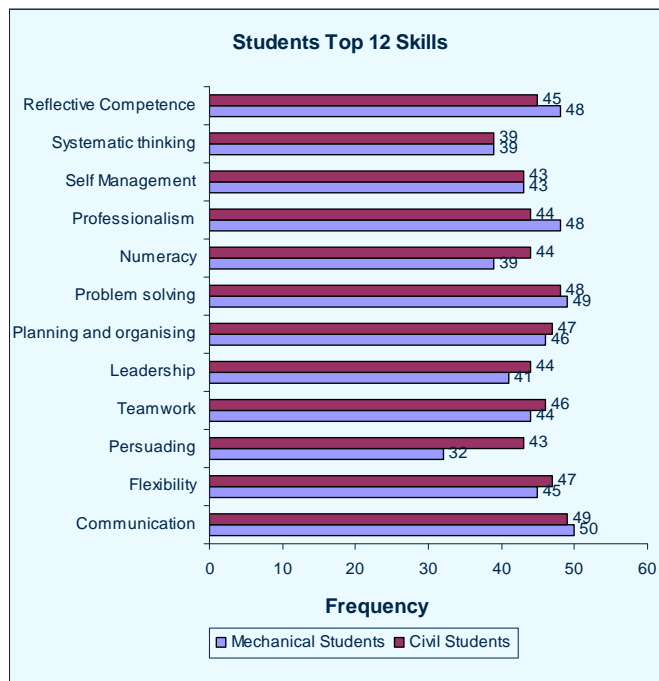
In Figure 2 below it can be seen that 80% of respondents from both disciplines identified the following as vitally important skills: Communication, Planning and Organising, Reflective Competence, Team-work, Self Management, Professionalism and Problem Solving. Communication and Planning and Organising were rated vitally important by all respondents for both disciplines. Civic responsibility was ranked lowest by both groups of employers as was the case with the students' results.

Mechanical Engineering Employers rated Computer Skills, Information Management and Systematic Thinking more highly than their Civil Engineering counterparts. The Civil Engineering respondents rated Social Skills more highly than the Mechanical Engineering group thus giving a combined list of 13 Key Employability Skills.

Reasons given for this was that Civil Engineering companies would train students on specialist design and drawing packages in-house as no standard system was applied at all organisations. Most Mechanical Engineering companies use the same design and drawing packages. For both groups however, they require the students to at least have a working knowledge of the Micro-Soft Suite of programs (this is incorporated into the Computer Skills module/subject at first year level). Teamwork also featured high on the Civil Engineering list due to the nature of the industry. The reason for Self Promotions' ranking in Mechanical Engineering was attributed to the size of the organisations students are placed at where they are often the only student employed there.

FIGURE 2
Civil & Mechanical Engineering Employers Feedback

Employees Top Thirteen Skills
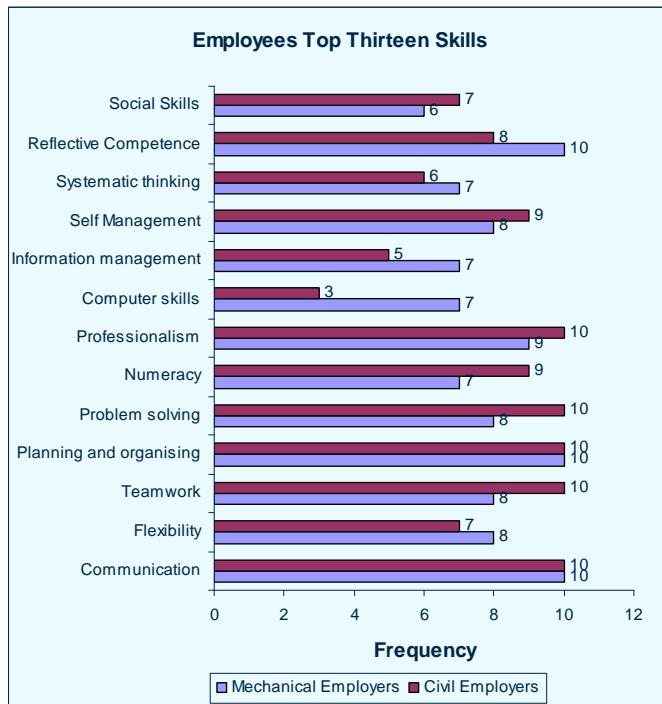
FIGURE 3
Comparison: Students and Employers Feedback
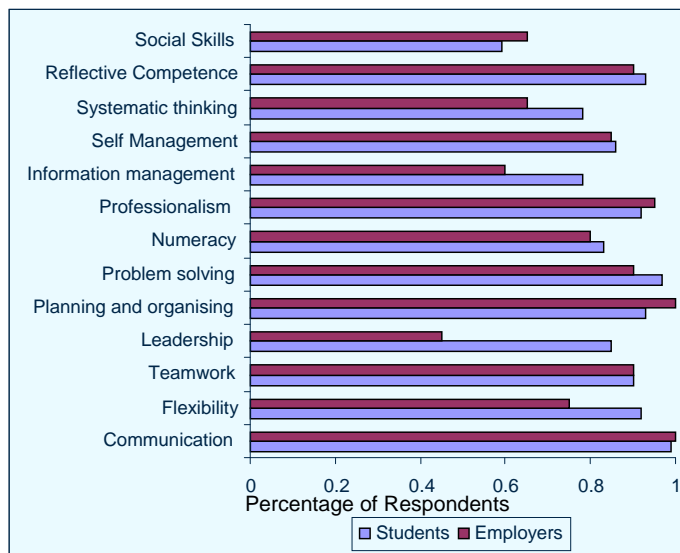
As can be seen in the graph in Figure 3 above students ranked Leadership very highly
(85 respondents ranked it as vitally important). Comments from employer
organisations however indicated that Leadership was not very important at the WIL
level but would become more important later in their careers.

Employers ranked Social Skills (defined as the ability to adapt to one's surroundings and to adapt one's behaviour to what is acceptable in the given situation in the research instrument) as one of the vitally important Key Employability Skills placing it higher than Leadership which was ranked 15th out of the 19 skills. Students on the other hand rated Social Skills at position 17.

From the data analysis it can be seen that students and employers only disagreed on three of the top thirteen (combined top student and employer skills) skills namely Social Skills, Leadership and Flexibility.

CONCLUSIONS

The feedback from this survey was a revelation, in that certain perceptions were proved to be incorrect and provided indicators to current trends.

This was particularly true in terms of the students' feedback. Contrary to widely held beliefs in certain quarters, this survey does prove that the students have a general notion of the Key Employability Skills required of them by their prospective employers. It was encouraging to note that these students have tapped into an applicable knowledge base or have observed current trends. This could be as a result of media exposure, word of mouth or even previous work exposure. This could however be offset by the fact that the students, overwhelmingly, ranked the majority of fields in the questionnaire as vitally important. The result of this, as seen in the graphs, was that the skills were not effectively segregated or filtered to provide distinct trends. In summary: most students perceived the majority of the fields to be of paramount importance. If their comprehension of the different field titles and descriptions were blurred, this must be taken into consideration. A factor which would, and could, influence the students' survey results is the impact of their cultural and educational backgrounds. These factors can be interrogated further and could provide insight into the effectiveness of this survey.

The Employer survey proved to be invaluable, as industry trends were gauged and commonalities were assessed. The commonalities proved insightful as employee migration and skills cross pollination within and between the two disciplines and their sub-disciplines are a reality. The authors have noted a growing trend in cross discipline WIL placement. The number of skills which can be called common to any degree of significance related to nine of the nineteen skills. The distinctions between the disciplines were clearly demarcated. These distinctions are related to the specific operational needs of the particular Industry.

Within the WPSP a field that received nominal prominence as a Key Employability Skill but which was highlighted as a prime skill by employers, was Social Skills. While the authors chose to use the definition described previously it can also be represented by the following:- "discovering who they (students) are, see how they can contribute, understand the economic value of their contribution and focusing learning on their interests and find their passion" (Conference Board of Canada, 2002). This will in future be incorporated into the revised WPSP.

Comments from the Employers clarified their needs and provided additional Skills options. Some employers however had difficulty differentiating between vitally important and less important skills.

The advantages gained by this survey for the students, Industry and the institution are invaluable. For the students it alerts them to what Employability skills encompasses, demonstrates what skills would be required when they transfer from one Industry sector to another, entrenches the concept that they must adapt to and train towards Industry needs and therefore reinforces the notion of change being the only constant.

For the Institution, the current survey provides an opportunity to revise and update the current WPSP curriculum to accommodate any new focus areas and developments; this interaction takes cognisance of Industry's needs and trends. It also answers the demand for constant Quality improvement and ensures relevance of the training provided to students.

Industry will be assured that their inputs in this process will provide them with better prepared students in the future.

Future research could be conducted into the students understanding of Key Employability Skills once they have completed their WIL component to see if they have a different understanding of the importance of various skills. Long term tracking of the changes in Employability Skills foci on the part of Employers could also be conducted. This survey would also prove more useful if applied to the other Engineering disciplines offered at CPUT to check the correlation in order to develop a generic list of Key Employability Skills for the Faculty.

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Reflective learning of cooperative education students

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Reflective learning is a very important aspect of cooperative education. While much research has been done in this area in general, it appears that little has been done in examining student personal reflective learning. At the University of Waikato, Hamilton, New Zealand, work placements are found for 180-200 BSc(Tech) and BE students every year. The work placement programme has been run by the Cooperative Education Unit for over 20 years. As part of the work placement, students submit a formal report, in which they discuss their personal and professional development and skills obtained. These reports are held by the departments and the Cooperative Education Unit. The reflection and review sections of the student reports were analysed to investigate student ability to reflect on their personal development and learning. General themes and student insight are presented from the reflection sections. It was found that students struggle to reflect on and communicate effectively their learning and development, evidenced by the lack of detail in their writing and failure to elaborate on actual skills obtained. This could be due to students being idle with their writing, or that students lack effective reflective skills, or because students do not perceive "reflection" as being a necessary skill. In general it was found that academics and students place a low value on reflective learning, possibly due to a lack of emphasis and training in course work and in Waikato cooperative education programmes on this theme.

INTRODUCTION

An imperative part of learning in cooperative education is the work experience which allows students to apply theory with a practical component with the aims of creating a deeper learning experience which eventuates with creating competent graduates (Coll, Lay, & Zegwaard, 2001). To facilitate this learning, the use of reflective learning can be used. Reflective practise is recognised as a valuable teaching and learning tool (Hancock, 1998; Richardson, & Maltby, 1995). Reflective learning on experiences allows for students to recognise competencies that they may or may not have, and therefore devise ways of overcoming any limitations.

Reflective learning is a necessary skill for students on work placements as it allows personal experiences to facilitate the transformation of knowledge into a competency (Canale, & Duwart, 1999). This becomes embedded and therefore provides the student with a better understanding of why they are doing it (Millonzi, & Reitano, 1977).

Cooperative Education (Co-op) at the University of Waikato has been practiced for over 20 years. There are two co-op degrees, the Bachelor of Science and Technology (BSc(Tech)) degree, which began in 1984, and the Engineering (BE) degree, which

was first offered in 2001. These are four year degrees with six to 12 months work experience and approximately 200 students are enrolled.

We encourage BE and BSc(Tech) students to use reflective practice as a learning tool while on placement. Our students submit a placement report as a part of their assessment for this course. Students are expected to write in detail of their work placement with a discussion on what was achieved. The School of Science & Engineering retain copies of the student reports.

As part of the placement report, there is a 'Reflection and Review' section where students will discuss their personal development and learning on the placement. This section contributes 10% to the overall placement grade. Our students are not provided with any specific training in reflective practice, however, we do provide them with general guidelines in the work placement manual that is given to all BE and BSc(Tech) students.

No previous study undertaken at the University has examined what students have gained from their placements and how well they perform in reflective practice. Therefore, the reflection and review sections were studied to obtain insight into student personal development and learning. Additional findings are presented in Paku and Lay (2008).

METHODOLOGY

Co-op placement reports dating back to 1994 are retained within the Engineering department at the University of Waikato, Hamilton, New Zealand. These placement reports were written by students enrolled in forestry and materials and process engineering degrees. They were analysed qualitatively, in particular the students' personal reflection. The collated data was analysed for reoccurring themes. Exerts from students reflection and review are presented in this paper and pseudonyms used to preserve confidentiality.

RESULTS

In general we found that students struggled to reflect effectively on what they had learnt and experienced during their placement. The quality of the reflection, in general, was dependent on the quality of the student and their capability to construct a comprehensive report. However, in most cases students discussed the soft and hard skills they learnt, challenges they encountered in industry and personal and inter-personal development during their time with the company.

Soft and hard skills

Students frequently referred to soft skills that they learnt. This involved the development of their communication skills, being able to communicate effectively and professionally, developing team work skills and being able to establish good working relationships for a positive environment. Soft skills seemed to be the main type of skill students obtained during their placement time.

Bruce discussed some of the soft skills he learnt:

> Working at the [company] involved working within a group of approximately 40 people, some of whom spoke English as a second language. Forming working relationships with these people was challenging but the friendly environment present in the group made the process much easier. Because the work is project oriented, good working relationships between members of a project is vital. As such, all members of the group are seen as equal, with each individual contribution to a project being as important as the next.

Some students found that the placement helped them to develop work placement discipline, being punctual and behaving with integrity when things go wrong. Robert gave an example of this:

> Working alone was a big factor in working at [the company]. Sometimes I would see [my supervisor] once a day in passing so it was important for me to keep myself occupied and focused on tasks that related to my work. I also had to be able to work beside and explain to [him] my thoughts on the project and the direction.
> I do not think planning was a great attribute of mine, but soon appreciated you have to plan otherwise you will get lost. At times during the placement I got side tracked with issues that where not entirely relevant to the topic. This was when [the supervisor] would pull me back and redirect my attention to the ultimate objective….

Fred said:

> There were a lot of times during my employment at [the company] that I got really stretched. Some of these times included times when something had been done incorrectly. This required me to act promptly, also testing character and integrity.

What was surprising was that students had difficulty in identifying the hard skills that they learnt. That is, they failed to recognise that they were applying new hard skills that had been developed during their placement. Of the hard skills gained, students commented on gaining computer expertise, becoming more competent with their experimental skills, becoming proficient with equipment and in some cases it was learning from doing something wrong as Sarah details in an amusing anecdote:

> There have been countless times where I have learnt little snippets of information from the people around me or from reading manuals in the lab. In my first week of work my boss said to me "do what you oughta, add the acid to the water" after I commented on how much heat was being generated from adding water to concentrated hydrochloric acid.

Cameron was able to go a variety of skills from market analysis, computer skills, experimental skills, business planning and product development, researching, organising and summarizing knowledge are some of the skills she gained.

The lack of discussion about hard skills would suggest that students in general have difficulty identifying and/or discussing new skills or competencies they had gained. It could also mean that the bulk of their learning in the work placement was in soft skills. For future development into this area, this could be addressed by providing additional training in helping students to identify these skills.

Some students were able to see the relevance in their placement learning, in particular where the placement was unrelated to their field of study. An example of this was Adam was completing a materials degree and did a placement with an electricity company. He found that the principles behind electricity theory were very similar to processing concepts such as mass balances; the equations were similar but needed different numbers, units and symbols. This reflected the student's ability to see the similarities between mass and electricity theory.

Some students wanted to gain more hard skills, in particular if they were involved in collating data for a project. Often students are given menial tasks when involved in a project, that is, there primary responsibility is to collect data for someone else to analyse. Harry was in this situation and he thought that placement students could benefit more if they were able to analyse data that they had collected so they could gain some skill in data interpretation.

Challenges

Although undesirable, students that encountered challenges during their placement indicated that it was a big learning curve for them and an experience that they have benefited from immensely.

Students learnt to deal with confrontation and how to deal with problems professionally, they learnt that poor management and communication occurs and to resolve these matters effectively. But most of all they learnt how to issues which gave them a greater learning experience and appreciation of industry.

Despite an initial trialling time for Frank, he was able to gain a positive outcome in his placement as discussed:

> There is one thing in my time I would like to be really critical about myself and the management of the alloy wheel plant. That is from the 4-6 months into my time at the alloy wheel plant things went wayward. I did not really know what was happening. I didn't know whether I was doing the right things, the security of my placement, and if management knew I existed at times. At some point this all came to head when I said I would leave. This is something I should have had confidence to bring up with my manager and it is something that he should have of been able to pick up on as well as I was not the only one in this situation. From here on we had regular discussion to over what was happening and when I was going with a lot clearer picture what they lined up for me in the way of work.

Fred discussed his placement encounters:

> There were a lot of times during my employment at [the company] that I got really stretched. Some of these times included times when something had been done incorrectly. This required me to act promptly, also testing character and integrity. Also, because the company is so incredibly overwhelmed with orders coming in, there were times pressure was being applied to get an order out and things needed to be done promptly. However I found that these times only helped me grow and looking back I am thankful that I went through them.

We found students that had worked for a particular company in consecutive years all noted similar management issues such as poor communication between supervisors, contractors and employees, and poor organization. Jo gave recommendations to the company that he worked for, as to how their current situation should address.

Everybody within [the company] must be on the same wavelength of thinking. All departments should have targets and goals set and strive to reach them. That type of attitude will turn the company into a more positive frame of mind.

Knowledge of industry

Students learnt a lot about the type of industry, company management structure and how a company operates. Students were very quick to pick up on good and bad management practices. Paul noted that his employer used incentives to reward good performance, Cameron and Bruce mentioned teamwork as a way of creating and developing new ideas. But David mentioned poor management which was obvious from the high staff turnover for that company.

For a large proportion of our students, they often are placed within crown research institutes. Students observed that applying for funding is very important to these institutes and that it can be a process that is time consuming and demanding, in particular for the scientists involved.

Others like Mark gained an understanding that good science had to be balanced with generating profit and growth within the company.
And for others, keeping good notes was extremely important to the functioning of the company he was working for, he commented:

> I also learnt to put into practice what I have been performing at university, for example keeping good lab notes are very important in this line of work and sometimes patents can be won or lost if poor notes are kept. Learning the correct way of preparing the notes and what information is important to note down for future reference was the main focus.

CONCLUSIONS/IMPLICATIONS

Reviewing students' reflection and reviews has yielded a fascinating insight into what students learnt. Although students have been able to identify skills they have gained, there is still a lack of detail in their reflection. This could be because of poor report writing skills, inability to reflect or students do not perceive reflection as an important skill.

Reflective practice is not traditionally taught as part of the curriculum in Science and Engineering at the University of Waikato. But this issue has been addressed and will be implemented into future work as part of the preparation for work placements.

Future work will include investigating placement reports from other science disciplines in the School to identify any trends in student's reflective practice between departments. We will also examine key themes in more detail.

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Transferring learnt knowledge to practice: an example from the health promotion field

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This paper discusses the teaching approaches undertaken in the field of public health and health promotion that prepare undergraduate students for the work environment. Although this degree is theoretically based, our experience along with student and health sector feedback has lead us to provide greater opportunities for students to integrate class room learning and field experience across the three levels of the bachelor degree. Thus, a greater emphasis is now placed on competency based learning, reflective practice and field exposure from first year through to third year to encourage self-directed and confident health promotion practitioners.

Keywords: authentic assessment, experiential learning, field work, health promotion, reflective practice.

INTRODUCTION

This paper is based on our experience as educators in the discipline of public health and health promotion (PHHP) in preparing undergraduate student's to be public health and health promotion practitioners. It is reflective of our teaching approach to public health and health promotion practice and discusses the importance of linking pedagogy and practice in this discipline to prepare students for the challenges of their professional life.

THE FIELD OF PUBLIC HEALTH AND HEALTH PROMOTION

Public health in its traditional sense concentrated on improving people's health at a societal level through policy and infrastructure developments to guard against disease. Contemporary notions of public health have shifted from the historical medical orientations of the 19th century to a broader understanding of health, which suggest health to be "a state of complete physical, mental and social wellbeing, and not merely the absence of disease or infirmity…" (WHO website 2008, no page number).

Given this shift, contemporary public health ideologies embrace the promotion of health, and in doing so acknowledge the interrelationship of social factors in determining health status. Framed by this broad philosophy of health and wellbeing, the practice of health promotion within the field of public health comprises values that embrace social practices such as social justice, equity, advocacy, empowerment, community engagement and policy change to promote health (WHO 2008).

DEAKIN UNIVERSITY BACHELOR OF PUBLIC HEALTH AND HEALTH PROMOTION

The public health and health promotion degree at Deakin University assists students to develop knowledge and practical skills in the analysis of, and action on the determinants of health and illness among communities and populations. A strength of the course is its vocational relevance which is maintained through the close association staff has established with practicing professionals from a wide range of sectors including health, education, environment and planning. Graduates are equipped to work in areas such as government and non-government departments, health foundations, community, primary and women's health services, health promoting settings i.e. schools, hospitals and workplaces, divisions of general practice, aged care and other human services. Depending on the electives students choose, they will be qualified to work as health educators, project officers, health promotion coordinators/managers, corporate health consultants, researchers, evaluation and policy officers, community development workers, community health nurses and public relations officers (Deakin University 2008).

HEALTH PROMOTION COMPETENCIES

Australia is considered as being at the forefront of professional education and practice in the health promotion sector. However, given the breadth and multi-disciplinary scope of health promotion practice the skill set that health promotion practitioners are expected to embrace continues to be debated at a national and international level (Shilton, Howat, James, Hutchins & Burke 2006). Such breadth creates challenges for educators who are guided by the field in developing and revising tertiary education courses that assist people to gain workforce roles in health promotion. In 2007, Australia's key PHHP bodies developed a set of 31 core health promotion competencies to guide workforce structure and tertiary curriculum (James, Howat, Shilton, Hutchins, Burke & Woodman 2007).

Given the importance of establishing a competency based curriculum, the School of Health and Social Development have recently undertaken a review of the PHHP degree to ensure that this degree remains in line both the university's goals of being progressive, relevant, innovative and responsive, and the field's expectations of competent and skilled graduates in public health and health promotion (Social Health Group 2007). In particular, preparing students for the working environment and to be job ready in an array of competencies sets down challenges for teaching and learning in this complex and multi-disciplinary health field. Hence, integrating a more practical orientation to the undergraduate curriculum has been a key development of the School of Social Health and Development PHHP course in recent years. Although this degree is theoretically based, our experience along with student and host agency feedback has demonstrated an increased need for students to better understand how to transfer learnt knowledge to professional practice.

PEDAGOGY THAT PREPARES STUDENTS FOR PHHP PRACTICE

The competencies required for this field of practice are multi-disciplinary and thus, the course is informed by a range of teaching practices and pedagogies in recognition of this diversity. Feminist and constructivist pedagogy are key examples of the types

of paradigms that influence the course design and delivery. Feminist approaches are characterised by active student participation in the learning process and the classroom is characteristically - democratic, collaborative and participatory. This approach values individual growth and learning and recognises that culture and gender influences learning (Clifford 2002; Crabtree & Sapp, 2003). Similarly, constructivism is a paradigm adhering to the belief that learning is active, the learner is an informed constructor and new information is linked to prior knowledge, past experiences and values (Learning Theories Knowledgebase 2008). Preferences for these pedagogical positions means that teaching and assessment designs for the units are oriented towards reflective practice, experiential learning and authentic assessment modes.

In each year of learning, particular units that initiate mechanisms for experimental learning are undertaken. In the first year of study the focus is on learning the knowledge and values of the health care professions. At this point of their academic careers students are in still in what Ballard & Clanchy (1991) call the conserving model of learning associated with late secondary school. In recognition of this, the first year units of the PHHP degree endeavor to transfer students from surface learning to deeper learning styles which are associated with feminist and constructivist methods. For example, students are introduced to the philosophy and foundations of public health and health promotion whilst enhancing their ability too apply the theory in practice through group work, reflective journaling and fieldwork visits. In second year, students develop a range of health promotion professional practice skills necessary for effective health promotion action. The teaching methods are similar in design to the first year unit and characterized by experiential learning, authentic and portfolio assessment techniques. By third year, the degree offers an opportunity for students to participate in active learning processes which involve evaluating and questioning in the field through lived experience (Ballard & Clanchy (1991).

Experiential learning is used to facilitate student's acquisition of a deeper knowledge and understanding of the discipline area and to enhance links with the professionals in the field (Deakin University 2006). Hence, students at each year level are required to undertake fieldwork activities in the context of preparing for authentic assessment tasks. As stated by Guilikers, Bastiaens & Kirshner (2004, p.69) "authentic assessment requires students to use the same competencies, or combinations of knowledge, skills and attributes that they need to apply in the criterion situation in professional life". An example of the experiential learning and authentic assessment in practice can be seen in fieldwork activities in years one and two which involve developing student's skills and competencies in research and consultation, effective communication and building professional networks. Some field work is conducted and assessed in a group which is indicative of the competencies required for collaboration and team work. The idea is that PHHP graduates will be proficient at performing the tasks they encounter when they graduate (Mueller 2006). In these units the fieldwork experiences also feeds into a three part portfolio of work submitted for assessment. The constructivist portfolio model is used because it appeals to a diverse range of learning styles and student profiles that value both the intellectual and social development of the individual (Johnston 2004).

In line with the approaches used in feminist pedagogy, these units also teach reflective practice skills using journaling as both a teaching and assessment method. Reflective professional practice skills (RPS) are highly valued graduate competencies in a range of healthcare disciplines and hence a core element of the PHHP degree. Fleming (2006) argues that reflection is a neglected art in health promotion and as such our course has endeavored to fulfill this gap through the design and implementation of core units with online journaling. Online journaling is used as it indicative of contemporary teaching practices and is consistent with needs of what Jonas-Dwyer & Popisil (2004) call the 'millennial generation' - a generation highly dependant and skilled in information technology computer use and learning technology). Journals encourage students to be in charge of their own learning, to reconstruct new knowledge in light of their existing knowledge and experience and to assess their own development (Clifford 2002). The journaling tasks inherent to these units develop the skills of self reflection and self assessment which are essential for a competent practicing professional. Fieldwork exposes students to real life practical experiences unto which they can develop their skills of reflection. The structure of journaling varies between units and year of study. A more structured and guided delivery characterizes the early years of the degree as students cultivate their reflective and critical thinking skills. For instance, students are required to complete weekly journal entries responding to specific questions about readings, classroom activities or lectures. In second and third year journals, the guidelines are more flexible and encourage students to define and reflect upon critical incidents. Journal entries at these levels relate to professional experiences that result from fieldwork or practicum placements and are supported by team reflection processes i.e. with the teacher, peers and/or practitioner.

Notwithstanding reflective thinking skills are of fundamental importance for life long learning and the development of a socially mature professional. Beyond graduation PHHP practitioners require ongoing training and development to remain effective in this dynamic field.

HEALTH PROMOTION PRACTICUM, THE THIRD YEAR EXPERIENCE

The first and second year units of the PHHP degree provide a foundation for third year students to be well equipped to undertake the work integrated component of their degree. The Health Promotion Practicum aims to provide students with an in-depth working understanding of key health promotion principles and approaches as applied in a working context. In addition to developing a practical understanding of health promotion, this field work opportunity aims to assist students build upon professional and personal skills required to work in a health promotion role.

Students are required to complete 120 hours of field practice in which they are assigned self-directed, task orientated projects that challenge the student to deliver tangible outcomes that draw on the principles of health promotion. The third year practicum unit differs from previous contact with the field where they undertake group activities and report on health promoting programs. The practicum unit calls on students to be embedded in the day to day activities of the host agency as a team member who has set tasks, targets and milestones which contribute to the working

practices of the host agency. Thus, this student engagement requires students to have a sound theoretical base so that they can actively engage and contribute to the needs of the working environment they are assigned to.

In addition to the field work component of the unit, students are required to undertake university assessments that ask them to prepare key documents that plan and manage their assigned tasks (project proposal), and evaluate their field experience in consideration to the goals that they set at the commencement of their placement (practicum report). These documents follow a Terms of Reference brief rather than a criteria sheet and impress upon the use of health promotion language, theory and principles in their response. Like the first and second year units described above the emphasis is on professional document development which is indicative of the day-to-day report writing graduates would be expected to undertake in the workforce after the completion of their degree. The outcome being that authentic and portfolio based assessment develops both written presentation skills and confidence for the student.

Another key aspect of the practicum unit teaching method is that they are required to journal their experiences of health promotion application throughout the placement period. In doing so students critique and question the ease or difficulty of transferring learnt knowledge, and consider what barriers hinder best practice in the application of health promotion theory. Given their exposure to reflective journaling throughout the degree by their third year of study PHHP students are well equipped to reflect on their practicum experience and critically examine professional practice in the context in which they undertake their placement.

The success of these combined methods in producing the learning outcomes can be found in the university lead quality assurance tool Student Evaluation of Teaching Units (SETU), qualitative feedback from students, agencies, and teaching staff. This information has provided a strong rationale for this work integrated approach in our teaching.

CONCLUSION

The linking of pedagogy and practice is important to the competency of students in the disciple of public health and health promotion. A teaching and learning environment that promotes theory to practice skills is valued by the public health sector as our graduates demonstrate confidence in their own abilities, and a greater appreciation of what is required by them as graduate practitioners. From our experiences, students gain a greater understanding of the profession when integrating theory and field work at each level of their degree. The Social Health Group's (2007) research indicates that this consistent use of teaching methods and approaches as well as the inherent synergy between subjects is a key strength of the PHHP degree.

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Experimenting with new approaches to work-integrated learning with international students in engineering

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To address skill shortages in engineering in Australia and declining enrolments of domestic students in engineering programs, the University of South Australia has responded by recruiting overseas-trained international students into postgraduate programs. A pilot course, with a small number of students, was used to experiment with responses to issues such as student preparedness for the Australian workplace, an understanding of the role of the engineering consultant, communication (written and verbal) and collaboration skills. Social software and recordings of key events were used to support student learning. This paper describes the multi-modal evaluation of this pilot course through the lens of practice, pedagogy and partnerships and indicates that a greater focus on industry partnerships is required.

Key words: careers, communication in the workplace, communities of practice, engineering, International students, online learning, partnerships, social software

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INTRODUCTION

The world faces severe engineering skill shortages within the next decade (Ignatowski, 2007). Engineers Australia, the professional society for engineers in Australia, indicates there has been an annual decrease in the number of graduate engineers (Taylor, 2006). As the number of students electing to do engineering at university falls, the gap has been filled largely by increasing intakes of international students (Taylor & Maphosa, 2006).

The skills of an ideal Australian engineer have been found to include not only the technical knowledge but appropriate skills and attitudes. Engineers need to operate within an organisation (Nguyen, 1998) that communicates with clients and colleagues (Birrell, 2006). For international students entering Australian postgraduate engineering programs, who often lack knowledge of how to operate within Australian organisations, local workplaces can be quite alien and exclusionary compared to their home country experience (ECCV, 2008). Providing work-integrated learning opportunities raises issues relating to legislation, funding, language, unions and xenophobia, which all complicate compulsory work placements in engineering programs (Taylor & Maphosa, 2006).

The higher education sector has responded in various ways to these issues faced by international engineering students. The University of Cincinnati uses learning modules on workplace culture, ethics, and social responsibility in conjunction with engineering work placements (Todd & Skiddons, 2004). Anderson (2004), when dealing with classes of 50 international students in Denmark from up to 12 different

countries, describes a series of 8 x 2 week intensive courses that focus on business culture awareness, collaboration, project management and communication skills as well as conducting project work.

Through its 2010 Teaching and Learning Framework (Lee, 2007), the University of South Australia aims for one-third of all student learning to be experiential. To boost graduate employment outcomes for international students studying a postgraduate Masters program in engineering, a collaboration was entered into between staff from the School of Advanced Mechanical Engineering and the Learning and Teaching Unit (LTU), to create a new workplace-learning course. To implement this course a pilot was run in 2007 with only 5 students, with the aim to better understand and address issues. This paper describes our pilot course experiences and provides analysis to move towards successful course implementation in 2008.

METHODOLOGY

Students were invited to participate in the pilot course by the program director. To enrol they needed to be qualified engineers and with an overall score of 6.5 in the International English Language Testing System (IELTS Academic) and demonstrated academic success studying in Australia.

The pilot course was based on a consultancy course previously delivered to offshore postgraduate students already working in industry. The Australian-based version was complemented with work placement projects and workshops. It focussed clearly on introducing students to practices valued and relevant to workplaces they needed to join and then fostering required knowledge and skills (Tickoo, 1994). This included making students aware that they may need to adjust aspects of their spoken English to communicate effectively in local industry placements. Online approaches, including social software, were embedded to improve flexibility and engagement (Duff *et al*, 2007; Quinn *et al*, 2007).

Projects were sourced by School administrative staff within Adelaide, South Australia. Local employer groups representing local small-medium enterprises (SMEs) canvassed members for placement interest. Industry members of the School's Advisory Board were approached to consider providing projects for students.

The development of the pilot course had several co-dependent elements and involved collaboration between internal and external stakeholders. School administrative staff liaised with employers. The Learning and Teaching Unit (LTU) provided an Academic Developer (who devised, delivered and evaluated the pedagogy and course curriculum) and a Student Learning Adviser and Career Adviser who both developed course materials and provided teaching input and support to the students. External stakeholder involvement included the local business representative (canvassing for projects and workshop on SMEs) and industry (consultancy projects and supervision of students).

A multimodal evaluation was used to ascertain the effectiveness of this course. Elements of the evaluation included a review of achievement in students' assessment, employer perspectives, student development in verbal skills through recordings, student interviews post course, anonymous student course evaluation, level of student

engagement (attendance, punctuality and participation) in class, online and within the workplace and number of students securing work in the Australian engineering industry.

FINDINGS

Five male international students were recruited into the pilot course, averaging 25 years of age. Three students were originally from India and two from China, all having grade point averages between 5 and 6 on a seven-point scale.

The initial plan was to organise student placements in SMEs working on collaborative projects. This was not possible and revealed a number of SME-based concerns. Two large manufacturing organisations agreed to accept international students and provide supervision of individual (rather than collaborative) projects. Whilst under academic and industry-based supervision, students investigated and analysed a workplace-based problem, providing substantial and practical direction. Assessment outcomes and post-placement employer interviews indicated students functioned effectively as consultants within these Australian workplaces. The average final mark for the course achieved by students was 78.8%.

Students were punctual and participated consistently in workshop and online learning activities. Course design assisted student engagement. For example, one of the aims of the course was for students to develop reflective practice skills. The activity involved creating a collaborative online learning journal using blog software. Students were required to interact regularly with each other providing feedback. Teacher, peer and self assessments were provided weekly. Journal entries revealed that by week 4 students utilised reflective practice for their personal development. This continued throughout the study period.

The topic of communication did not initially engage students. Despite having strong regional accents students initially chose to engage superficially. To adjust this, students were required to develop and deliver a 2 minute presentation in a 20 minute time period. Student presentations were recorded. The recording was reviewed and critiqued by the students against a negotiated set of criteria based on engineering professional settings (Swales, 1988). This approach, which allowed students to identify fundamental communication errors (which were all present!), permanently changed their attitude toward this topic:

> From our last workshop I have learnt some important key points about presentation such as structure …I didn't know about this. … It's important and new learning for me (Katijar, Reflective Blog, 2007).

Students were also given the opportunity to rehearse final presentations. At the end of the study period it was evident they had adopted new communicative practices as well as the capacity to provide critical and constructive peer feedback.

Within the workplace, students were highly engaged and made the most of their opportunity to gain insight into the Australian workplace environment. Their journal entries revealed learning about ethics, quality control and even their own roles as a consultant and a professional.

.. the workshop by consultants .. really wonderful … know their concepts and importance. …. After completion of my course, … I will directly go to consultant and register (Jha, Reflective Blog, 2007).

Give your 100 % to work … it will help build your credentials and reliability with the employer. … I saw in this industry that many engineers are punctual and sincere about their work. They are really professional (Katijar, Reflective Blog, 2007).

A standard course experience survey was administered. A mean score of 83.5 was returned (range -100 to +100) indicating general satisfaction with the course.

Representatives from the industries were interviewed following the student's final presentations. Although generally satisfied, one representative expressed frustration as they perceived the assessment requirements of the course were not aligned with the more practical requirements of industry. The strong linkage between learning and industry placements and the journal writing also raised concern about potential risk to the company's intellectual property. One student deleted their journal upon request of their industry supervisor.

The ultimate measure of success is employment outcomes. Unfortunately, students are still studying and thus are not able to apply for permanent residency or employment. Post course interviews with students in April and June 2008 indicated frustration with this delay yet overall optimism in their ability to secure work in Australia as an engineer.

DISCUSSION

Engineering graduates are in short supply. To fill the gap, international students have been accepted into postgraduate engineering programs at the University of South Australia. These overseas-qualified engineers were at IELTS level 6.5 and thus thought not capable of picking up the nuances of what is written or said when acting as professionals (Birrell, 2006). A large study indicated new international students had little knowledge of Australian colloquialisms (80%) or culture (71%) and desired development in cultural awareness and colloquialisms (Cambridge International College, 2007). The aim of the pilot course at UniSA was to experiment with new approaches to embedding opportunities for international students to develop communication and cultural awareness in parallel with workplace learning. The new approaches included practice, pedagogical and partnership dimensions.

In the practice dimension, we required our international students to undertake industry-based projects. The SME engineering companies approached in Adelaide expressed reservation in supervising students as they had tight operating margins, with precious and sometimes fickle client relationships. Our experience mirrored that of the Ethic Communities Council of Victoria who reported that employers find accommodating culturally and linguistically diverse staff in their workplaces difficult (ECCV 2008). Two large manufacturing industries that had links with the School's Advisory Board, were collectively able to sponsor 5 projects. It is envisaged that there will be continuing problems placing students as Australia has a shrinking manufacturing sector. Since completing this pilot, one of these two large companies that hosted our students has ceased operating in Adelaide.

The pedagogical approach used in this pilot course aimed to support the development of culturally-relevant communication skills. The ability to communicate, that is effectively interact 'with a variety of individuals and groups to facilitate the gathering, integrating, and conveying of information in many forms' (Evers, Rush & Berdrow 1998, p. 78), is one of the most widely recognised employability skills (National Association of Colleges and Employers, 2008). Yet the discourse requirements of particular professions assume an understanding of shared vocabulary and forms of communicating, as well as shared cultural concepts (Swales, 1988). International students who are confident of both their English language skills and their professional competence can be unaware of the significance of inter-cultural differences. They need opportunities to assimilate unfamiliar aspects of the workplace as well as refine their communication skills. Practice-focussed workshops, online collaboration incorporating reflective practice and critique were used to support the development of a community of practice (Wenger, 1998). This provided ample opportunities for formative feedback from teachers, supervisors and peers.

Students used a variety of media to articulate their learning thereby enhancing their learning outcomes (Ramsden, 1992). Assessment criteria for oral and written presentations and interpersonal relations with team members were included to improve communication skills (Evers *et al*., 1998). Based on participation rates and student feedback through anonymous survey and interview, the result was an engaged community of learners that were successful and satisfied with their learning experience and outcomes.

Although social software greatly assisted the engagement and building of this community of learners, it did raise questions about potential inadvertent threats to the intellectual property of competitive industries. Students were required to write regularly about their learning experiences in a self-created online journal. Although their reflections were often based within the industry setting, the requirement was to focus on their learning. Establishing access rights to this information was the responsibility of the student and a specific resource was provided to explain the impact of security settings on their journals. For one employer this arrangement was judged too risky and the student was required to delete their online journal near the end of the project. More support for students to understand intellectual property within Australian industry settings is required.

There were several active partnerships as part of this course. The partnership with the LTU and the School was a collaborative and productive one with LTU staff assisting in curriculum design, preparation, delivery and assessment. The LTU contribution was intended to be a capacity-building one, with the academic component being transferred to academics within the school. There was evidence of misalignment in the partnership between the employers and the School. In particular, the report format required for academic success was not directly suitable for use in the workplace and the online collaboration dimension was a perceived threat to intellectual property. Closer negotiation of desired outcomes for both school and industry are required to ensure win-win partnerships are orchestrated. Weiguo *et al*. (2006) argue that it is only by involving industry more in the selection and determination of the educational outcomes that sustainable work-integrated learning opportunities are possible.

CONCLUSION

New approaches to teaching and learning involving practice-based learning with work placements can be difficult to establish and maintain. Practice, pedagogy and partnerships need to be optimised to produce sustainable courses. Utilising a pilot course allowed the testing of a novel curriculum to support international students gain key skills to allow their transition into the Australian workplace. Finding, negotiating and actively managing partnerships with the University and industry are paramount concerns in a shrinking manufacturing sector. This pilot course indicated that further work on developing awareness of intellectual property was required for this course.

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The future of work integrated learning in South Africa

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Thirty percent of the curriculum for the National Diploma qualification in South Africa consists of work integrated learning. This component translates to about 120 credits and has provided students with a valuable learning experience. Employers have been satisfied with these graduates because they demonstrate basic work ethic, have technical report-writing and project skills and can perform basic engineering tasks in related industries. South African National Diploma students obtain hands-on knowledge and are more employable. However, there has always been a bottleneck for National Diploma graduates because of limited placement opportunities that are available through industry. At times, 30% of students are not able to graduate because of the unavailability of experiential learning placements. The recent Program Qualification Mix recommended by the Department of Education has reduced the minimum period of work-integrated learning to 60 credits. This is easier to manage on an institutional level but might be less attractive to industry.

This paper recommends an innovative scheme of collaboration between industry and academic institutions, for the training of future technicians. It recommends special programs prepared by major industries in collaboration with institutions of higher learning and approved by the Department of Education. These programs are tailored toward specific industries and can be funded both by the industry and the government, in order to address skill shortages in the country. Under such a scheme, students would commit to a particular industry for a minimum period of employment after their graduation.

This paper is based on the present collaboration between Pulp and Paper industry and UNISA (University of South Africa), in South Africa, which serves to reduce the skills shortage created in the country by factors such as economic growth and migration of the skilled workforce.

Keywords: Work Integrated Learning, National Diploma curriculum, skill shortage, Pulp and Paper Industry

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INTRODUCTION

Work Integrated Learning is a powerful method of learning and it is a proven fact that students learn best when they receive education complemented by experiments or hands-on training (Kunmar and Hsiao, 2007). Work-Integrated Learning (WIL) in this paper refers to the practical component of co-operative education conducted through a suitable and approved employer. This training provides the student with an opportunity to apply his technical knowledge to relevant problem situations in industry. It is understood that the best way to learn and to comprehend engineering theory is to determine whether one can apply the theory to solving engineering problems (Fleming, 2001). By complementing and enhancing traditional coursework and laboratory work, students are better prepared to enter their profession upon graduation (Canale and Duwart 1999).

This training also allows the student to gain exposure to aspects of typical organisational culture, human relations and working conditions. This further develops the student's confidence and soft skills.

There are three partners in developing and introducing effective education and training programs and in adapting to technological advancements within a short period of time. These partners are the learner; his employer; and the university. These partners cooperate as equal partners by acknowledging certain responsibilities. The effectiveness of the training depends on the role and responsibilities of the academic supervisors and the mentors from industry. Guidance to students has to be regular and constant and both mentors and supervisors need to have the necessary knowledge and the experience required to give appropriate guidance (Liodakis, 2006).

The role of universities is to provide learners with the necessary theoretical skills and technical knowledge to solve problems in industry and commerce. With suitable guidance and supervision, the learner will be taught to work independently and to develop an awareness of the ethics and requirements of industry. The learner commits himself to share in the partnership by making full use of opportunities to develop himself as a responsible citizen of the country through contributing to the well-being of society.

Work Integrated Learning provides a valuable context for learning. From their first work placement, students engage in a different form of learning, one that is informed by their understanding of the workplace and of their role therein. They appreciate the critical importance of generic skills such as teamwork and communication, which they may have previously perceived as being peripheral or "soft" (Jancauskas et al., 1999). By having to expand their skills set and knowledge base to complete work tasks, they develop the skills and attitudes for lifelong learning. Through constant application, students develop an understanding and mastery of previously abstract theory. They are also exposed to a different culture – one that is driven by outcomes, tight timelines and commercial interests.

SOUTH AFRICAN CONTEXT

The National Diploma program in South Africa has 360 credit hours and consists of three years of study. Two years of the program are theoretical and one year is dedicated to Work Integrated Learning. This year is industry-based and has a specific curriculum and program for each discipline. Accreditation of the WIL program by the Engineering Council of South Africa (ECSA) is rigorous. Each student must have a mentor in the industry. This mentor must be a Professional Engineer or a Professional Technologist, or at the very least a registerable candidate with ECSA. The student must also have a supervisor that provides guidance to them, visits them in their workplace, and evaluates their work. This is a thorough process and has the potential to provide a useful and practical learning experience for students.

One aspect of Work-Integrated Learning is the practice of fundamentals in a working environment. Another aspect of the learning experience is 'projects and design'. In these projects, the student identifies a problematic area in the industry, uses knowledge of the fundamentals to find a solution, and recommends it to the industry. These students are working in industrial environments and therefore gain a great deal of insight into their field of study.

In one of the recent joint meetings between industry, higher education institutions and ECSA in South Africa, many industries showed interest in Work Integrated Learning and emphasised the effect of this component on the employability of the graduate. However, it is becoming increasingly difficult for institutions of learning to offer this component of learning because of the difficulty in finding placements for students.

In the past, students were responsible for finding placements in industry for the WIL component, while universities would encourage the industries to visit their institutions and interview students for this purpose. However this practice has changed. The Council for Higher Education (CHE) states in its 2007 publication that "Work Based [or integrated] learning forms an essential part of many professional and vocational programmes". The Higher Education Qualification framework (Department of Education, 2007) further states that it is the responsibility of institutions offering programs of Work Integrated Learning to place students in industry and provide opportunities for them. This has increased pressure on universities to find placements for all of their students.

It is common knowledge that the number of applicants for Work Integrated Learning in South Africa far exceeds the number of placement opportunities. It is also commonly known that there is a real skills shortage in the country, given the current rate of economic growth and migration of skilled workers.

CASE STUDY

Work Integrated Learning represents a significant component of the National Diploma Program in the South African universities of technology. It is apparent that for this component of learning to survive the tide of change, there will need to be an innovative relationship and cooperation between government, industry and institutions of higher learning.

One of the shining examples of this relationship is the contract between the Pulp and Paper manufacturing industry in South Africa (PAMSA) and UNISA, an open distance institution of higher learning.

The government, through its Department of Trade and Industry, has provided a National Skills Fund (NSF) for training initiatives in industries in order to address the skills shortage. PAMSA has made use of this government initiative to train a new, young workforce for their industry. They approached UNISA to develop a program for the training of their operators and technicians. Together, UNISA and PAMSA produced a comprehensive program for this training in the Pulp and Paper industry, which is now being offered at UNISA as a National Certificate and Diploma. This program has been registered with the Department of Education, with a pledge for funding from the government.

The National Diploma is a three-year program, consisting of two years of theoretical studies and one year of Work Integrated Learning. The learners are placed in Pulp and Paper mills across the country for their experiential learning work. This program is also offered to staff employed in the industry, for their further development.

PAMSA identifies upcoming vacancies for the next few years and advertises their needs and training programs locally and nationally. They accept candidates that have the minimum necessary requirements for registration at UNISA. PAMSA interviews and tests all candidates and then shortlists the required number. Each candidate signs a contract with PAMSA to work for them after the completion of their studies in return for funding for their studies and a daily subsistence allowance from PAMSA. These candidates also register at UNISA. They are full-time students during their first year of study and usually part-time students from their second year, working part-time in the industry.

While placement opportunities in other fields range from 50 to 80%, the Pulp and Paper industry has a consistent 100% placement of all co-operative education students between 2007 and 2008.

This placement program is only available to South African students. UNISA has not been able to extend this program to its non-South African students, due to insufficient placement opportunities in other countries and lack of such co-operation with industry.

DISCUSSION

Work Integrated Learning – an important component of the National Diploma program – sometimes generates a bottleneck for graduation, for the following reasons:

1. unavailability of industrial placements for all students;
2. expenses involved in identifying placements;
3. expenses involved in running the program; and
4. lack of government subsidy for the program, as it is not considered a theoretical subject.

The abovementioned study provides industry and institutions of higher learning with an example of a strategy that they may wish to replicate.

This strategy provides institutions of higher learning with the minimum number of students required for each of these programs and immediately provides placements for the Work Integrated Learning component. It provides the specific industry with a trained and skilled workforce that has a theoretical background as well as work experience in the field. The government can address the shortage of skilled workers through this strategy and students both benefit from their training and earn a monthly salary. All four participants in this process stand to benefit from the initiative.

CONCLUSION AND RECOMMENDATIONS

It is becoming clear that for Work Integrated Learning to survive the tide of change, there has to be an innovative relationship and cooperation between government, industry and institutions of higher learning in South Africa.

The above case study demonstrates how the three participants in this scheme can cooperate and benefit through such a strategy of collaboration. Government can address the skills shortage that is hampering the progress of industry; institutions of higher learning can solve the shortage of placement needs; and industry can benefit by acquiring a trained workforce that is familiar with their industry. This form of cooperation can be used as a pilot project in South Africa and beyond. Other industries can initiate similar partnerships with a few institutions of higher learning for the training of their operators and technicians.

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Show Me the Way: teaching design research integrated with professional practice

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This paper introduces the use of work integrated learning (WIL) for the teaching of design research, where students contribute findings and visual outcomes for a professional design project. As researchers, students work in collaboration with a graphic design agency, and a not-for-profit Indigenous media client/audience.

This approach to teaching design research methods is based on an understanding the inherently collaborative nature of design practice. This is a new direction for teaching design research, where the research activity around the given project brief provides a rich interface for learning linked to practice.

This participatory WIL context offers an opportunity to explore collective conversations about 'real' world problems in the context of learning both *for*, and *through* the design research being developed through teaching and learning. This is a collaboration which recognises contributions being made by all involved - the professional designers, the client, the audience, the academic teaching staff and the student researchers, in a co-design collaborative context.

Keywords: design research, professional practice, the design brief, collaborative learning, teaching and learning strategies

INTRODUCTION

Design teaching at university level traditionally offers students a range of ways to engage with work learning contexts. These professional design contexts often cast the designer in the role of creative services provider - as the creative agent with the skills to generate objectives for the commercial client context. This approach reflects a hierarchical relationship of design as service provision, which has historically dominated the design profession for the past few decades.

This situation is now changing, with design currently experiencing significant shifts in the focus of practice towards a more collaborative model, where the designer can work in new ways - as a researcher, and also as a facilitator of the process. This new collaborative context reflects a trend away from the continued (over) supply and consumption of objects and artefacts, to new considerations about designing for and about human emotions, purposes and experiences - where designers work much more closely with everyone involved in a more participatory way.

There are two main aspects to this shift - firstly, the change in what is being produced - from objects to experiences; and secondly, a recognition of the ways design can inform and contribute to the research process (Laurel, 2003). This emerging context opens up new ways to explore WIL environments - in this case, as research learning through participatory designing. For design education, this offers scope to explore real-world problem solving, through 'ill-structured' problems, which are particular to designing. These involve students working with complex knowledge situations, which are often also speculative and very unclear.

Cross comments on the importance of exploring these ill-structured problems in design education. He discusses this in the context of discussing 'designerly' ways of knowing about these situations from the 'real' world:

> We can indeed begin to identify features that can be justified in education as having intrinsic value. Firstly, we can say that design develops student's abilities in tackling a particular kind of problem. This kind of problem is characterised as ill-defined, or ill-structured, and is quite distinct from the kinds of well-structured problems that lie in the educational domains of the sciences and humanities. We might even claim that our design problems are more 'real' than theirs, in that they are like the problems or issues or decisions that people are more usually faced with in everyday life. (Cross, 2006: 10)

In participating in an exploration of 'ill-defined' problem-solving through research learning, students have the opportunity to engage with real-world situations, and with different roles within a team, or as an individual. This collaborative dialogue is one which is increasingly significant for design activity, building student's expertise in collaborative work. This can be described as a shift towards collaboration, and skill sharing, around design as a social, cultural practice.

A DISCIPLINARY SHIFT TOWARDS 'CO-DESIGN'

This shift towards the design of experiences and sustainable services signals a greater emphasis on customised and niche audiences - a design for a specific purpose, linked to a greater awareness of cultural and social contexts. Combined with this shift , the emergence of a culture of 'co-design' (Sanders and Stappers, 2008) signals a greater democratisation of the relationships between clients, audiences and designers, with more dynamic relationships between the various roles involved. As a consequence, the designer's role engages with the client, audience, in a much more dynamic way, and opens up the opportunity to extend the designer's role to meaningfully engage with research activity. For design, what occurs is an engagement through a project context towards what Stolterman terms the *ultimate particular*:

> The ultimate particular is the actual final manifested outcome and as such a result of an intentional design process. A digital artifact or an information system implemented in a specific organization is an ultimate particular. (Stolterman, 2008: 59)

This shift towards a more participatory environment provides new opportunities to integrate WIL with design teaching. By introducing practice-based projects into the teaching of design research, students engage with diverse dimensions of design practice. The learning about designing takes place through understanding the role of

the researchers as an integral part of the co-design team, working with a given 'brief' to generate research materials which have immediate, as well as future benefits for the specific project.

Sanders and Stappers describe this new role for the design researcher as 'facilitator', and comment on the new skills required to be able to draw out and help guide the parallel creative participations of others:

> In the traditional design process, the researcher served as a translator between the 'users' and the designer. In co-designing, the researcher (who may be a designer) takes on the role of a facilitator. When we acknowledge that different levels of creativity exist, it becomes evident that we need to learn how to offer relevant experiences to facilitate people's expressions of creativity at all levels. This means leading, guiding, and providing scaffolds, as well as clean slates to encourage people at all levels of creativity. It is not always the case that we want to push people beyond their level of interest, passion and creativity. Different approaches to inviting and involving future users into the design development process will be needed for the different levels of creativity. (Sanders and Stappers p14)

The role of the researcher in facilitating the creativity of other participants is also a learning activity - as everyone works together in a co-creative context at their own pace. The actual similarities between the activities of research and learning (Brew and Boud, 1995) highlight the value of using research tasks in a teaching project, to offer students a meaningful and rich process of discovery.

> Research and learning share a core of identical activities. The products of research are the private learnings of the researchers and the public communicable knowledge. Learning, too, shares this characteristic: of having, on the one hand, private learning outcomes known only to the learner and, on the other, public communicable knowledge which is usually assessed. (Brew and Boud: 269).

For design practice, having an ability to develop research, which is specific to the project-at-hand, is increasingly a valued professional skill set. What this signifies for design teaching, is the need to encourage and foster students' openness to learning and researching, through engaging with the processes of project development, as collaborative and pragmatic conversations, towards a shared final outcome, which draws upon the expertise of all those involved. The illustration (Fig 1) below shows this shifting role of the design researcher - moving closer towards the other participants, and assuming the roles of researcher, and often, facilitator.

FIGURE 1
Sanders and Stappers (2008:11) The shift in roles from traditional (left) to shared co-designing (right)
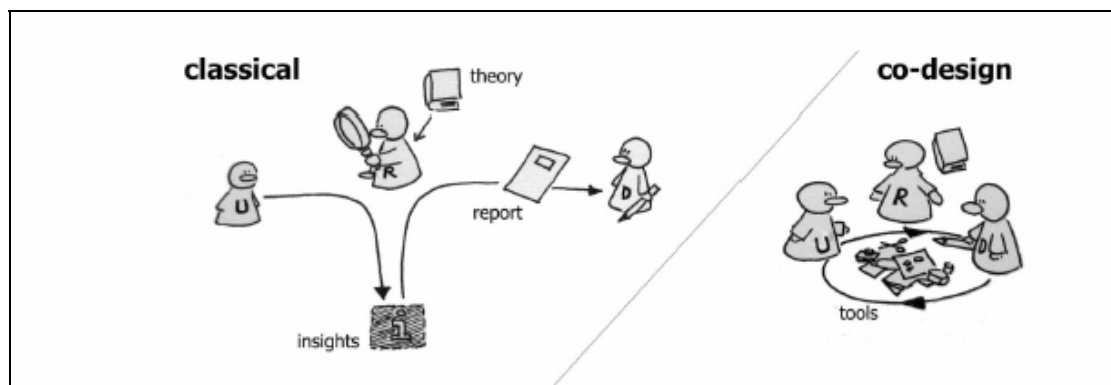
WORK INTEGRATED LEARNING AS RESEARCH

On the basis of this understanding about the creative commonalities between researching and learning, a collaborative project in design research teaching is established. This project involves student researchers working with a community-based client/audience group, and a graphic design agency. The purpose for the research is to develop an initial set of characters, and a home page interface for a web site. These virtual characters will act as mentors and guides for the intended youth audience, thus representing the interests and values of the Indigenous community media group, called *Show Me the Way (SMTW)*. This is a fun positive mentoring environment, where play engages with learning, as ways of finding out about resources and information, hopefully encouraging young Indigenous people to explore and be inspired about future careers which are possible through gaining education and training.

The project 'brief' for the project asks aims to actively and positively encourage Indigenous youth participation in this web site, regardless of personal circumstances and remote geographic location. This is reflected in the following description of the project:

> The *Show Me The Way* project is a cross-media educational package using face to face and phone mentoring, multimedia, teacher / student resources and Aboriginal Education Assistants for content delivery. It has been developed by the *Show Me The Way Association* to assist Indigenous students with their choices to continue and complete secondary and tertiary studies.

> The *Show Me The Way* website is an interactive educational tool for Indigenous students. There will be a number of resources on the website including access to Indigenous role model films illustrating professional working lives, online mentoring and career development advice. The site is interactive and peer support will be embedded into the structure with students communicating to each other via messaging, discussion boards and showing each other uploaded images and videos relating to their experiences. Avatars pop-up over sub pages to suggest directions.

Students will have a personal login and will be encouraged to participate in all activities to gather reward points in order to earn educational prizes such as MP3 players, cameras and laptop computers. No matter how remote, students will be able to access the program. *(Project briefing notes)*

As students build their research about the brief, they also engage with research through the actual design process taking place. This is a complex and speculative set of processes, which engage with the 'real' world scenario of the project. This is a learning cycle where both private learning outcomes and public communicable knowledge (Brew and Boud) is developed. This takes place as a cycle of initial framing, scoping, analysis of findings, initial decisions and directions, then projection of the final outcome. Edelson described this design cycle as three linked activities which are interdependent, and which involve the designer learning and gaining new understandings as the process cycle unfolds:

> Design is a sequence of decisions made to balance goals and constraints. In the course of any design, the design team makes three sets of decisions that determine the results of the process. These are decisions about (a) how the design process will proceed, (b) what needs and opportunities the design will address, and (c) what form the resulting design will take. In the case of routine design, these decisions are straightforward, requiring little or no meaningful learning by the designers. On the other hand, in challenging or innovative design, these decisions can be complex, and as Schon pointed out, interdependent, requiring extensive investigation, experimentation, and iterative refinement on the part of the designers. In these cases, the designers inevitably acquire substantial new understanding. (Edelson, 2002: 108)

THE DESIGN RESEARCH OBJECTIVES

The SMTW teaching project introduces a series of research resources and methods, which are aimed to work together, building a rich learning framework for students to explore the project. The brief asks for a series of characters, as animated characters who will be mentors for the audience, establishing a personal and ambient rapport, encouraging interaction, and engagement. These characters are the main navigation interface, introducing layers of the site, and information topics and themes. The navigation becomes about learning as a guided series of possible journeys in different kinds of life skills, thus reinforcing the notion of collective mentoring.

Initial meetings with the designers and the client (who provide links with the Indigenous youth audiences) provide feedback about these character profiles to be researched by the student designers. These characters provide a personalised interface for the site, around which participants can identify. These initial characters include a caricature of one of the key people in the SMTW organization, alongside fictional personas for a 'media dude, college kid, and bouncer'.

The student researchers are asked to design a series of short graphic animations for each character, which will be used in different sections of the web site. Their design success involves a strong personal identity and persona, which engages with the youth participants in a human and experiential way. This requires research into character and persona animation designs, for web interfaces. It involves thinking through

different situations that each of these characters would encounter from life, and suggesting voice-over comments linked to these actions. These need to be consistent with the persona and guiding roles for each of the characters.

DESIGN METHODOLOGY

The underlying framework for the project is based an understanding of the project as a mentoring context for Indigenous youth culture, which seeks to encouraging creative participation. On this basis, it is an interactive communication environment, which has a clear structure, which aims to encourage and engage with the audience as their own social and cultural space. As part of this design objective, individual participants will be able to build their own social network profile, as they work through quizzes and tasks, accumulating 'way points' similar to 'frequent flyer' points. Over time, the site will generate new characters, and additional resources about career options.

These site design considerations are being addressed by the professional design team and the client/audience group. What is asked of the student researchers is to explore in depth the design of key deliverables for the site development. Figure 2 below from the brief shows these as specific features, which need to be considered for the site design.

FIGURE 2
SMTW Project brief - the key deliverables

PROJECT TITLE:

Indigenous Character Development
Show Me The Way – Website development

OVERVIEW

Show Me The Way and Boccalatte wish to develop a series of characters to guide visitors through the SMTW website and become role models who will guide students that visit the site through it in order to make best advantage of the sites beneficial and educational tools and introduce them to the sites features.

DELIVERABLES

1. Produce a series of 5 animated characters and associated environments
2. Each character will gain its personality through 2 or 3 'quirks'
3. Quirks may be, for example, toe tapping, changing weight from one leg to another, folding arms, hands in pockets etc.
4. Characters are not required to walk/move other than their 'quirks'
5. Each character will also require a set of speech bubbles (text to be supplied)
6. Produce a home page image of a community hall or centre (town hall type building)
7. Create top navigation menu (text to be supplied)

These specified deliverable outcomes range across the scope of the web media environment - from home page, to character quirks, layout, and visual interface design aspects. The specific characters are planned to play a guiding role in the relationship which is developed with participants. These are required for specific parts of the web site design, as short animated character designs which fit within the overall system of interactions.

The student researchers receive feedback on their developing interface and character designs from the academic teaching staff, the professional design team, and the client/audience. This is a significant part of the collaborative work learning process, as a shared space for conversations about the project. These take place in a professional work setting, through emails and formal work-in-progress meetings. Their design concepts and sketches emerge through the use of specific methods for building narrative situations based on real life characters, mood boarding, and role playing scenarios.

Initially, the group of student researchers research the theoretical context for interface design, and for the design of fictional narrative characters within web environments. This includes general research into web contexts which show user-friendly pathways, and character-based situations for interaction designing.

The next stage involves exploring situations from student's own life experiences - identifying individuals who are perceived as 'mentors'. These individuals provide a nexus into formulating short stories to reflect mentoring personalities- for example, modelling the 'college kid' character, and his/her attitudes, hopes and fears about going into tertiary education, reflected as incidents and personality quirks. Other mentor characters will be adapted around family and community members, reflecting traits for characters as mentors for young people. This takes place as interviews, and as observational research about human characters and the nature of mentors as social and community oriented leaders with strong personal social values.

Each character is then developed around a particular fictional persona which is presented and refined through the use of 'mood boards', which begin to bring together a range of visual elements about each character. These mood boards are useful practical aids in meetings with the design team and the client/audience.

This research takes place in small teams, with individual roles assigned and regular reporting on the development towards a final presentation. This is given to the design team and the client/audience group, who provide feedback to the student teams on the characters as they develop. Once their work is finally resolved, it is intended to be produced by the design team into the web site. Students then have the opportunity to engage with the designers as their character designs are brought into (virtual) life.

The research learning outcomes are assessed on the basis of specific criteria reflecting the design brief, as well as learning interactions with the design team and the client. There are three assessment tasks, which cover both individual and team-based activities. Firstly, individual research skills exercises in the evaluation of an existing participatory web site; and conducting an interview with a perceived 'mentor' - a friend or family member, around key events or life stories which reflect a mentoring style.

Secondly, a team-based set of research activities which include the design of mood boards, and collecting visual media materials as background research for each of the specific mentor characters. These are presented as a portfolio showing development from initial character sketches, through to storyboards for action sequences, and final short animation sequences. Individual students also complete an evaluation form

about their collaborative team process. This provides an opportunity to reflect on the team dynamics, their own role, and the key aspects of their learning in this professional context as design researchers.

This approach to teaching design research, integrated with a 'real' world situation, provides a way to engage with a diversity of understandings about design practice. These are developed through the research to generate knowledge for the brief - research *for* the design context/problem - the use of the methods to build the deliverable outcomes; and as research *through* the actual process of the design project cycle, as a co-design collaboration with client/audience and design agency. As Edelson comments, this involves both explicit and tacit forms of knowledge and knowing, which are employed across the project cycle. As Edelson comments, these are used pragmatically, as required by the particular circumstances which develop across the process. As a research activity, the findings are subject to critical review, with a wide range of possible options being explored and considered.

> Although the design process in design research is often guided by incomplete theories, that does not mean that the researchers resort to making things up as they go. Rather, effective researchers draw whenever possible on available theories and empirical results, are deliberate when they diverge from their guidance, and are aware when they are resorting to intuition or informal knowledge. In addition, their work is guided by an informed understanding of the gaps in current understanding in order to focus their effort in areas that will make a useful contribution to understanding. Being research driven enables a design research program to maximize the utility of its findings. (Edelson, 2002: 116)

CONCLUSION

This project provides a powerful opportunity to involve student researchers in collaborative work-based learning, around the integration of design thinking with process and practice. Student learning about design research takes place as a result of a design process, which occurs as a real-world professional experience, not just as a simulation of work place activity, but as a real-world opportunity to have their work considered for publication in the web project.

The opportunity to provide this kind of learning context for design research students is not always possible, as it is dependent upon the availability of a suitable project, with an interested design team sharing expertise, working alongside a client/audience partner. As a result of evaluating the teaching and learning in this particular project, it is hoped that future work-learning opportunities for design research students may emerge through a continued involvement with both these partners. This may involve an evaluation of the ways in which we worked together in this initial project, and in evaluating the web site and its success in assisting the organization build effective mentoring for their Indigenous audiences. This learning has been made possible by building a positive relationship with a work learning partner around a shared commitment to educational training and information sharing.

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Community based problems in 2ⁿᵈ year electrical engineering courses

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Victoria University (VU) in Melbourne, Australia is reviewing its undergraduate programs to ensure that, in addition to the expected technical expertise, its graduates are equipped with the broader teamwork and social skills required by employers and the community. As part of this initiative the undergraduate engineering programs at VU adopted Problem Based Learning (PBL) for first year students in 2006, with an annual phased roll out of PBL into the later years of each program.

Problems are the very heart of the PBL paradigm. In first year the problems are constrained because they are designed mainly to allow the students to learn the processes involved in PBL, and not just produce a product. In second year the problems are used to introduce the students to fundamental project management, client negotiating, specification writing and also to produce a product in the form of a deliverable to the community based client. Our clients/partners work with us to ensure that the primary goal of achieving the various learning outcomes for the students is satisfied, as is the secondary goal of creating a product for them.

This practise-based paper gives a summary of the interactions between the students and their (very benevolent) clients. The friendly, collaborative nature of the student (contractor) and community group (client) interactions resulted in quality outcomes which far outstripped our expectations. News of the success achieved has begun to spread and not only have all our clients from 2007 asked to be involved again, we have had expressions of interest from other groups.

Keywords: Learning in the Workplace and Community (LiWC), Problem Based Learning, University and Community Organisation Partnerships,Work Integrated Learning.

INTRODUCTION

In mid-2005 VU committed itself to convert all of its undergraduate engineering programs to Problem Based Learning (PBL). The Vice Chancellor employed a consultant, Professor Peter Parr, to determine the viability of the concept with expectation that PBL would be used to deliver the first year of these programs commencing in 2006, with an annual phased roll out of PBL into the later years of each program.This conversion to PBL was part of a strategy by the University to address declining enrolment numbers in engineering programs, and to meet requests from industry that universities should improve the personal and professional skills of their graduates.One of the conclusions from a recent report on the views of final year engineering students highlighted "the mismatch between what they learn in university and what happens in the workplace"[DEEWR, 2008]. The conversion to a PBL

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pedagogy at VU has enabled the programs to simultaneously address the demands of external stakeholders and to compensate for the problems encountered by the traditional programs ensuing from the standards of prior education of students entering these programs.

WHY PBL?

Professor Parr's main finding with respect to the reason for change [Parr, 2005], and why we should introduce PBL was

> "Introduction of PBL will require substantial effort and commitment, and offers major benefits in return. These include helping VU graduates attain a demonstrably higher level of capability, halving attrition rates, and raising the University's profile in engineering education. PBL provides the means to:
>
> a. address more explicitly the essential attributes needed by engineering graduates in professional practice;
> b. enhance pedagogical effectiveness;
> c. tackle at the outset the learning difficulties faced by many commencing students."

In summary there were political, practical, social, industrial/employment related and many other reasons as well as the pedagogically sound reason that PBL would best suit our particularly diverse student cohort.

PHASED ROLL-OUT AND PROBLEMS

It was a necessity to run both the traditionally taught courses and the PBL mode courses at the same time. The traditional courses had to be continued, as all students already enrolled had to be given the opportunity to complete the course in which they had enrolled. New first year students were enrolled into the new PBL based course. The transition from the old course to the new will take 4 years as shown in Figure 1.

FIGURE 1
The four-year phased implementation plan for the new PBL courses

Year 4	Old	Old	Old	New
Year 3	Old	Old	New	New
Year2	Old	New	New	New
Year1	New	New	New	New
	2006	2007	2008	2009

Throughout a PBL based course, the students must not only learn the technical material in order to be able to create or build a 'product', they must also learn the learning skills appropriate for their PBL course and the generic skills appropriate to professional practice, the 'process'. This concept is illustrated in Figure 2, which is adapted from [Moesby, 2005] with the author's permission.

Our problems follow the gradual opening of student awareness and industrial interaction. The early semesters' problems are conducted entirely in house with reference and relevance to industry. The middle semesters' problems are conducted

largely in house and involve direct interaction with industry. The later semesters' problems may be taken largely, or entirely, on secondment to industry. We will only describe the first 2 years in this paper.

FIGURE 2
The "Balanced" Development of Product and Process Skills
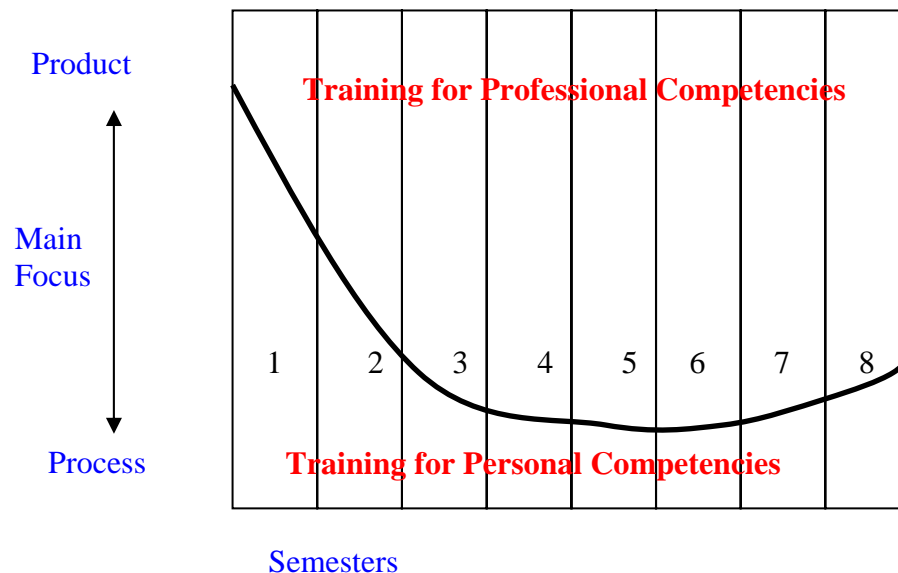
FIRST YEAR PROBLEMS

The first year problems had to be contrived to ensure that the students were guaranteed to experience the "process", (as shown in Figure 2, to encounter, solve and practice the type of generic skills most often requested of graduates by industry [BCA, 2006]) in their progression towards a technical "product". To make the transition between process and product as seamless as possible, one of the supervisors was asked to start from scratch as if he was a first year and "solve" each first semester problem whilst documenting the fine detail of what skills, theory and support material would be required on a daily basis assuming that each problem would be completed in the allocated time. From his report we adjusted the timing and rate of delivery of much of the material in the scaffolding subjects which supported the practical units. The objective was to ensure that the students always worked with a challenge (so as to avoid boredom) of needing to learn new material, but that the material content required was neither too great or too distant so that the students became over-anxious or lost and "froze".

SECOND YEAR PROBLEMS – "IN HOUSE AND COMMUNITY BASED"

Having established a firm foundation of "process" skills through the problems in first year, the second year problems allowed the students to focus more on the creation of a "product", see Figure 2. The first problem the students had in their second year involved removing the "intelligent" part of the robot, which the students had constructed in first year, and replacing it with a PIC micro-controller which they

would have to program to make the robot perform different functions. There was a competition between teams to determine the best leader-follower combination, and all robot pairs had to be manoeuvred through a maze. The competitive edge made this a great success.

Second semester of second year was the first time we had involved our students directly with "industry and/or community". The primary learning objectives were to develop the students':- inter-personal, project management, fundamental business, negotiation and specification writing skills whilst working on interesting, "community based" problems with kindly, benevolent clients who appreciated that the major outcome was to be student learning rather than, necessarily, a finished product for them. As part of the problem, both the students and the clients had to sign a "Learning in the Workplace (LiW) Agreement" which sets out the terms and conditions of the interactions between the students and the host organisation.

THE ACTUAL PROBLEMS AND STUDENT RESPONSES

In mid 2007 we advertised for expressions of interest amongst local community groups and industry for involvement in these problems. Braybrook Community Centre Tool Library was one of the local community groups to respond. After the first introductions, which involved the supervisors, the students did all the negotiating with the clients. By week 3 the students had to produce a technical specification which had to be signed-off by the clients by week 4. Week 4 was also the deadline for the project/resource/costing plan. We organised "workshops" on these topics to support the students in these goals.

The following quotation from one team's report was produced after negotiations with the client and clearly shows that the students had understood the problem and then produced the appropriate specifications etc.

> "The client team A1 is working for is the Braybrook Community Centre's tool library department, the tool library itself is in an average sized room within the community centre. The tool library is a small business run by volunteersin which the community has the opportunity to rent power, garden and handheld tools for 3 days cheaply instead of buying them. At the moment the clients keep records of tools on paper and in filing cabinets. They wish to modernisetheir system to a more efficient one using computer.
>
> The Aim of the Tool library project is the development of user friendly tool library software to replace the old record keeping system, the new software is to be capable of storing an ever growing client and tool database, alerting the user of late tools, keeping track of tools and client history and using hardware. The hardware that the system will be using is a barcode scanner to read and enter the information in to the tool library software quickly and a printer which will print a receipt automatically when a tool has been borrowed from the library.

This report will include an outline in the team's research and development for the Tool Library up to the current date including:

- Operational Specifications
- Technical Specifications
- Alternative Solutions
    o Access Solution
    o C++ solution
- Deliverables
    o Software for the chosen solution
    o Oral presentation to Clients
    o User Guide/Manual
- Conclusion"

LEARNING OUTCOMES AND ASSESSMENT

The assessment in the subject was tailored to meet Engineers Australia Stage 1 Competency Standard for Professional Engineers [EA, 2006]. There are three units in Engineer Australia professional engineer stage 1 competency. These units are: PE1 knowledge base, PE2 engineering ability, and PE3 professional attributes.Rubrics were designed to provide more direction for students and better alignment between the learning outcomes and the assessment, and could be used as a tool to guide students to ensure their portfolio justified their claims to Stage 1 competency. [Shi, 2007]

In addition to the work components noted in the quote above, the students had to present one more oral presentation and had several reflective articles to write to consolidate their construction of knowledge and develop/enhance skills for lifelong learning.The following quote from the conclusions of a student's final assessment portfolio clearly shows the merit of this real life problem approach with respect to creating interest in the students.

"The Problem Based Learning project for Semester Two, Second Year Electrical engineering has been exceptional. Definitely the best so far, because it showed us a whole new aspect that we had not met before: the facts of working with real life clients with real needs. This is the best experience that I have had in my university career so far, because I had the chance to actually help a person and work for them with my engineering abilities."

The following quote from the introduction of another student's final portfolio shows a clear understanding of the development of an awareness of the role of the engineer in society.

"Engineering is a fundamental part of society today. Understanding the roles and expectations of an engineer is quintessential to become an engineer. Through this semester I have learnt what it means to be an engineer and learnt skills involved in the engineering profession ... In previous semesters the university has presented us problems devised and created by members of the faculty. This semester was different as each group was presented a problem faced by external members of the community. The task set to our group was to devise a computerised inventory system for Braybrook Community Centre ... *This task offered us a chance at learning how problems are tackled in the workplace*."

This quote from the introduction of yet another student's final portfolio was used to support PE 3.6,a "Capacity for Lifelong Learning and Professional Development" and shows the benefit of assessment alignment

> "Being able to learn and develop as a professional for the period of time you wish to be an engineer is extremely necessary to become a better one. Throughout my life before I joined this course, I had to do the research I was told to do. But upon entering this course, I began having to find out what I needed to research in order to complete a set task. This semester I learned a new skill that is, dealing with real world clients. I learned that you have to be a lot more professional when dealing with your supervisors and colleagues, also I learned that it is imperative that you make sure you keep to the timeline given to you otherwise you could cause the clients to be unhappy."

CONCLUSIONS

In this paper we have detailed one of a series of student projects undertaken in semester 2 of 2007 with local industry or community groups as the client. All of the clients have signed-up again for this year and the word is spreading, so that others are asking to join the program. Not only were the 2007 cohort of clients and students excited by the concept and great practical outcomes of this innovative approach to creating realism for students, word has also begun to be spread into other areas of the local community.

These Community Based projects provided students with the opportunity to apply theory to real world practice. Despite the fact that the majority of the work was conducted at VU, the projects are non-the less real world, and fully deserving of their place in the VU "Learning in the Workplace and Community" (LiWC) initiative. It can be seen from the quotes from student documents that this type of problem has significantly increased student engagement in the process and enhanced their learning experiences.

Not only were the projects a great success as far as the students were concerned, the clients fully appreciated the benefits they had received and welcomed the opportunity to be able to participate in the education of the next generation of engineers. At the end of 2007 the VU Vice Chancellor, Professor Liz Harman, presided over a presentation ceremony for the participating students. Representatives of all the client companies/organisations attended and were also given a guided tour of the student facilities. One client had spoken about additions to the requirements originally suggested for the product which had been delivered to them, and was able to talk to the student team responsible. The students were already working on the enhancement suggestions. The client responded, "It is amazing, they are still working on the project even they are supposed to have finished. I have never seen students so interested and involved, it is a lot different to my time!"

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Linking work and learning: pedagogical implications

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This paper is based on an audit of work integrated learning programmes conducted at Flinders University between January and June 2007 using an on-line questionnaire developed by the University's Flexible Delivery unit. The results of this audit will be presented together with the implications for pedagogy and practice.

Keywords: Audit, Pedagogy, Practice, WIL, Work Integrated Learning

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INTRODUCTION

Flinders University has always recognised practical workplace experience as an important factor in the educational process. The 2007 audit was completed to establish the breadth of workplace activities across the University and to identify areas of concern that could be addressed to maximise the benefits of these activities.

A key question in looking at workplace activities across the University was the extent to which our programmes could be considered simply work experience or work integrated learning. The Department of Education Science and Training (DEST) in its Administrative Information for Higher Education Providers: Student Support, (2006, Chapter 16), describes Work Experience in Industry (WEI) as Units of work consisting wholly of WEI, where the university is not providing direction to a student's learning and performance in regards to work undertaken in an industry placement.

In this report, work that is not WEI, as described by the DEST guidelines, is deemed to be Work Integrated Learning (WIL) if all of the following are performed by University staff or persons engaged by the University:

- − Interaction between the supervisor and the student, which may include site visits; and
- − Organisation of student placements; and
- − Ongoing monitoring of student work and progress; and
- − Assessment of student learning and performance during the placement.

The 2007 audit indicates that most of our current student placement programmes can be categorised under the definitions of the Commonwealth Grant Scheme as WIL. However, there are still several programmes that could be categorised as work experience due to the lack of preparation for students and the lack of supervision during the practical experience. It is these programmes are being closely examined to ensure that they are or can become truly integrated.

We believe that it is not only Government requirements that are important but also the underlying philosophy that good WIL programmes require solid university partnerships with local businesses and communities to provide valuable learning opportunities to advance the notion of work readiness. Such ideas of engagement go far beyond mere outreach activities to the very conduct of university research and teaching.

RESULTS OF THE AUDIT

From a student enrolment of 15,925 in 2006, the 2007 audit identified 5,604 students enrolled in topics requiring practicum, work experience or work integrated learning placements in 960 hospital wards, school classrooms, legal offices, hotels or other agencies, including some 600 work experience placements in association with the WorkReady Internship Programme, the Hong Kong Immersion programme and the INSPIRE Peer Mentoring Programme.

The audit also identified 221 academic staff involved with the coordination, management, supervision and teaching of practicum programmes, more than double the number involved in 1999. This represents 35% of the 634 academic staff employed at Flinders University, who in turn are supported by a further 39 staff with academic status, 73 general administration staff and more than 300 part time sessional or clinical supervision staff. This group assist with supervision and liaison between the University and agencies that take students for practical experience.

Until the results of the 2007 audit were available there was little understanding of the breadth of work placement programmes and the number of staff involved in their implementation. These results clearly demonstrate that there is significant activity in this area.

ISSUES RAISED DURING THE PRACTICUM AUDIT

In addition to providing a picture of workplace activity currently being delivered across the University, the 2007 audit also identified a number of key issues related to WIL. A major concern was the number of different pedagogical practices being delivered by each programme, particularly in relation to pre-work briefings. The following points were noted:

- Some programmes ran a series of lectures to support students and provide information to assist them once in a placement;
- A few programmes ran a one-off briefing session; and
- Several programmes did not provide briefings or information for students prior to them undertaking a work placement.

It was also noted that whilst the University provides an on-line preparation programme, it was not widely accessed by faculties and therefore needed to be further promoted.

Variance was also evident in the role played by the workplace supervisor. Some programmes required only a supervisory role, in others the provision of one-off or on-going feedback. Some programmes required the workplace supervisor to act as a

mentor, while others required the assessment of the student against a number of criteria. Not all workplace supervisors are required to write a report on each student. In relation to this, the greatest concerns for those who contributed to the audit were:

- The need to provide visible University support for work placements;
- The need to work closely with workplace supervisors to ensure the best experience for students;
- The associated difficulties of getting workplace supervisors together;
- The problem of getting the best feedback for students in relation to skills demonstrated while on the work placement;
- Meeting accommodation costs in rural areas: and
- Managing the placement process for large numbers of students.

The lack of a satisfactory Student Evaluation of Teaching for students to complete at the end of their WIL experience was also identified as an issue for many programmes. It appears that students view WIL as a relevant part of their academic experience and want to be able to evaluate it in the same way as they evaluate the rest of their academic programme. Other concerns related to the need for WIL to be more closely linked with each academic programme. Many staff are attempting to work more closely with workplace partners in the workplace to ensure that there is a nexus between curriculum and the institution and the requirements of the workplace or industry. However, the audit identified that the greatest concern for University-based coordinators was actually finding placements.

The 2007 audit identified a number of issues that need to be addressed. If Flinders University is to deliver a WIL programme that provides a learning experience that is truly integrated, there is a clear need for WIL to be more formally embedded into academic programmes. It is from this that the need for developing a framework for implementation was identified.

DISCUSSION REGARDING THE IMPLICATIONS FOR PEDAGOGY AND PRACTICE

Flinders University acknowledges that intentional, organised and accredited work experience can provide a powerful learning opportunity. Little and ESECT colleagues (2006) argue that the learning derived by a student is the key element of work experience, not necessarily the work experience itself. In other words, integration is the key. Further, they argue that "…if the learning from work experience is planned and intentional from the outset it is easier for students to reflect on it and identify what has been learned" (Little & ESECT colleagues, 2006, p.15). Blackwell, Bowes, Harvey, Hesketh & Knight, (2001) argue that good quality placements, which provide students with the ability to reflect on their learning experience are essential in ensuring a positive outcome. They argue that there are six characteristics of good practice (p.282):

1. Purposefulness;
2. Quality monitoring;
3. Accreditation;
4. Assessments;
5. Work experience portfolio; and
6. Reflection and articulation.

Whilst this represents a general framework, the actual means of delivery can vary according to the nature and purpose of the placement. In analysing the nature and extent of work experience undertaken by UK undergraduates studying on a full-time basis, the Centre for Higher Education Research and Information and the Centre for Research into Quality (2002) consider three indicative models:

- − Organised work experience as part of a programme of study;
- − Organised work experience external to a programme of study; and
- − *Ad hoc* work experience external to a programme of study.

Combined, these models represent a flexible approach to the delivery of WIL that incorporates planned and unplanned, paid and unpaid, full and part time work. In considering these models, Little and ESECT colleagues (2006) argue that none should be regarded as being more appropriate than others, but that "…what matters is the quality of arrangements for stimulating learning" (p.6). Blackwell, Bowes, Harvey, Hesketh & Knight, (2001) state that the "…quality of work experience depends upon its fitness for purpose as an aid to learning" (p.282). We argue that combining these approaches, i.e. adopting a flexible approach to delivery within the context of an overarching policy framework provides the ability to develop and deliver placements that are fit for purpose and maximise student participation, whilst operating within a clear policy context to ensure placements are adequately prepared, supervised and accredited. However, the concept of incorporating ad hoc work experience presents a number of issues. Whilst it has the ability to provide an innovative and flexible approach to providing WIL opportunities for students where placements are difficult to identify, manage or commit to, its ability to meet Commonwealth Grant Scheme eligibility criteria may be prove to be problematic.

Maher and Graves (2007) consider a number of pedagogical case studies to explore the way in which a number of UK universities have embedded employability into hospitality, leisure, sport and tourism. Drawing on research completed by Yorke and Knight in 2006, they consider these case studies within the context of the following models of implementation, in addition to work-based or work-related learning (p5):

- − Embedding employability through the whole curriculum – creating a set of transferable skills or competencies that are integrated throughout an entire programme;
- − Embedding employability in the core curriculum – integrating these skills and competencies within specific, core modules; and
- − Incorporating employability-related modules within the curriculum – developing modules/units that specifically teach employability skills.

These models are particularly interesting in considering how to provide WIL opportunities to all students. The University acknowledges that there is a need to provide a flexible approach in ensuring that all students are given the opportunity to undertake some form of WIL activity, and is exploring the potential to develop a generic topic that teaches soft skills to embed employability within the curriculum. This may take the form of a centrally-administered topic, or require each faculty to develop its own. This will require the development of a set of soft skills, as aspects of employability required of students upon graduating, clearly linked to the Graduate Attributes initiative. This will include skills such as working as part of a team,

developing working relationships, writing emails, letters and reports, identifying workplace expectations, developing leadership and assertiveness skills and developing an understanding of corporate culture.

In order to adequately prepare students for placements, it is essential that university staff are equally prepared to be able to teach the concept of employability and to assess the outcome of WIL activities. Precision Consultancy in their 2007 review of Graduate Employability Skills found that "…a well-conducted WIL programme will involve supervision by the academic and the workplace. WIL is a tri-partite agreement and all parties need a clear understanding of what is to be assessed, by whom, and how" (p.40). The same review also found that workplace supervisors may not have developed the skills to support students and engage with them. These skills are necessary to ensure that students embrace WIL as an opportunity for learning, and discourage students from developing "…a relatively passive approach that is likely to lead to surface, rather than deep, learning" (Yorke & Knight, 2006, p.11). Yorke and Knight also consider the learning requirements of students with lower levels of cultural capital and argue that the development of considerate pedagogies are essential in teaching aspects of employability.

A MODEL FOR IMPLEMENTATION

In drawing from this academic research and the results of the 2007 audit, Flinders University has developed a University-wide model for the implementation of WIL, to coordinate its delivery and to maximise its positive impact. In terms of pedagogy and practice, this approach has been incorporated into a centrally administered 6-step model for implementation across the University, which can be summarised as follows:

1. *Intentional Learning*
   Developing a clear policy framework with recommendations for the practice required by all stakeholders in implementing and accrediting WIL activities.

2. *Flexible Delivery*
   Supporting faculties in identifying and developing fit-for-purpose WIL opportunities (within a policy framework). This includes the potential development of generic units and a central, non-topic forum to match students to placements, linked to graduate attributes.

3. *Preparing Staff*
   Developing a comprehensive training programme and supporting material to enable University staff to adequately prepare students for WIL activities.

4. *Preparing Students*
   Working with students to prepare them for placement and to identify and teach the soft skills required by industry to ensure that students are work ready.

5. *Marketing*
   Marketing the benefits of WIL, on a tri-partite basis, to maximise participation. This includes the dissemination of rich case studies and clear examples of good practice.

6. *Monitoring and Evaluation*
   Maximising the learning experience through reflection. This is relevant to all parties involved in the learning experience and used to enhance future activities.

In implementing this model, the University aims to promote a more uniform approach to WIL, whilst still enabling flexibility in its delivery. The model provides a foundation to ensure that WIL activities are integrated, meet Government requirements and address the needs of staff, students and industry in advancing the notion of work readiness.

CONCLUSION

The Vice Chancellor at Flinders University, Michael Barber, has made a clear commitment to WIL, stating that all students should be given the opportunity to access off-campus, for-credit WIL activities. In providing this opportunity, the University aims to ensure that students develop a truly integrated approach to learning through a combination of academic and work integrated activities. Our 6-step model to the implementation of WIL will help ensure that graduates are work ready, whilst maintaining academic rigour.

The development and implementation of this model represents the first step in addressing the concerns raised by the University's 2007 audit of WIL activities. Future work will concentrate on maximising the benefits of WIL from a broader context and will include: working to maximise the number of available WIL placements; integrating WIL into the wider community; expanding and rolling out, within the University, current examples of good practice; developing WIL Student Evaluation of Teaching procedures; encouraging and facilitating placements in rural and more remote areas; and examining more thoroughly resource implications associated with WIL.

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Implementation of the learning in the workplace and community (LiWC) policy in an undergraduate computing course: the pros and cons of three possible approaches

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A new policy to embed workplace contextual learning is progressively being implemented at Victoria University; the implementation mandates that by 2010 all courses incorporate at least a 25% component of learning in the workplace. Compliance with the 25% shift poses significant challenges for its implementation in an undergraduate computing course, where it is expected to impact upon course structure, unit deliveries, assessment practices, and course administration. This discussion paper explores three possible models of realising the LiWC policy in the undergraduate computing course: (1) incorporation of the 25% component across several units of the existing course; (2) introduction of an additional one-year long co-operative education internship; and (3) replacement of several units with a one-semester long workplace experience. The paper discusses the advantages and disadvantages of each of the proposed approaches.

Keywords: Collaborative education; computing education; course management; curriculum development; workplace learning; Australia.

INTRODUCTION

At Victoria University (VU) a new initiative has been launched to respond to the changing nature of work, the workplace and the workforce by ensuring students are "job, career and future ready" (Harman, 2008). The initiative aims to embed workplace contextual learning and assessments in all course deliveries, and its implementation has been defined in the new Learning in the Workplace and Community Policy (LiWC). Scheduled for progressive implementation by 2010, the policy requires that a minimum of 25% of course assessment must be related to learning in the workplace and community. The task to realise this policy has resulted in an extensive review of existing approaches to learning and teaching in courses across the University.

In many courses, such as engineering, nursing or education, LiWC has always been a mandatory part of those courses. Thus, accommodation of the LiWC policy will at most required some fine-tuning. In other courses, such as the computing course in the School of Computer Science and Mathematics, compliance with the policy poses significant challenges. This paper outlines three possible approaches to implementing a 25% LiWC component in the course and discusses the pros and cons of each of the three options.

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CURRENT PRACTICE

The Computer Science degree at VU is a three-year full-time program, comprising a total of twenty-four units of study over six academic semesters, as illustrated in Figure 1. In the first year, students are introduced to core subjects in information technology (IT) that laid a foundation of computing knowledge; in the second and third years both core and elective units provide students with the flexibility to pursue their particular strengths and interests.

FIGURE 1

Current course structure (LiWC – 12.5% of the course)

Year Level	Units of Study								Mode of LiWC
	Semester 1				Semester 2				
1	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	
2	Unit 9	Unit 10	Unit 11	Unit 12	Unit 13	Unit 14	Unit 15	Unit 16	
3	Unit 17	Unit 18	LiWC 3a	LiWC 3b	LiWC 3c	Unit 22	Unit 23	Unit 24	Project-based experience

A significant part of the degree is an industry-based Project unit spanning two semesters in the final year of study (units LiWC 3a and LiWC 3c in Figure 1); the Project is regarded as a 'dress rehearsal' for IT students about to graduate and face the needs of the commercial world. The Project is a capstone task that gives students the opportunity to work in a team on a real-life software development problem, where they can experience the practical challenges of building software systems, as well as learn to appreciate the needs of a business client.   In this project-based experience, students need to apply their technological knowledge besides developing and practising their communication, team building and problem solving skills. When dealing with clients, students develop negotiation and listening abilities and they hone their presentation and marketing skills. To develop the necessary advanced written and oral communication skills for successful completion of the Project, students must undertake one mandatory co-requisite unit in Professional Communication (unit LiWC 3b). This emphasis on communication skills is particularly important as employers perceive computing graduates to be inadequately equipped in these skills. According to employers, students need to: learn better how to cope with the practical challenges in current technologies adoption; acquire strong communication skills and business aptitude; better develop problem-solving skills (A C Nielsen Research Services, 2000; Taft, 2007). Therefore, it is essential that any IT program should focus on the balance between vocational and intellectual demands of the profession in order to enhance graduate employment prospects. The capstone Project addresses these demands. However, the current LiWC practice realised by the Project, amounts only to half of the required 25% LiWC component within a course that is 12.5% (3 out of 24 units). To fully meet the requirement, a new model of course implementation needs to be developed. The following discusses three possible models for realising the 25% workplace learning component in the undergraduate computing course.

MODEL 1 – UNIT-LEVEL INCORPORATION OF LIWC

As reported in literature, the transition to university life can pose significant challenges to students entering tertiary studies. Problems such as coping with new learning environments, different pedagogies and study disciplines, difficulties in acquiring access to relevant information and the possible social isolation can lead students to be disappointed by their first year experiences (Kantanis, 2000). In order to alleviate these problems of transition and to orientate students early in their degree to learning in the workplace, Model 1 introduces work-based practice across all three-year levels of the degree. This model involves a gradual introduction of the LiWC component into one unit in the first year, two units in the second year, and it culminates with three units of the third year. Thus, the mandated 25% LiWC component is spread across six units of the course (6 out of 24 units), as illustrated in Figure 2. Model 1 incorporates two types of LiWC pedagogies, contextual learning in years one and two followed by project-based experiences in the final year.

FIGURE 2
Unit-level incorporation of LiWC (LiWC – 25% of the course)

Year Level	Units of Study								Mode of LiWC
	Semester 1				Semester 2				
1	Unit 1	Unit 2	Unit 3	Unit 4	**LiWC 1**	Unit 6	Unit 7	Unit 8	Community-based contextual learning
2	Unit 9	Unit 10	Unit 11	**LiWC 2a**	**LiWC 2b**	Unit 14	Unit 15	Unit 16	Industry-based contextual learning
3	Unit 17	Unit 18	**LiWC 3a**	**LiWC 3b**	**LiWC 3c**	Unit 22	Unit 23	Unit 24	Project-based experience

The first-year LiWC unit (LiWC 1) will take a *whole-of-community approach* to encourage a broader understanding amongst students of how information technology impinges on every facet of society. Here, the embedded learning experiences will have students participate in meaningful practices which service the local community, such as developing tailor-made online resources focusing on the needs of a particular community group, or facilitating the development of IT literacy skills in community members. Following this, industry-derived computing problems will form the basis of the two second-year units (LiWC 2a and LiWC 2b); thus, students will continue to appreciate the relevance of course content to specific real-life problems. These units will particularly help students understand the importance of good software engineering practice in developing software solutions for clients at large. The skills acquired in these units will help students cope with the rigour of industry-based projects in the third year of the course. The final year of Model 1 will correspond to the current offering of the course and include a two-unit Project and a Professional Communication unit.

Model 1 capitalises on three different modes of workplace learning across three years, where the focus moves from broader community projects, through common industry problems, to the implementation of a specific IT solution for the final-year industry

project. This would allow for a smooth transition from an *assisted* LiWC where students are nurtured and supported in their early learning, to a more authentic environment of work-based learning later in the course.

> *Pros*: retention of current course structure and academic content.
> *Cons*: student LiWC experience limited to contextual learning; demands on staff teaching the LiWC units to implement the LiWC components.

MODEL 2 – AN ADDITIONAL INTERNSHIP YEAR

There is an argument that only an authentic workplace can provide "on-the-job experiences to students prior to graduation" (Carpenter, 2003, p. 201), and such work-integrated learning experiences are "more likely to enhance student work readiness and ability to gain permanent employment in the IT sector" (McLay & Skelton, 2007, p. 164). The inclusion of a specific work placement component in a course benefits the students through exposure to technical and business mentoring, current industry practices, and an opportunity to clarify career goals (Calway, 2006; Trigwell & Reid, 1998).

With these arguments in mind, Model 2 proposes the introduction of an additional one-year internship to the standard three-year degree course. As illustrated in Figure 3, the course comprises of two distinct, yet complementary, parts: the traditional course offering (inclusive of LiWC units 3a, 3b and 3c), followed by a one-year co-operative education internship (8 units of the, now, 32-unit course).

FIGURE 3
An additional internship year (LiWC – 34% of the course)

Year Level	Units of Study								Mode of LiWC
	Semester 1				Semester 2				
1	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	
2	Unit 9	Unit 10	Unit 11	Unit 12	Unit 13	Unit 14	Unit 15	Unit 16	
3	Unit 17	Unit 18	**LiWC 3a**	**LiWC 3b**	**LiWC 3c**	Unit 22	Unit 23	Unit 24	Project-based experience
4	**One year of Co-operative Education Internship**								Work- integrated learning

In this instance, students participate in 12 months of relevant paid professional full-time work, which is negotiated, approved and facilitated by a placement coordinator. Model 2 incorporates two types of LiWC pedagogies: project-based experience in the third-year of the course, and work integrated learning experience in the additional co-operative year. This model encourages student initiative and commitment to their own learning. The work placement/internship is a core component of the course and an academic requirement at the same time; all students must complete it.

Pros: a comprehensive LiWC experience for the students with emphasis on job readiness; retention of the current academic content of the course.
Cons: extend course duration and cost; need to develop assessment for the LiWC component; need for administrative support to manage the internships.

MODEL 3 – WORKPLACE EXPERIENCE (SEMESTER-LONG)

Similar to Model 2, Model 3 separates the work-based component from the academic content, but fits both learning components into a standard three-year course. In this instance, the first five semesters of the current course structure are retained, and the final semester is an industry-based internship (equivalent to 4 LiWC units), as illustrated in Figure 4.

FIGURE 4
A semester-long workplace experience (LiWC – 25% of the course)

Year Level	Units of Study								Mode of LiWC
	Semester 1				Semester 2				
1	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	
2	Unit 9	Unit 10	Unit 11	Unit 12	Unit 13	Unit 14	Unit 15	Unit 16	
3	Unit 17	Unit 18	**LiWC 3a**	**LiWC 3b**	**Internship**				Project-based experience and Work- integrated learning

To achieve this model, it is necessary to reduce the number of elective units within the current course structure to *free* up a semester for workplace learning. The mandatory units in the fifth semester, the capstone Project (albeit now reduced to one unit LiWC 3a) and Professional Communication unit (LiWC 3b), remain in the course and help prepare students for the internship. However, the reduction in the overall number of course electives may force a rationalisation of the discipline-specific knowledge taught to students.

Pros: retained course duration; student experience inclusive of working in the workplace.
Cons: reduced academic content of the course; need for the development of suitable assessment for the internship component; need for support to manage the internships.

DISCUSSION

Implementation of any of the above models requires careful consideration of several issues including: course structure, administration and duration, unit deliveries, assessment practices, concerns of international students and partnering institutions, pathway arrangements, industry alliances, and professional accreditation requirements. For example, Models 2 and 3 will require the assistance of a dedicated work placement coordinator. The coordinator will manage the practical aspects of facilitating work placement; however, academic staff will be responsible for assessing the validity and quality of each placement. Additionally, academics will need to develop appropriate assessment models to evaluate the merit of students' LiWC experiences.

As assessment drives learning outcomes (McDowell, 1995; CSHE, 2007), the implementation of all models presents specific challenges for student assessment. In Model 1, the assessment in the six work-integrated learning units will need to promote the development of problem-solving skills, personal development, and social skills within a community or industry focused setting. The design of such assessment will be challenging. For Models 2 and 3, the challenge will be to find innovative and appropriate methods of assessment that places value on a disparate range of student workplace experiences. Criteria for grading will need to be flexible and take into account student progress and skill acquisition throughout the work placement.

The adoption of a particular model is likely to impact differently on different cohorts of students. International students may be disadvantaged by Model 2, since they will need to meet additional expenses incurred by a further year of study and habitation. Further consideration needs to be given to an option of allowing international students to undertake the co-operative program in their home countries; if allowed, this option will require additional resources. Similar concerns are raised for offshore partner institutions involved in the delivery of the computing course offshore. Contextualising the units of study to incorporate LiWC will have implications including issues such as overseas jurisdictions, contractual arrangements and the availability of resources and support (Kay & Russell, 2008). Articulation students are likely to be most impacted by Model 1. These students have prior qualifications, mostly diplomas in computing. They enter the course usually at the beginning of its second year as they are exempted from a number of units in recognition of prior learning. How will they be able to receive recognition of prior learning for the LiWC units? This issue may have serious implications for existing articulation pathways; they would have to be re-worked, should Model 1 be adopted.

Good industry partnerships are pivotal to the implementation of Models 2 and 3. These models require a steady supply of LiWC opportunities for large numbers of students. Importantly, in cases where demand exceeds supply of placements, additional pressure would be exerted on the School resources to find suitable placements to cater for such shortages.

Lastly, the issue of professional accreditation requirements by the Australian Computer Society needs to be considered. Currently, the course is fully accredited at the highest professional level as it comprehensively covers the core body of computing knowledge as outlined by the Society. Should Model 3 be introduced, the time and content compromises necessary to implement it, may impact upon the level of accreditation and potentially lead to its downgrading.

CONCLUSION

This paper suggests three possible models of integrating LiWC components in an undergraduate computing course. There appears to be no clear *winner* among the outlined models, regardless of which one would be adopted in the end; satisfying the needs and expectation of all stakeholders would be challenging as any model would impact upon course design and delivery, albeit differently. The paper identifies the key issues, and the pros and cons in each of the models with the intention to encourage discussion, and seek input and feedback on how best to embed LiWC practice within the course.

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The workplace as a site for learning: challenges and possibilities

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In recent times increasing emphasis has been given to the need for contemporary workers to be highly-skilled, adaptable and flexible, able to readily apply existing knowledge and skills to new situations, and prepared and capable of engaging in new learning as circumstances warrant. Universities have been challenged in these circumstances to respond with 'work ready' graduates and with curriculum and pedagogy that is more relevant to the workplace. One response from universities has been to explore ways in which the workplace can be more effectively integrated into the university experience through cooperative programs with industry.

The workplace is thus increasingly present as a learning resource and a site of learning in the university sector. This paper explores the role of current literature on workplace learning in informing the implementation of workplace learning - either work placements, internships, or activities drawing upon students' workplace experiences for learning. Drawing on the work of a range of authors in this field, including Eraut (2004), Kemmis (2005) and Billett (2006), we examine the nature of workplace learning and explore the challenges and possibilities of the workplace as a site for learning. The convergence between work-related skills and knowledge, and work-related personal dispositions is highlighted and pedagogical implications arising from this are discussed.

Keywords: workplace learning, reflexivity, work integrated learning, employability skills, graduate attributes.

INTRODUCTION

We are told that the contemporary workforce needs to be highly-skilled, adaptable and flexible. Such an 'adaptable, multi-skilled and flexible workforce', implies one which can quickly and willingly apply existing knowledge and skills to new situations, and one which is prepared and capable of engaging in new learning as circumstances warrant. There are two related features of this new vision of the contemporary worker: one is the need to continually learn and update skills, presumably largely through experiences in the workplace; and the other is the need for a particular attitude or disposition towards work.

For universities this presents particular challenges. There is a dual expectation that universities will not only provide learners with work-ready knowledge and skill, but also with what may be called the 'soft skills': the dispositions, personal qualities and ways of being in the world that allow them to thrive and continue to learn (Barnett, 2006, p.50).

With respect to 'work-ready' knowledge and skill universities have explored ways in which the workplace can be more effectively integrated into the university experience. This typically occurs through professional placements in say, architecture, cooperative

education arrangements in business and engineering, clinical placements in medicine and nursing, practicum experience in teacher education, and in some instances, work-based learning awards where the work itself forms the basis of the curriculum. In addition, there is now a general acceptance of work-related projects and learning contracts as valid pedagogical tools. The workplace is thus increasingly present as a learning resource and a site of learning in the university sector.

In many ways this is to be expected, given the growth in the demand for continuing professional education, and given the high number of mature age students in universities who insist on a curriculum and pedagogy that is relevant to their workplace experiences. This engagement with the workplace has led to a challenge to the traditional disciplines, partly because workplace problems are not neatly packaged into disciplinary areas, and partly because knowledge is increasingly seen as being 'produced' in the workplace. Indeed the idea of knowledge being produced in the academy and subsequently 'applied' to work, family and community life, is no longer the sole way of depicting the relationship between the academy and the workplace.

With respect to the so-called 'soft skills', there has been a great deal of interest with identifying the employability skills developed at all levels and in all sectors of education. A consistent message from various reports into the skills needed is that while technical skills are recognised as important, by far the greater emphasis is placed on a range of generic skills such as communication, teamwork, problem solving, ongoing learning, creativity, cultural understanding, entrepreneurship and leadership. Universities have responded to this by attempting to specify what are generally called 'graduate attributes', 'generic skills' or 'employability skills'.

While work-related learning can of course include a range of teaching strategies within universities, the key focus of this paper is what universities can learn from current understandings of workplace learning: that is, how learning can be drawn from experiences in workplace settings.

THE WORKPLACE AS A SITE FOR LEARNING

How do we enhance the student experience in work integrated learning programs? In the following section we draw on current understandings of workplace learning to explore the pedagogy that can inform work integrated learning programs. Eraut (2004) points to some crucial questions for those in universities concerned with either work placements or internships, or who draw upon students' workplace experiences for learning:

- What do we expect students to learn from experiences in workplace settings?
- How will learning take place?
- What factors will influence this type of learning?

The workplace learning literature helps us respond to these questions highlighting both the different kinds of skills and knowledge gained from workplace settings and the need to think differently about learning in the workplace.

Kemmis (2005), for example, argues that 'professional practice knowledge': cannot be understood just from the perspective of knowledge 'in the heads' of individual (p.402). He analyses the kind of thinking – the practical reasoning - that is characteristic of the expert professional practitioner. Expert practitioners, he argues, are able to think reflexively and change their reading of a situation 'as it unfolds in and through practice' (p.392). It is a mistake, he believes, to think about the workplace curriculum in terms of what needs to be 'in the heads' of students when they enter work settings.

> conceptualising what can be known in advance of practice captures only some of the features of the practices with which they are concerned. Harder to capture are the material, social, discursive and historical conditions and relations that shape and sometimes disfigure practice. To develop practitioners, practices, understandings of practice, and the changing settings of practice requires not only personal reflection in action, but also collaborative efforts by practitioners and those they serve to explore and grasp the complex and uncertain material, social, discursive and historical conditions of practice (p.422).

Hager (2004) adopts a similar position when he critiques what he regards as the dominant view of learning as 'adding more substance' to the mind, which is a kind of container. On Hager's account this learning-as-product mindset is based on two flawed assumptions, at least in so far as it applies to workplace learning. The first of these is that the products of learning are relatively stable over time, allowing knowledge to be incorporated into curriculum documents and textbooks and examined in standard achievement tests. The second assumption is that learning is replicable and comparable across learners, allowing us to make comparisons of their relative 'attainment'. Taken together, these assumptions support the view that practice is simply the application of theory: that there are general solutions to practical problems that can be developed outside of practice and that can be codified for application to the workplace. However Hager argues that practice is much messier than this. For example practitioners are not generally presented with 'ready made' problems.

The 'situated learning' approach of Billlet (1994, 2006) advances the view that different forms of social practices lead to different ways of appropriating and structuring knowledge. He argues that there are a variety of knowledge sources in a community of practice (such as other workers, hints, reminders, explanations, observations, listening, dealing with authentic problems, one's personal history), and that these have an impact on the way knowledge is appropriated and structured. He notes the constraints on the types of learning experiences available to workers, such as access to expensive equipment, employer and manager support for learning, the interests of co-workers in supporting other workers' learning and development, the influence of workplace affiliations and cliques, and so on.

The view that learning is an 'integral and inseparable aspect of social practice' is emphasised by Lave and Wenger (1991, p.31). Learning is not so much a matter of individuals acquiring mastery over knowledge and processes of reasoning, it is a matter of co-participants engaging in a community of practice. The focus is thus on the community rather than the individual. Allied to this view of the learner is a rejection of the idea that learners acquire structures or schemata through which they understand the world. It is participation frameworks, which have structure, not the mental representations of individuals.

Three themes are present in much of the literature on workplace learning: the emphasis on the social and cultural nature of learning, the rejection of the 'mind as a container' metaphor, and the attention given to the kinds of personal dispositions and qualities necessary to be an effective workplace learner. We now turn our attention to the last of these.

WORK RELATED PERSONAL DISPOSITIONS

The 'soft skills' that stand out and are repeated time and again in numerous government and intergovernmental agency reports worldwide are teamwork, managing relationships, a capacity for innovation, enterprising skills, self management, learning skills, flexibility, adaptability, creativity, and a capacity for critical reflection on self, others, and the broader context. An overarching competency is described in the *Definition and Selection of Competencies Report* (cited in Rychen & Salganik, 2003) as:

> Reflectivity – a critical stance and reflective practice- has been identified as the required competence level to meet the multifaceted demands of modern life in a responsible way….an overall development of critical thinking and a reflective integrated practice based on formal an informal knowledge and experience of life (p. 4)

Change and renewal are features of contemporary workplaces. Most changes imply a reorientation of persons' values or attitudes, the way they see themselves, and their organisational knowledge (tacit, explicit and cultural). Specifically a new working self is demanded - workers are exhorted to be more flexible, multiskilled and self reflective, with 'flexibility' including a willingness and capacity to take on new identities as they are demanded: such as when there is a corporate takeover or merger or a move from bureaucratic to more entrepreneurial activities, or where there are new technologies and work practices being introduced and so on. Thus in the name of 'learning for change' workers are invited, encouraged, or otherwise cajoled into a great deal of 'self work' (self examination, self reflection, self monitoring, self regulation).

Arguably the changing nature of education and its interface with the workplace produces, presupposes or otherwise shapes new teacher/learner identities and pedagogical practices, and ultimately what it means to be a 'good' learner or teacher. For example educators have long been concerned with developing the learning skills of students. This is a response to a commonly held view that teachers cannot be expected to teach 'everything', and therefore students need to be given the wherewithal to manage their own learning. It entails the development of a set of generic learning skills, but the skills typically identified are often only applicable to formal learning situations, such as listening, taking notes, summarising, questioning, finding information, organising and categorising thoughts, reviewing material for examinations, exam technique, learning how to generalise/ when to generalise and how to apply theory to practice.

The shift to learning from experience in the workplace requires a reconceptualisation, or perhaps more accurately an additional set of skills and attitudes regarding learning, such as: how to analyse experiences, the ability to learn from others, the ability to act

without all the facts available, choosing among multiple courses of action, learning about organisational culture, using a wide range of resources and activities as learning opportunities (eg. memos, policies, decision making processes), and understanding the competing and varied interests in the shaping of one's work or professional identity. Learning from workplace experience also entails the identification and creation of opportunities for experiences from which new learning will flow. This may involve the learner/worker volunteering or seeking out special projects or assignments in the workplace, being active in suggesting initiatives in which he or she may be involved, negotiating with supervisors for more varied tasks and responsibilities, or creating new ways of carrying out routine tasks.

At this point it should be clear that there is a convergence between work-related skills and knowledge, and work-related personal dispositions. Some of the pedagogical implications of this are outlined in the following section.

IMPLICATIONS FOR PEDAGOGY

The pedagogical expertise of the educator takes on a new significance in the context of workplace learning: it shifts from being a content specialist towards helping learners develop the capacity to learn from their experiences. This is accompanied by the increasing importance and centrality of the 'learner' as opposed to the 'teacher' in the pedagogical process: learners are given more power and responsibility over what they learn and they are crucially seen as *producers* of knowledge. The 'teacher' in these circumstances can take up a number of positions: an arbiter of what constitutes worthy knowledge, a guide who assists learners to 'learn from experience', a measurement specialist who monitors performance, a facilitator who 'processes' the concerns and interests of learners, a commentator or decoder who addresses issues of power and authority, or a manger of learning who ensures that the conditions conducive to learning are present in the workplace.

Following Eraut et al. (2004) it is important to have a conception of the kinds of learning people engage in at work. To this end Eraut et al. developed a typology to guide their research into workplace learning. They used it as a useful heuristic in their research but it can be equally applied to the planning, recording and reviewing the kind of learning expected from work placements. It contains generic descriptors of tasks, skills, capabilities, knowledge and dispositions that can be developed in workplace settings (with the exception of the key skill of reflexivity, to which we will return).

TABLE 1
What is being learned in the workplace? (Eraut et al. 2004a)

Task Performance	Teamwork	Academic knowledge and skills
Speed and fluency	Collaborative work	Use of evidence and argument
Complexity of tasks and problems	Facilitating social relations	Accessing formal knowledge
Range of skills required	Joint planning and problem solving	Research-based practice
Communication with a wide range of people	Ability to engage in and promote mutual learning	Theoretical thinking
Collaborative work	**Role performance**	Knowing what you might need to know
Awareness and understanding	Prioritization	Using knowledge resources (human, paper-based, electronic)
Other people: colleagues, customers, managers etc	Range of responsibility	Learning how to use relevant theory (in a range of practical situations)
Contexts and situations	Supporting other people's learning	
One's own organization	Leadership	**Decisions making and problem solving**
Problems and risks	Accountability	When to seek expert help
Practices and strategic issues	Supervisory role	Dealing with complexity
Value issues	Delegation	Group decision making
Personal development	Handling ethical issues	Problem analysis
Self evaluation	Coping with unexpected problems	Generating, formulating, and evaluating options
Self management	Crisis management	Managing the process within and appropriate timescale
Handling emotions	Keeping up-to-date	Decision making under pressurized conditions
Building and sustaining relationships		**Judgement**
Disposition to attend to other perspectives		Quality of performance, output and outcomes
Disposition to consult and work with others		Priorities
Disposition to learn and improve one's practice		Value issues
Accessing relevant knowledge and expertise		Levels of risk
Ability to learn from experiences		

With respect to the processes of workplace learning, Eraut (2004) makes the point that workplace environments are only rarely structured with learning in mind and that the majority of learning in the workplace is informal - a combination of learning from other people and personal experience. It is important therefore to identify the kinds of workplace activities that give rise to workplace learning. Eraut identifies four such activities that account for most of the learning: participation in group activities, working alongside others, tackling challenging tasks, and working with clients. Other processes include formal training and the provision of resources such as manuals, reference books etc, mentoring, supervision and coaching, and informal support from peers. The kinds of learning activities embedded in these processes include formal study, listening, observing, reflecting, practising and refining skills, trial and error, problem solving, getting information and asking questions, developing a relationship with a wider network of knowledge resource people, and giving and receiving feedback. Clearly, preparing students for work placements means ensuring they have an understanding of how learning occurs in the workplace and the actions they can take to enhance their learning.

There are of course many ways of describing and analyzing the factors affecting learning in the workplace context. Educators can use these factors to negotiate the nature of the experiences in which the students will be engaged. And they can provide

some support for mentors or managers in the workplace. Eraut (2004) focuses on the structure of the work and how this structure affects opportunities for meeting and working alongside people, and whether the work is sufficiently challenging. He elaborates on the issue of the confidence and commitment of the learner:

> confidence arose from successfully meeting challenges in one's work, while the confidence to take on such challenges depended on the extent to which learning felt supported in that endeavour. Thus there is a triangular relationship between challenge, support and confidence (p269)

It is in this portrayal of confidence that Eraut comes closest to exploring the idea of *how to be* as a contemporary worker – but, unlike others (see Barnett, 2007; Kemmis, 2006)), he stops short of engaging with this issue. This issue of *being* is arguably fundamental to the capacity to learn in new and changing environments, and to read a situation and change as circumstances warrant. Kemmis expresses this as follows:

> wise practitioners stay open-eyed (to changing objective conditions) and open-minded (about changing subjective conditions): they set out to conduct their practice alert to whatever might become salient to their reading of themselves, their understandings and their situations, because these changing perspectives may – perhaps we should say 'almost certainly will' – cause them to change their views about the nature of their initially intended course of action and how things should unfold in this particular case. (2006, p407)

The capacity for reflexivity is clearly the core skill underlying both the development of workplace knowledge and skill, and the development of personal dispositions and ways of being in the workplace. By a 'reflexive engagement with the world' we mean understanding oneself and critically evaluating your 'self', the circumstances in which you live and the way you are positioned in all your relationships – in work, family, institutional and in community life. From a pedagogical point of view this means providing learning experiences that engage students in the uncertainties, messiness and value conflicts of 'real world' problems. This is the great value of work experience and other work-focused learning activities such as portfolio development, reflective journals, work based projects, action research, community based projects and so on. The kinds of work-focused tasks that students now undertake provide the potential for both engagement with the world and for reflecting on and acting upon themselves.

CONCLUDING COMMENTS

Work integrated learning programs present many possibilities in delivering on the promise of work ready graduates who can be multi-skilled and adaptable. However the challenge remains for universities to design the programs that reflect the different kinds of skills and knowledge gained from workplace settings. The workplace learning literature discussed in this paper highlights the different kinds of skills and knowledge gained from workplace settings, and points to a need to think differently about learning, especially the idea that learning is not simply 'in the heads' of individual learners, but involves consideration of how learning is formed in social settings and shaped by discourses within the workplace. This led to an examination of the organizational and individual factors that promote learning in the workplace. An

important individual disposition is the capacity for adaptation and change in response to changing circumstances. Such a disposition is premised on our ability to reflexively engage with workplace problems and issues, which involves critically reflecting on oneself and a learner and worker. Finally, we have highlighted some pedagogical strategies that can assist learners to gain the knowledge skills and dispositions required for effective engagement with the workplace.

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Developing a fieldwork education discourse at university level

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Fieldwork education enhances the capacity of new graduates to successfully make the transition into the workplace. Employability skills are enjoying increasing interest and tertiary institutions are focussing on fieldwork education to help their students become work-ready (NCVER, 2003). This paper reports on an ongoing process of listening, dialoguing and actioning to develop a fieldwork education discourse and foster a dynamic community of fieldwork education practice at Charles Sturt University (CSU). Telephone interviews were conducted to obtain a snapshot of current fieldwork education practices. General and academic staff who worked in fieldwork education were surveyed about the following eight themes:

1. CSU fieldwork education staff demographics
2. staff development opportunities for CSU staff
3. selection systems for practicum placements
4. student preparation for practicum placements
5. communication systems with students and practicum placements
6. student assessment
7. evaluation of fieldwork placements
8. connections between fieldwork and employment.

The findings highlighted strengths, challenges and opportunities for developments in the fieldwork education community. The dissemination of the survey report was used as an engagement tool for the second debate phase. In the second phase the university community was invited to participate in a debate to dialogue key issues in fieldwork education based on the survey outcomes and to promote a fieldwork education discourse. A virtual community of fieldwork education practice was established using the software program Interact, particularly the non-synchronous forum and a resource website. This paper reports on the survey and debating strategy to enhance a community of fieldwork education practice at universities.

Keywords: communicative space, discourse, fieldwork education programs, virtual community of practice

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INTRODUCTION

Fieldwork education is valued as an important component of university programs, and many professional registration bodies stipulate fieldwork education as a mandatory requirement for program accreditation. Universities are exploring ways of improving fieldwork education programs because, when they are effective, all stakeholders benefit: students, employers and universities (Coll & Eames, 2004). The literature on fieldwork education addresses many challenges and issues such as engagement with industry; colliding interests of industry and university; coordination of the different needs of students, supervisors and coordinators; appropriate assessment approaches; lack of fieldwork education placements and heavy workloads of fieldwork education

staff (Kirke, Layton & Sim, 2007). Ramsey (2000) identified reconnection and engagement with industry as the key challenge universities face in fieldwork education. According to Beckett & Hager (2002) one barrier to engage and establish mutual benefits is the perceived tension between the interests of industry and university. Both appear to have different expectations and understandings of what students should learn in fieldwork education. Whereas employers might look for motivation, commitment, integrity, reliability and personal presentation (ACCIBA, 2002) universities may focus more on students' conceptual knowledge, writing skills and professional reasoning skills.

In fieldwork education students are exposed to these two seemingly colliding worlds. The boundaries between university and industry become blurred, and the nature of practice-based learning requires blended approaches to learning, teaching and assessment. Fieldwork education faces many diverse and complex issues that cannot be simply reconciled with generalised standards across professions because one size does not fit all (LeCornu, Mayer & White, 2001). Gronewald (2004) stated that good fieldwork education programs invest in thoughtfully designed administrative and legal systems, develop collaborative relationships with placement supervisors, prepare and support students through their fieldwork experiences, respond to feedback and evaluation, and articulate the contribution of fieldwork education to the overall course program. The nature of fieldwork education lends itself well to generating a discourse at university level that critically dialogues these issues in order to identify underpinning principles that inform quality and the way forward in fieldwork education programs.

AIM AND OBJECTIVES

The ultimate aim of this ongoing study is to promote and enhance discourse and a dynamic community of practice across the university around fieldwork education that contributes to organisational and educational change. The objectives are to (1) provide a snapshot of fieldwork education practices at CSU in order to understand its breadth and depth of achievements and challenges, (2) identify issues that might benefit from sharing and challenging ideas and practices which will, in turn, help staff to make informed decisions about future program development, (3) initiate a debate on fieldwork education issues at CSU, and (4) develop a sustainable online community of scholars in fieldwork education. The key research question that underpinned this study was: What are the current challenges at CSU concerning fieldwork education?

METHODS

This project involved a hermeneutics approach of constructing and interpreting texts (Gadamer, 1996). In the 21st century hermeneutics has evolved from procedurally interpreting existing written texts to constructing texts via interviews and dialogues (Willis, Smith, & Collins, 2000) and to critically interpreting texts (Kinsella, 2006). Such an approach fitted our study aims of gaining deeper and critical understanding of staff members' perceptions and practices of fieldwork education. Text construction was divided into two phases: listening, and dialoguing/actioning. Phase one was a telephone survey and phase two was an online debate. The report of the telephone survey provided the link for these two phases by acting as a discussion starter for the debate.

Phase 1   Telephone survey - listening

The first phase consisted of interviewing participants about current fieldwork education practices. A list of eight themes was developed for the survey:

- CSU fieldwork education staff demographics
- staff development opportunities for CSU staff
- selection systems for fieldwork education placements
- student preparation for placements
- communication systems with students on placement
- assessment of students' placement performance
- evaluation of fieldwork placements by students and academic staff
- connections between fieldwork and employment.

The telephone survey posed closed and open-ended questions and interviewees were encouraged to provide examples to illustrate their responses further. Each interview lasted approximately 60 minutes. The purpose of the first phase was to provide a snapshot of the fieldwork education programs at CSU and to act as a foundation for generating debating topics and identifying ways forward.

Education for Practice Debate – dialoguing and actioning

The second phase consisted of an online debate using the software program *Interact*. All university staff (academic and administrative) involved with fieldwork education were invited to join the education for practice debate but only staff who volunteered to participate had access to the online debate. By reading the terms of the debate and volunteering to participate staff gave their informed consent to participate in the study. The purpose of the online debate was to provide a creative, safe and sustainable communicative space for fieldwork coordinators to:

- Reflect on what is working in their fieldwork education and what isn't
- Discuss challenges and opportunities across the breadth of fieldwork practice
- Consider options
- Critique beliefs and assumptions about fieldwork education theory and practice
- Share ideas, practices and resources
- Develop their capacity to facilitate excellent fieldwork education for CSU students
- Support each other in making improvements and innovations to current practices

Conditions for joining the debate were informed by the theory of communicative action (Habermas, 1984). This theory postulates three ideal conditions for a critical debate: reason prevails over power, debaters take a self-reflective stance, and arguments need to be transparent and have intrinsic properties that help decide whether to accept or reject validity claims. This theory is underpinned by a critical and action-oriented intent. It fitted the intentions of our debate. The conditions for the debate were clearly articulated for all participants as listed in Table 1 and the debating facilitator kept debaters on track.

TABLE 1
Conditions for the Education for Practice Debate

- − Be respectful towards other participants
- − Be as open as you can. Try to share critical moments that expose challenges, problems and errors that we can all learn from. There is no pressure to be seen to succeed.
- − Feel free to disagree and engage in vigorous debate, but treat all contributions respectfully
- − Try to focus on problem-posing and exploring choices rather than immediately looking for solutions. This is a forum for learning and transforming, not teaching.
- − Use the debate constructively for genuine professional development, not to simply off-load frustration and anger.

Arguments in the debate needed to be debated between people in order to draw out the underlying motivations and interests of debaters. Such a process of argumentation needed to be firstly grounded in a critical stance towards self-reflection and self-understanding. Debaters were encouraged to illustrate their arguments with practice experiences or the literature. Secondly, all debaters were encouraged to discuss arguments with the intention of finding consensus free from domination and hidden motives. Reaching consensus through rational discussion has ethical implications. A critical theory of communication is opposed to rhetorical, deriding statements, opposed to one-way communications where predominantly only one communication partner speaks, and opposed to the use of ideology for the purpose of deception (Agger, 1998). Instead, our participants were encouraged to respond to each others' contributions because dialogues, rather than monologues, facilitate deeper thinking and critical engagement with practice development.

The education for practice debate was structured into three sections: brainstorming, debate, and critical appraisal. The brainstorming exercise identified four key debating topics. Each one is being discussed for one month. This structured timeline was deemed necessary to keep the debate on track and focused. Debates are being summarised, arguments collated and recommended actions listed.

Recruitment and participants

Participants for both phases were recruited via email and the electronic news bulletin of the university. Staff from all four faculties were recruited. Administrative and academic staff involved with fieldwork education were invited to participate. In phase one, twenty-three staff responded to email invitations, including eight administrative staff and fifteen academic staff. In phase two, eighteen staff volunteered for the debate comprising three administrative staff, one career advisor and fourteen academic staff. The survey and debating groups were two separate groups; however, four people participated in both. Ethics approval was obtained and staff provided consent by volunteering to participate.

Text construction and interpretation

The texts constructed from the telephone survey were collated, summarised, clustered and discussed by the authors. The online contributions of debaters comprised the text construction of the debate. Text interpretation of the telephone survey described the

status quo and generated issues for the debate. Text interpretation of the debate is identifying current achievements, challenges and the way forward for fieldwork education practices.

FINDINGS FROM THE SURVEY

The fifteen surveyed fieldwork education programs described a wide range of fieldwork education practices. All programs encountered different challenges and opportunities. What they all had in common was the need to adapt to industry contexts within which they had to operationalise their fieldwork education. For detailed findings please refer to the final report (Trede, 2008): here we discuss key commonalities, challenges and opportunities.

Commonalities

All fieldwork education staff were employed in a payment structure that represented low to mid-range seniority. All had affiliations with university internal fieldwork education networks and their respective external professional bodies. There were no formalised professional development activities in place for university staff working in fieldwork education. There was common understanding that working in fieldwork education required staff to have good people skills. Although interviewees stressed communication with students and supervisors as vital there appeared to be a general trend of *"the students know that they can ring us"*. Email was the most popular communication tool in fieldwork education followed by the telephone. The most rarely used way of communicating during placements was face to face. All surveyed programs conducted assessments and evaluations, however, their approaches differed. There was uncertainty if staff made changes as a result of evaluation feedback from students and supervisors.

Challenges

The diversity in staff experiences and involvement with fieldwork education ranged from less than 2 years to over 20 years. Some conducted research, others focused on educational designs and yet others focused on the day-to-day procedures of fieldwork education. The ratio of staff involved with fieldwork education compared with all staff in a school ranged from 5-100%. Nine programs did not report placement shortages whereas six did. This diversity makes it difficult to identify university wide challenges. Although twelve of the fifteen fieldwork education programs had compulsory preparatory sessions for students going out on fieldwork placements these varied in focus and length. It is a challenge to distinguish between a need to generalise and particularise preparatory sessions. Most programs had student handbooks but they varied in contents and focus. The surveyed fieldwork education programs used a variety of student assessment tasks. Some students were asked to write a reflective report including career intentions, or weekly self-assessments; in other programs supervisors completed detailed competency assessments or only produced a pass or fail mark at completion of a placement. Only few programs invited supervisors to participate in the assessment tool development.

Opportunities

One of the key features of fieldwork education at CSU is its Professional Experience Network (PEN). PEN enjoys wide membership of administrative and academic staff and promotes interprofessional engagement in fieldwork education. Its website contains procedural, insurance and legal forms for fieldwork education. It is an informal, non-funded network which makes its operations limited.

INITIAL FINDINGS FROM THE DEBATE

All debaters have adhered to the debating conditions and the debate was characterised by both critique and support. The participants have actively shared their concerns about fieldwork education, demonstrating that the online debate has served a need to dialogue about perceived fieldwork education issues. The issues raised in the debate were clustered into five themes with accompanying key questions which are listed in Table 2.

TABLE 2
Debating themes and their questions

Themes	Questions
Quality fieldwork placements and assessment	What constitutes a quality placement? Is there a place for critical dialogue in fieldwork education between student, supervisor and coordinator? What is the use and limitation of competency assessments?
Effective teaching for students' and teachers' learning	What is a good outcome for students? How can we ensure that students, coordinators and supervisors all have a quality experience and learn well?
Cost and recruitment	Who controls payment for placement supervisors? Is it placement supervisors' professional responsibility to supervise or is it an additional job task justifying their demand for payment? How can we deal with short-term cancellations?
Equity and engagement	What is a true partnership between industry and university like? How can we make student placements attractive to industry? How can we ensure equitable, culturally sensitive and consistent supervision of our students on placements?
International students and international placements	Why do some placements view 'students with accents' as a risk to customer relations? How can we reduce the language barrier with placement supervisors in different countries who speak languages other than English?

The debaters struggled with the desire to engage with contexts, standardisation and consistency issues in other disciplines than their own. Each fieldwork education program has its own tradition yet the debating infrastructure and the quality of debater interactions proved to be effective in creating interprofessional conditions for supporting, sharing, critiquing and transforming current fieldwork education discourse.

CONCLUSION

The survey and debate on fieldwork at CSU have provided constructive and supportive opportunities to share, question and learn from existing practices and have opened up opportunities for creating improvements in fieldwork education programs. The virtual community of practice in this study was an effective tool to develop a fieldwork education discourse. Further research needs to establish if such online debates lead to practice transformations and greater engagement with industry.

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A win all situation for applied learning made meaningful and realistic in the final year undergraduate strategic marketing course

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It is often challenging for tutors at tertiary level to offer applied learning scenarios to capture the theory and concept that most subjects focus on. In today's classrooms simulation exercises and virtual learning environments are created to offer the applied aspects of learning. Some courses and programmes have industry based learning or internships to allow students the real world work environment. All of them offer opportunities for students to gain the applied benefits of meshing theory with practical application. This paper offers insight to approaches that can be taken by tutors of Strategic Marketing in working with the industry for sponsored projects that allow the real world scenarios for student involvement in applying classroom learnt theory to reality. It is a case study of Vaportec Ltd, a small innovative business in Hawke's Bay, New Zealand, sponsoring the main assessment project given in the final year Bachelor of Business Studies Strategic Marketing course. One of Vaportec's innovative products, SPIREX^{TM} ECO-DRAIN, was the focus of the strategic marketing project done by the students. The implications of this project are that it benefited the tutor, the students and the sponsoring business by creating high quality applied learning in a heavily theoretical course.

Key words: applied learning, meaningful assessments, pedagogically appropriate

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INTRODUCTION

This paper describes the process for a successful applied learning approach in a heavily theoretical course. Bachelor of Business Studies (BBS) at the Eastern Institute of Technology, Hawke's Bay, New Zealand, is a three year programme. One of its majors is in Marketing. In the final year, Strategic Marketing is one of the requirements for the completion of the Marketing major, and it is a highly theoretical course.

By the time students, who have studied several different Marketing courses that offer some aspect of applied learning, reach the Strategic Marketing level and its requirements they find it academically rigorous. As a result this course has continuously developed challenging assessments, strategies and techniques to foster learning. In doing so its main objective has been to ensure that learning is relevant, applicable and current to the real world environment.

In semester two, 2007, the course facilitator, in order to combine theory with application, scanned the industry for a possible assessment opportunity. The scan indicated an innovative product that had not been launched into the market yet. This discovery triggered ideas for a challenging assessment. As a result the business with the innovative product was approached. Vaportec Ltd is a small business in Hawke's

Bay. They invent products that contribute towards environmental sustainability. The innovative product for study was SPIREX^TM ECO-DRAIN. The idea was to develop a strategic marketing project on the innovative product. After discussion on the projected outcome of the assessments the business was keen to sponsor the project. Thus allowing the opportunity for students to apply theory learnt in classroom to the real world situation.

THE COURSE AIM, EXPECTATION AND ASSESSMENTS

The aim of the Strategic Marketing course is

> to enable students to think strategically about marketing situations; be aware of the major aspects of planning and controlling marketing operations; demonstrate how the available range of analytical models and techniques might be applied to produce superior marketing performance; and to give full recognition to the problems of implementation and how these problems might be overcome (Bachelor of Business Studies, 2007, p.2).

The expectation of the course is to fully achieve the aim through the various learning outcomes. The prescribed text book by Richard Wilson and Colin Gilligan (2005) *Strategic marketing management, planning, implementation and control* fully encompasses the topics covered in this course. The supporting list of readings and journals given in the course outline further enhances the subject coverage.

One of the objectives of the assessments is to encourage students' self-directed learning; allowing them to take responsibility for their own independent learning. It further expects them to manage and monitor their own progress. Successful accomplishment of the assessment objectives requires "teacher educator interest in finding measures that match well with the anchors for their program, are practical to use, and that are credible" (Hall, Smith, Carol and Nowinski, 2005, p.26). As a result, the assessments developed are relevant, credible, appropriate, and allows student engagement.

Course assessment

Summations of the assessments normally covered in this course are:

- Class participation that requires attendance, preparation for class sessions and contributions to class discussions. This covers all the learning outcomes;
- A case study assignment that focuses on learning outcomes one and two only;
- Industry Project that covers all the learning outcomes;
- A fifteen minute presentation of the project; and
- A final examination on all the learning outcomes.

The above assessments are pedagogically appropriate because the objective for the assessments given in this course is "the unyielding commitment to help students reach their full potential" (Cone, 2007, p. 1). Till 2007, students were required to identify a business they had contacted and received permission to study for their project. This practice often made it difficult for some students to identify a business for study. It created encumbrance rather than encouragement towards their learning.

The assessment practice in 2007

The challenge of offering the applied learning without the encumbrance led to a possible Strategic Marketing project on SPIREX^{TM} ECO-DRAIN, an innovative product of Vaportec Ltd. It was not the first time Vaportec had been approached by a tertiary provider. Some years earlier they had worked with the engineering department of the University of Auckland, but it was the first time for the business to consider a marketing dimension to one of their inventions. This dimension was to be covered in a business sponsored strategic marketing project.

Vaportec Ltd

This business is primarily involved in heat exchangers, thermodynamics, research and development of environmental and sustainable products. Their products focus around heat transferring systems to reduce their customer's water usage, energy usage and their overall carbon footprint on the world. SPIREX^{TM} ECO-DRAIN is a heat transfer product invented by Vaportec Ltd. This product has not yet been released into the market. It took six years of research and development for Vaportec Ltd to invent SPIREX^{TM} ECO-DRAIN. The project proposal came at an opportune time for the business to gain insight to strategic marketing direction for its innovation.

The project

The strategic marketing project comprised the requirements of the course aim. It was an individual student project, divided into four parts and with clear time frames:

- − Part One: Marketing Environment Analysis for SPIREX^{TM} ECO-DRAIN.
- − Part Two: Marketing Audit for SPIREX^{TM} ECO-DRAIN.
- − Part Three: Strategic Analysis and Recommendations for SPIREX^{TM} ECO-DRAIN.
- − Part Four: Formal presentation of the project to the business and the faculty.

After consultation with the business it was decided to make it into a competitive project. The business realised the intensity of the project when they reviewed the developed assessments and the requirements of the participating students. As a consequence, they offered to be accessible to all the students whenever the need arose, to support the students with relevant information on the business and the product, and to meet with the cost of the project. Since it was a competitive project, Vaportec Ltd offered to give cash prizes for the first, second and third best strategic marketing reports; and certificates to all the students who successfully completed the project. The monetary support and the certificates that can be used in Curriculum Vitae offered the students a strategic marketing challenge to compete and accomplish. The developed project package (consisting of the assessments, the product, the business guideline and the sponsorship) enabled the course facilitator to fully capture the course aim and expectations.

The above package was discussed with the students for their feedback. They were equally keen as Vaportec Ltd to take the project. The project's first part allowed the students to do research, investigate the factors relevant to the assessment, analyse and interpret the implications. It also allowed the course facilitator to monitor their

progress and assess their performance. The assessment outcome created the opportunity for students to identify their individual weaknesses and improve on them before embarking on the second part.

For the second part the students had to audit the market, the competitors and the industry for SPIREX^{TM} ECO-DRAIN. The third part involved using several strategic marketing analytical tools and models to develop appropriate strategies for the innovative product. The fourth part required the students to do a fifteen minute formal presentation to the business and the faculty on what they accomplished in their project. The business and the course facilitator assessed the presentations.

In order to accomplish all three parts effectively the students were required to study the theory and concepts in class and apply it to their project in the real world.

CHALLENGES OF APPLIED LEARNING IN STRATEGIC MARKETING

Lumsden (1997) equated hard work with success and satisfaction and went onto suggesting that challenge is the essence of engagement. While all three parts of the marketing project made applied learning realistic and meaningful, there is no doubt that it was challenging for every student. The project required each student to implement an effective time management plan to successfully achieve the outcome. It also challenged them to integrate theory and reality. At the start of the project the students were motivated by the fact that they were going to work with a business for their project. The full project package (sponsorship, etc) was a further motivator. But the implementation of the project was the challenge they had not anticipated.

After the completion of the first part of the project they realised the challenge of applying what they learnt in the classroom to the real world. This realisation was somewhat daunting for few of them. Those few voiced their opinion by comparing the project with other less applied academic exercises where they can easily research in the library using text books and the internet and do assignments, in some cases last minute and still pass. The challenge at this stage was for the course facilitator to make those few students aware that the assessment was structured to contribute towards enhancing their learning in this final year BBS course. "Pedagogical catalysts" (Torosyan, 2001, p.317) in the form of encouraging those students to self-assess their performance and identify the daunting factors was utilised. The process exposed weaknesses in analytical skills and time management. This required extra tuition and peer support from other students. That assistance boosted their confidence to overcome their weaknesses. The realisation of the benefits of applied learning enabled them to negotiate appropriate approaches to mesh theory with reality. They also realised that the benefits would remain with them in their career paths in the future. As a result all students continued the second, third and fourth part with greater enthusiasm and commitment.

A WIN ALL SITUATION

The course facilitator

"A teacher's visibility in the learning environment as well as in the greater community invites students to see her or him as a model" (Woods and Weasmer, 2003, p. 682). This project allowed the course facilitator to network in the industry and negotiate a credible assessment project for the course. This positioned the facilitator as a role model who integrated the industry with the classroom learning. The students appreciated and acknowledged this role of the facilitator in their reports.

The process of monitoring student progress through the different stages of the project enabled the facilitator to work with the students towards their applied learning. Shank, Walker and Hayes (1995) support this approach in higher education that possesses all the characteristics of a service industry, that is educational services are intangible, heterogeneous, and inseparable from the person delivering it and the customer (student) who participates in the process. This applied learning opportunity enhanced that aspect of the educational services because the course facilitator and the students worked together to ensure a successful outcome of the project.

Students

Lammers, Kiesler, Curren, Cours and Connett (2005) Young, Klemz, and Murphy (2003) discuss that effort, time spent studying, and ability to apply knowledge influence learning performance; and they suggest that students' performance can be improved if they have clear expectations of time commitments. All of that was effectively applied in this strategic marketing project. By the third part the students focus was on completion and achievement of the project. They were no longer concerned with the prize or the certificate. Their personal gaol was to complete the project to the best of their individual ability and on time.

The industry

The project received appreciative commendation from Vaportec Ltd. They took on board several of the recommendations made by the students and implemented them. As a business they were not aware that such marketing project was possible for their innovative product and found the process meaningful and relevant. Their awareness led them to sponsor another student project in applied learning for the final year BBS Marketing Research course, with focus on "Market perception of SPIREX^{TM} ECO-DRAIN" that required qualitative and quantitative research methods, in 2008.

CONCLUSION

Applied learning in Strategic Marketing can be meaningful when the real world business environment is offered to mesh theory with reality. To achieve this there are three components to develop and integrate. The first is to network with the industry to ensure a relevant, realistic and credible project. The second is to develop appropriate assessments to fully capture the course aim and learning outcomes through that project; communicate the requirements to the students; and allow them to identify and

grasp the benefits of applied learning. Finally, the business involving itself in the project must be supportive and appreciative of the role of the students and the course facilitator.

Course facilitator
- Negotiates with the industry
- Aligns and develops appropriate assessments
- Communicate the project requirements to the students
- Work with and monitor student progress, and
- Provide assistance to students as required.

Students
- Awareness of the benefits
- Time management skills
- Commitment to learning

Industry
- An appropriate product for the project
- Information & guidance offered to the students

The successful combination of all three would create a win all situation for applied learning made meaningful and realistic in the final year undergraduate Strategic Marketing course. The above figure illustrates the integration of the key components.

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Police managers' views about their university education and professional status

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Policing in Australia has been driven by the stated goal of increased professionalism for over the past two decades. As part of the drive to reform and professionalise police organisations, police across all organisational ranks and jurisdictions are often encouraged and in some cases mandated to obtain formal university qualifications. Today, police of all ranks enrol in a variety of university courses involving both cooperative arrangements between police organisations and universities and external university courses. While there has been some Australian research into the outcomes of university education for police recruits, there has been very little research focusing on university education for police managers. This paper reviews the literature in the field and reports on the initial findings of a research project examining New South Wales police managers' expectations of their university education and the perceived workplace relevance of this education after completion of their degree. One of the more interesting findings to date is that generic transferable skills such as communication, problem solving, decision making and analytical ability gained from completing a university degree are viewed as being the most relevant for police managers as these skills helped to facilitate increased confidence on the job. Discipline specific knowledge and skills gained from study are not perceived to be as relevant for police managers in their jobs. These findings and others, including police managers' beliefs about police professionalism will be discussed in the paper.

INTRODUCTION

The relationship between Australian police organisations and tertiary education providers is complex. For over 20 years leaders in policing, including police ministers and commissioners, have discussed and debated the need to professionalise police across all organisational ranks through university education. It is clear that senior police officers are required to work in ever changing and increasingly complex organisations often in uncertain political environments. Traditional command and control structures are no longer in place and have been replaced by more open and accountable organisations. It is expected that senior police will have the necessary operational knowledge of policing and management skills and capabilities required to run modern police organisations. The management skills required by senior police are different to those required in the past and include the ability to communicate and motivate staff, critical thinking, strategic planning, organisational cooperation, and democratic leadership that builds trust and encourages consultation (Macdonald, 1995 and Lee and Punch, 2004). It is within this evolving setting that discussions pertaining to police education have taken place but debates remain ongoing to this day and various steps are still being taken by Australian police organisations to reach the goal of police professionalism. Within Australia there is a dearth of research in this area and the views of senior police remain unclear. This paper begins by contextualising prior research in the field through an examination of the impact of

university education on police. The findings of the current research have been consolidated into major themes and are presented by way of a discussion of New South Wales police managers' expectations of university education, perceived relevance of their education, and their professional status.

UNIVERSITY EDUCATION AND POLICE

The suggestion that police should obtain university qualifications is not a new one. August Vollmer, the police chief in Berkley, California initially encouraged police to undertake formal university education at the beginning of the twentieth century (Carte, 1973). However, it was not until the late 1960s that significant numbers of police leaders and administrators in the United States began to debate the benefits of university education for police and the role of university education in police professionalism started to become accepted (Roberg and Bonn, 2004). Since this time, there have been a number of reviews carried out mainly in the United States on the impact of university education on police attitudes and performance. The large body of literature suggests that university education has both positive and negative impacts upon police, although the majority of reviews found more positive impacts of university education.

Key researchers in the area have found the *positive impacts* of university education to include lower cynicism for senior officers (Niederhoffer, 1967), less authoritarian behaviour (Smith, Locke, and Fenster,1979 and Dalley, 1975), fewer citizen complaints (Cohen and Chaiken, 1972 and Lersch and Kunzman, 2001), lower dogmatism and higher self esteem (Guller, 1972), fewer incidents of arrest in discretionary situations (Finkenauer, 1975), more open mindedness (Parker, 1976), higher performance ratings (Cascio, 1977 and Roberg, 1978), higher administrative abilities (Wycoff and Susmilch, 1979), higher performance in police academy training (Lester, 1983), better informed practice and use of critical thinking in carrying out duties (Carter, Sapp & Stevens, 1989) better decision making and flexibility in problem solving (Carter and Sapp, 1990), higher value for ethical conduct (Shernock, 1992) increased initiative and taking on of leadership roles (Kakar, 1998), decreased levels of use of force (Terrill and Mastrofski, 2002). The research into the impact of university education focuses more on police attitudes as individual performance is often difficult to measure (Reiner, 1998). Also, police organisations are diverse and change over time and may have contested goals so performance measures are not absolute and may vary between organisations (Reiner, 1998; Roberg and Bonn, 2004).

However, not all research findings into the impact of university education on police have been positive. A smaller number of *negative impacts* of university education have also been found, including higher cynicism scores for junior officer (Niederhoffer, 1967 and Regoli, 1976), higher attrition rates for police with higher degrees (Trojanowicz and Nicholson, 1976 and Weirman, 1978) and less respect for citizens (Shernock, 1992). So, while the majority of findings about the impact of university education are favourable there do remain some negative findings from key researchers.

The first national level research pertaining to university education for police began in Australia in 1986 when a formal review into police education for upper level police managers was conducted at the request of the Australian Police Ministers Council (APMC) (Rohl & Barnsley, 1995). The review "Characteristics and Educational Needs of Upper-Level Managers in the Australian Police Forces" surveyed 529 police managers from across Australia. The most significant finding of the review revealed that 86% of respondents were in favour of police oriented university courses for senior police. However, the respondents also expressed some scepticism towards university education and felt that university education would not necessarily help police managers perform better with a key view being illustrated by the following statement, "You can make an academic out of a policeman, but you cannot make a policeman out of an academic" (Rawson, 1986:140). The review recommended that police managers undertake university education and that a national police education course be implemented.

For the past twenty years, the idea of mandatory university education for all police managers and a national strategy on police education is still being discussed and debated and very different views are held by key stakeholders across Australia (Trofyfmowych, 2007). Nevertheless, the Australian Police Ministers' Council is still very committed to university education for police. In its Directions in Australasian Policing 2005 -2008 it stated that it has an "Ongoing commitment to educational and career development framework for the continuing development of police employees" (Australian Police Ministers' Council, 2005).

Australian research into police education has largely been located within the discussions and research into police professionalisation. Most research to date, has focussed on entry level police and the notion of promoting the professional status of police through the completion of university education as an entry requirement (Lewis, 1992; Chan, 1997; Rushbrook et al 2001). As with the key American research, there is limited Australian research pertaining to university education for police managers. While the notion of police undertaking university education is no longer new, senior police within the New South Wales Police Force have very mixed views about university education and police professionalism. The current study addresses gaps in the existing Australian literature by exploring police managers' views about their university education and professionalism.

THE PARTICIPANTS

Twenty six participants from the New South Wales Police Force were interviewed for this research. All of the participants were working as police managers at the rank of inspector or superintendent and had completed at least one university degree. The majority of participants however, had completed more than one university degree. To meet the objectives of this research senior police were purposively contacted directly by researcher. A number of the research participants (but not all) were known to the researcher who works at the Australian Graduate School of Policing. This allowed the researcher to select participants from across New South Wales that were respected in the field of policing and had completed a university degree (Neuman, 2003). The sample size was determined when saturation was reached and no new information was reported by participants (Lincoln and Guba, 1985).

METHOD

Semi-structured interviews were conducted by the researcher and ranged from 35 minutes to 90 minutes in length. An interview schedule was utilised and participants were encouraged to talk freely and add their own additional views throughout the interviews. Questions asked included, "What were your initial expectations of university education and were your expectations met after the completion of your studies?" and "In what way was your university education relevant to your job and can you provide examples of this?" All but one of the interviews were digitally recorded and transcribed. One research participant did not consent to being recorded so detailed notes of the interview were made. Prior to the interviews taking place, the research objectives were discussed with the participants and each participant was invited to participate in the research. All of the interviews were conducted at a location that was chosen by the participant to facilitate them feeling at ease. Typically, interviews were conducted at the participants' workplace or the researcher's workplace and in a few cases interviews took place over the phone. Most participants in the research appeared to speak freely and openly about their views on university education and police professionalism. Data were analysed within the thematic areas of expectations of university education, workplace relevance of university education and police professionalism. Both common and divergent views emerged from the interviews.

EXPECTATIONS OF UNIVERSITY EDUCATION

Overall, police managers held very favourable views about their university education and thought higher education was a good thing for police in general. Most indicated they enrolled in university after they joined the police for professional and personal development reasons. A minority indicated they enrolled in university with the expectation that it would increase their chances of promotion. It was noted by one participant that, 'Higher education is now much less important for promotion than it was 10 years ago.' Another participant commented, 'After the Wood Royal Commission into the New South Wales Police Service in 1997, we were all scrambling to enrol into higher education courses as this was one of the recommendations of the royal commission.' Police managers did not share a common perspective regarding the most appropriate design, curriculum and delivery of university education for senior police.

The police managers who took part in this research held degrees at both the bachelor and master level and interestingly in many different fields of study including police management, law, criminology, teaching and human resource management. In addition, nearly half the participants thought a university degree should not be mandatory for police managers. This is particularly surprising as all the participants interviewed held university qualifications. As police become more senior and move into management positions, they require more generic and essential skills including planning, organising, leading, controlling, communicating, decision making, budgeting and labour relations skills (Wilson & McLaren, 1972) that are enhanced through the completion of university. University education encourages reflective practitioner attributes that become more relevant to the job functions of police managers as they are no longer performing strictly operational duties and are required to be more strategic in their thinking (Roberg, Crank, & Kuykendall, 2000). Prior to

enrolling in university, police managers did not necessarily believe their university degree would be directly relevant to their job and help them in their role as managers. After they completed their university degrees their views tended to change and they felt their education had assisted them as manager. Paradoxically, some of the managers still thought on the job experience rather than higher education was sufficient for police managers.

RELEVANCE OF UNIVERSITY EDUCATION

The defined body of knowledge which is part of a profession is still being developed in policing (Goldstein, 2003). This was illustrated as participants by and large did not believe police managers should obtain university qualifications specifically in policing. For the most part they held the view that it was the generic skills such as communication, problem solving, decision making and analytical ability gained from the completion of a degree that were most relevant in the workplace rather than the discipline specific knowledge they gained from their study. The more time that had elapsed since a participant graduated the more this was the case. In order that they meet the goals of policing both in technical terms and ethical ones police managers have been called upon to be fully reflective and reflexive (Massey, 1993; Bradley & Ciocciarielli, 1994). The notion of the reflective practitioner (Schon, 1983) highlights the idea of situational understanding of actions, thoughts and assumptions within professional practice as situations happen or after they have taken place. Research has found that a reflective approach is not easily achieved by police managers (Adlam, 1999). However, this research and the Australian Graduate School of Police Management, Graduate Student survey (2001) into the perspectives of police managers who have successfully completed university courses revealed that police managers perceived that their ability to reflect upon and solve problems and make decisions had improved after the completion of a university course.

POLICE PROFESSIONALISM

While the changing police environment has been superimposed with calls for police to professionalise there is still no clear definition of police professionalism among New South Wales Police Force managers. Respondents had numerous interpretations and definitions of police professionalism and what it entails. A number of police managers, actually wondered if in fact police should be considered professional. For example on participant stated, 'Police managers may be professional in what they do but police on the street may not be.' Another participant asked 'How long are we going to debate the professional status of police and when will professionalisation of police happen?' The views of some police managers appeared to be that if police were in fact professionals they should have already been accorded professional status in Australia after continuous debate for over two decades.

Respondents' varied views about police professionalism were somewhat unexpected given the considerable research into police professionalisation and the past support of the professional status of police from police leaders both within Australia and overseas (Skolnick, 1966; Price, 1977; Carter & Sapp, 1989; Weinberger, 1991; Rohl & Barnsley, 1995; Police Commissioners' Conference, 2005 and Australasian Police Ministers' Council, 2005). Although university education is not the only component required for police to obtain professional status, it is an essential part of the

professionalisation process without which police will never obtain professional status. The discussions pertaining to police professionalisation and the application of professional status to police remain ongoing in Australia (Police Commissioners' Conference, 2005 and Australasian Police Ministers' Council, 2005) and this was very much reflected in the participants' views in this study.

CONCLUSION

This paper has provided a review of the literature pertaining to university education for police and has presented New South Wales police managers' views of their university education. Interesting, this study found that managers held both common and divergent views on a number of issues pertaining to university education. University education for police is supported in principle by police managers and it is viewed as being relevant for senior police more because of the generic management skills they obtain rather than discipline specific knowledge. The body of knowledge in policing is still being developed and not all police managers believe that police can obtain full professional status. Whether police will ever attain full professional status and whether this is desirable remains unclear. If police are to ever attain professional status in Australia there needs to be a defined body of knowledge and a common vision in the field. Further Australian research which considers the views of senior police and other key stakeholders in the field is required in order to help develop new courses that are suitable for senior police and to expand the body of knowledge in the field. The idea of university education for police and police professionalism was first proposed by August Vollmer over 100 years ago but there is still no consensus about what police professionalism actually means. Clearly, there is still a long way to go!

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Work-integrated practicum for human service professionals

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Work-integrated education, which provides off-campus experience in many disciplines at the post-secondary level, has received significant attention in the last decade. For those studying to become human service professionals, in particular, classroom learning does not have the scope to comprehend the complex nature of human issues. The Department of Applied Social Sciences (APSS) of the Hong Kong Polytechnic University (HKPU) has a long history of providing work-integrated education for professionals in the human services, including social work, social service and administration, early education, and applied psychology, through fieldwork placement and affiliation.

THE UNIQUE NATURE OF HUMAN SERVICE PROFESSIONALS

The human service professions emphasize human concerns and uphold humanistic values. Adopting competency- and outcome-based learning approaches, APSS has realized its goal to train frontline human service professionals who are competent, humanistic, and capable of meeting a variety of needs. As an integral part of the education programs, real-life practice encourages professional competence in a changing organizational and societal context.

For example, in the case of social work education, the competency-based model of practice learning used in the UK proved to be extremely useful (Shardlow & Doel, 1996). This model was founded on values, implemented in a skilful manner, and informed by knowledge, critical analysis, and reflection (CCETSW, 1991, 1992). In 2001, the Hong Kong Social Welfare Department developed a core competence and performance management system for its own staff (SWD, 2001): practitioners are expected to possess knowledge, skills, and values that reflect professional beliefs and principles. The practice of social work involves the integration of knowledge, skills, and values, which together define the core competence of professional social workers. Work-integrated practicums have become an indispensible means to develop the core competence of social workers.

PROFESSIONAL PRACTICUM FOR SOCIAL WORKERS AT THE HONG KONG POLYTECHNIC UNIVERSITY

The work-integrated practicum for social workers at HKPU is a well-structured program: each trainee works in a social service organization for a period of time under the guidance of an assigned practice teacher. In keeping with the competence-based approach, the practicum is designed to embrace both the professional and personal development of the trainees. The practice teacher meets with the trainees weekly,

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either in a group or individually, to monitor their progress. The weekly supervisory sessions account for between 25 to 40 hours of a 400-hour practicum. The projects assigned are intended to ensure that trainees develop a capacity for critical thinking about the content of social work and its purpose, and reflect on the values it represents.

Given the key role of practice teachers in ensuring the development of the core competence of social work students, HKPU has developed a training program for these teachers that fulfills several goals: it familiarizes the practice teachers with the curriculum so they can integrate classroom learning and on-site experience; it provides a systematic approach to the dissemination of knowledge and skills; and it allows for more efficient monitoring of the practicum. Borrowing from Kolb's (1984) writings on experiential learning and Schon's (1987) views on the value of reflection, we created elementary and advanced in-service training courses for practice teachers in late 1990s. These courses provided the practice teachers with the experiential education required to encourage and facilitate the self-reflection of their trainees (Tsang, 2000).

EXPERIENTIAL LEARNING AND REFLECTION AS TOOLS FOR SOCIAL WORK EDUCATION

Educational psychologists and philosophers value experiential learning highly. In some internships, trainees can fail to meet the expected outcomes of assigned tasks even they have been active participants in the learning process.   This phenomenon has been analyzed by Kolb (1984), who maintains that not all experience is necessarily educative. Following Dewey, Kolb observes that there is a "need for experience to be organized and processed in some way to facilitate learning" (Sweitzer & King, 2004). In other words, trainees must process and organize their experiences in order to transform them into learning and wisdom. In the case of social work practicums, the learning environment is only educative when the following conditions are fulfilled: the social service organizations give the trainees the opportunity to practise direct interventions and treatments, rather than restricting their role to planning and observation; the trainees are active participants in the learning process; and the practice teacher provides the guidance necessary to ensure that trainees are able to analyze their experience. Normally, the fulfillment of the first condition is undertaken by the fieldwork coordinator and the practice teacher before the commencement of the practicum. The second condition is more complicated: in experiential education, the trainees "need to be active participants in the learning process rather than passive recipients of information given by a teacher" (Sweitzer & King, 2004). They must assume the responsibility to enrich the knowledge and skills they acquired in the classroom, and to raise any concerns with their practice teachers. For this reason, we encourage trainees to write their own learning contracts at the beginning of the placement and to reflect on their performance during the supervisory sessions. The third condition relates to the practice teachers, who play a significant role in determining the trainees' level of achievement in their core competence. The dynamic between practice teacher and trainees is crucial: this topic is specifically addressed in the preparatory workshop before the commencement of the practicum. The tools, strategies, and techniques employed by practice teachers should be closely examined to determine their effects on the dynamics of practice teaching.

As experienced social workers, practice teachers are able to coach the trainees through role play, practice supervision, and various other means. Still, there is no guarantee that trainees will become competent workers solely through observation and practice. The personality, temperament, value system, and attitude of the trainees can be potential obstacles to the pedagogic process, even in the case of trainees who have actively participated in the practicum. Teaching alone will not necessarily foster trainees' core competence. During direct encounters with the service users, trainees are required to reflect on their course of action and, if it is proving unsuccessful, to modify it as necessary. This is the kind of "reflection in action" that Schon (1987) describes in his famous work *Educating the Reflective Practitioner*. However, it is not always possible for trainees to pause and reflect on their intervention skills in the midst of an interaction with a service user, since the process is dynamic rather than static. Trainees often evaluate their performance when they record their activities: during the act of writing, they become aware of the theories and concepts they could have put into practice. This "reflection in action" allows trainees to discover how "knowing-in-action" could have contributed to a better outcome. However, we cannot assume that trainees always adopt a neutral and objective perspective when evaluating their performance; like ordinary people, they might have their blind spots. Dialogue with the practice teacher encourages trainees to reflect further on their experience in order to reveal what they perceive and fail to perceive about the reasons for their outcomes.

The dialogue between practice teachers and trainees is not similar to the spontaneous conversations of daily life. Instead, it reflects a "dialectical approach whereby understanding is achieved through interplay of opposites and contradictions" (Baker, Jensen, & Kolb, 2002). This dialectical process allows trainees to recognize the ways that they successfully integrate knowledge and skills, and also any weaknesses that may have hampered their efforts. During these sessions, practice teachers often draw attention to personal qualities of the trainees, particularly those that act as obstacles to learning. Obstacles can arise from certain personality traits, value systems, or even developmental problems leaving emotional scars. When serious problems are identified, professional counseling is recommended. Fortunately, this is rarely the case: the majority of trainees are able to use the dialectical process to develop their self-understanding and thus promote their personal development.

Keeping a journal also encourages trainees to reflect on their actions and motivations. The formal records kept during the social work practicum are mainly concerned with the tasks and application of skills and knowledge: they do not take into account the trainees' personal values and emotions. However, journals give the trainees "a way of making sense of complex experiences and associated thoughts and feelings" (Alterio, 2004). They require students to organize their experience, and this process transforms experience into learning. When these journals are read by the practice teachers, they create new avenues for discussion which further creates new meaning to both parties.

THE DESIRED LEARNING OUTCOME: TO BE A REFLECTIVE PRACTITIONER

Through reflecting on their experiences, trainees will clarify their values, recognize their strengths and weaknesses, and gauge their abilities in professional practice. By the end of the practicum, their level of competence should meet the standards required by the professional body. According to Shardlow and Doel (1996), this is the starting point of their career—the point, after the practicum, when they have achieved the requirements of the professional standards. This point also marks the end of their educational process: after their practicum, newly graduated social workers are expected to deliver professional practice independently (Shardlow & Doel, 1996). However, the nature of social work practice is contextual and situational: it demands that practitioners be flexible and creative in applying knowledge and skills, and capable of reviewing their own values when facing ethical dilemmas. The work-integrated practicum does not, in itself, guarantee the practitioner's continued professional and personal development. It is only through continual reflection that young professionals can independently pursue their further development. As Watson and Wilcox (2000) observe, "in developing a knowledge base in the helping professions…..one must learn to reflect on the 'swampy lowlands' and 'messes' of human interactions and communication." The successful learning outcome of a practicum is not merely a competent social worker but a reflective practitioner.

CONCLUSION AND DISCUSSION

To nurture a reflective practitioner in human services, there must be a well-structured practicum and appropriate input from practice teachers. The APSS program has devoted substantial resources to the work-integrated practicum for tertiary students: one full-time practice teacher is provided for each 10 to 12 students.

In other disciplines, internships usually involve supervision by on-site supervisors focusing on techniques and skills: the personal development of the trainee is seldom addressed. Learning is pursued through apprenticeship, modeling, or observation. These practices are less costly in terms of human resources but are not adequate for the training of human service professionals, whose program must incorporate opportunities to reflect on their values. To ensure the high-quality input of their practice teachers and to justify the expense devoted the human resources, APSS trains its team of practice teachers. Given the complicated demands on all human service professionals, intensive and vigorous input from practice teachers is indispensible in the training process. The authors strongly believe that the participatory and reflective approach taken in the department of social work should be extended to work-integrated programs for other human service professionals.

Cost considerations are probably the main obstacle to adopting such an approach since the teaching is very labour intensive and there must be an adequate number of suitable practice teachers. Other work-integrated practicums would need to develop their own teams of practice teachers according to the nature of their discipline and its demands. APSS conducted an action research project in Beijing to train local teachers according to Schon's reciprocal-reflection theory (Sung-Chan & Yuen-Tsang, 2003). Such projects would be worth pursuing to train social service administrators and all other personnel in human services.

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Community-engaged research in economics: pedagogical implications for Honours theses

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This paper is based on a community-engaged Honours thesis that grew out of the work-integrated learning in a Summer Vacation Project as part of the University of Western Sydney's Careers and Cooperative Education program. The project was jointly sponsored by the Senior Policy Advisor – Economic Development at Fairfield City Council and the Community Engagement Coordinator in the School of Economics and Finance at UWS.

Community-engaged research, as opposed to research into community engagement, is itself characterized by the reciprocity of benefit and the structured reflection typical for community engagement. We posit that for community-engaged research the reciprocity of benefit extends to the development of knowledge itself. Hence the newly developed knowledge in the academic discipline will be richer for the contribution by the community partner, while the solution to the community problem addressed will be richer for the contribution by the academic discipline.

In this sense, community-engaged research is systematically different from the applied research undertaken in many work-integrated learning projects. While community-engaged research is also different from participatory action research, it shares with it the focus on extending the discipline knowledge beyond the discipline's existing boundaries.

The paper discusses how work-integrated learning can establish a framework for community-engaged Honours research theses. It focuses on (1) how the previous work-integrated learning influenced the development of the particular thesis; and (2) how it was possible, in this case and more generally, to overcome the constraints that had a decade earlier forced the newly established cooperative education program at the University of Western Sydney to give up its original program, which had focused on work-integrated learning in Honours degrees. The new framework for the Honours research relates to on one of the roots of modern work-integrated learning, the apprenticeship model of the European medieval guilds.

INTRODUCTION: BACKGROUND AND CONTEXT

Cooperative education began in the USA at the turn of the century before last, when engineering professor Herman Schneider developed what became the Cincinnati Plan, an engineering degree that contained a substantial component of the curriculum as off-campus, real-world, paid experience (Sovilla and Varty 2004). At the celebration of the fortieth anniversary of cooperative education at the University of Cincinnati in 1946, Raymond Walters acknowledged in particular Schneider's convincing determination with which he developed and implemented the combination of work and study in a systematic way. At the same occasion Walters also recognised another and much older strand for the development of cooperative education, the European medieval guilds with their system of apprentices and masters (Walters 1947). Ann

Carlson mentions another earlier strand of the concept of cooperative education, the sandwich education program for architecture and engineering students, which Sunderland Technical College in northern England had launched in 1903, three years prior to Cincinnati (Carlson 1999).

When discussing the original meaning of the concept of cooperative education, Thomas Groenewald refers to Schneider's 1914 statement in a hearing before the US House of Representatives' Committee on Education and quotes the following defining elements:

> Aiming to tie theory and practice together, made to work hand-in-hand.
>
> The study program included an apprenticeship in the occupational field, which is planned and equally carefully worked out as the university curriculum.
>
> The practical work is coordinated through a number of devices in order that it has the highest possible educational value. (Groenewald 2004: 18)

It is interesting to review the cooperative education program at the University of Western Sydney (UWS) and its relevance for the development of community-engaged research in the economics Honours program against this background. The cooperative program's history and development has been briefly described by Freny Tayebjee and Mary McGovern in their contribution to the 2006 Shanghai conference of this institution. Of particular interest in our context is the program's origin in 1995, when funding was received to implement the Royal Melbourne Institute of Technology model of the Cooperative Education for Enterprise Development (CEED) program, which included "industry partners sponsoring a research project over … the final semester and the Honours year of a 3 year degree course" (Tayebjee and McGovern 2006). However, this program was quickly abandoned, because at the time its costs were prohibitively high for the mainly small and medium enterprises in Greater Westerns Sydney, who found it difficult to commit to a project over three semesters.

Not surprisingly, the vacation projects are the most successful ones among those offered by the cooperative education program at UWS. By 2008, the vacation program comprises 5 weeks summer vacation projects, 4 weeks winter vacation projects and 12 weeks summer engineering placements. The program also offers 12 or 24 weeks research internships, 24 weeks industry internships, and a 12 weeks trial as a graduate internship. While the projects are not integrated into particular degrees, they are advertised as "Careers & Cooperative Education's industry placement programs provide opportunities for UWS students from all years and disciplines to gain paid, degree-relevant industry experience" (UWS website http://www.uws.edu.au/community/in_the_community/careers/jobs_and_placements).

This paper discusses one way in which cooperative education can be integrated into Honours research degrees again – coming full circle to the original CEED model, but now taking into consideration the industry situation in Greater Western Sydney that led to abandoning CEED. In this discussion the paper reflects on the relationship between work-integrated and community-engaged learning as two forms of experiential learning. From the concept of community-engaged or service learning the

paper develops the concept of community-engaged research and then uses this research concept to review the particular experience of Honours students as apprentices, who stand at the threshold from teaching to research.

EXPERIENTIAL LEARNING: WORK-INTEGRATED AND COMMUNITY-ENGAGED LEARNING

UWS has embraced community engagement at the very top level and the leadership has followed through on their commitment by establishing a central unit responsible for the support of community engagement at all levels, including not only the cooperative education program, but also faculty in all disciplines. Economics as a discipline is in its theoretical endeavours arguably one of the academic disciplines most hostile towards recognising the value of experiential learning, both in teaching and in research and be it community engagement or cooperative education. Hence the theoretical reflections provoked by this particular experience are also situated in a field of discipline specific tensions.

We see community engagement as one kind of experiential learning. Yet when searching for discipline specific literature on community engagement, we found no material that related to community engagement and very little material that related to service learning, which can be seen as closely related to community-engaged learning (McGoldrick 1998, McGoldrick, Battle and Gallagher 2000). While we acknowledge that in the context of the discipline of economics the relationship between service learning and community-engaged learning would need to be investigated in more depth, we use the two here interchangeably.

Following Sarena Seifer and Kara Connors, we see community-engaged and service learning different from other forms of experiential learning in the following way: 'the value proposition of service-learning is not as one-sided as it is with volunteering, nor does service learning have the technical or the individual development focus of an internship or field study' (Seifer and Connors 2007: 6)

Having stated that there are literally hundreds of definitions of service-learning, Seifer had written in an earlier publication that service learning:

- has its theoretical roots in experiential learning theory;
- is developed, implemented, and evaluated in collaboration with the community;
- responds to community-identified concerns;
- attempts to balance the service that is provided and the learning that takes place;
- enhances the curriculum by extending learning beyond the lecture hall and allowing students to apply what they are learning to real-world situations; and
- provides opportunities for critical reflection (Seifer 1998: 274).

We thus define community engagement as a collaboration between higher education institutions and their larger communities for the mutually beneficial exchange of knowledge and resources in a context of partnership and reciprocity. In so doing, we tentatively identify two key aspects for community-engaged learning: we see community-engaged learning as a form of experiential learning with an emphasis on (1) reciprocal learning and (2) reflection on the process of learning itself.

The first emphasis on reciprocal learning is different from the emphasis on learning in work-integrated learning. Reciprocal learning emphasises the fact that both sides, the community or industry partner on the one hand and the students and their academic supervisors on the other hand learn from each other. While such reciprocal learning is obviously not excluded in work-integrated learning, it is not the main focus.

According to Schneider, cooperative education and with it work-integrated learning focuses on "theory and practice[,] made to work hand in hand", needing to be "tied together", rather than learning from each other. The focus for learning is on the student learning to integrate theory acquired in academia with practice acquired in the work place. In this sense work-integrated learning has the value proposition of "the technical or the individual development focus", which Seifer and Connors see as different from that of service learning (2007:6).

The second emphasis lies with the reflection on this process of learning. This emphasis is shared by both work-integrated and community-engaged learning. In both cases students can identify differences to the learning they have experienced in a purely academic environment. In the case of community-engaged learning the students reflect on the differences between what characterises this reciprocal learning and the purely academic learning. They identify the specifics of reciprocal learning that are due to the influence of each of the two partners and those that are due to the interactions between them.

These specifics include differences in the questions asked. Students can identify when different issues are being investigated, when different questions will be asked of the same issues, and when the same or different questions will be asked in different ways. In all of these situations, the answers and how they are identified may or may not differ.

In order to provide a structure for a systematic analysis of all those different issues, it can be helpful to refer to Sandra Harding's distinction between method, methodology and epistemology. Harding clarifies the distinction between the three and admits that

> discussions of method (techniques for gathering evidence) and methodology (a theory and analysis of how research should proceed) have been intertwined with each other and with epistemological issues (issues about an adequate theory of knowledge or justificatory strategy) (Harding 2004: 457).

Hence students reflect not only on whether the techniques for gathering evidence, the methods used in community-engaged work differ from those used in purely academic work, but also on whether there are differences in the theories and analyses of how research should proceed, the methodologies. But it is likely that students will find the most surprising differences in what is considered an adequate strategy to justify the knowledge gained. In other words, in many cases and disciplines the epistemological differences between a purely academic learning situation and one in a community-engaged setting will be what contributes most to student learning.

Such epistemological questions have the potential to open areas of research, where community engagement can make interesting contributions – not least because this area is particularly under-developed in particular disciplines including economics.

KEY CHARACTERISTICS OF COMMUNITY-ENGAGED RESEARCH DEVELOPED FROM A PARTICULAR WORK-INTEGRATED LEARNING EXPERIENCE

The first author of this paper undertook a Summer Vacation Project that was jointly sponsored by Fairfield City Council and the School of Economics and Finance at UWS[1] half-way through his two year part-time Honours degree. This work-integrated learning experience introduced him to the world of economic development work undertaken at local government level. The main difference between this world and the one presented in the economics classroom is the perspective in which economic development is investigated. The overwhelming majority of academic economic research is undertaken in a national perspective and is concerned with the tools used by national governments to foster economic development and with the impact of using these tools.

Yet when working closely with the senior policy advisor for economic development at a local council, the student discovered a different set of questions, including questions like: What can a local government do to foster economic development in its area? What tools and instruments do they have at their disposal? What are the constraints under which they work? How do State and Federal economic policies impact on them?

The student discovered a whole new world of obviously relevant economic issues and began to explore their epistemological and methodological implications. Before long he suggested to his academic and work supervisors to change the topic of his part-time Honours thesis from an investigation of his native Chile in the field of development economics to an investigation of economic development issues that face the local council where he lives and works now.

Both supervisors agreed and funding was arranged for a Graduate Internship, again jointly sponsored by Fairfield City Council and the School of Economics and Finance, so as to allow the student to reduce part-time employment that did not relate to his research. This was of particular importance as half the time allocated for the completion of the research thesis had been spent investigating a different, although not altogether unrelated topic.

The jointly identified research question indeed raised a number of issues, which by their very nature not only needed to be addressed by the student together with the work supervisor and the academic supervisor in a joint effort, but which also questioned the academic discipline and its accepted assumptions, and which contributed to novel insights. Amongst the most significant insights was the understanding that it is not only the shift in perspective from the national level of economic development to a local perspective that has epistemological implications. The decision for a particular local perspective also has a range of epistemological implications, amongst them the fact that the local government of a relatively advantaged area is confronted with different issues in economic development than the local government of a relatively disadvantaged area.

As we outlined above for community-engaged learning, community-engaged research is characterised by a double emphasis: first the emphasis on the self-reflectivity of this particular kind of knowledge development process, an emphasis which is shared with research components of work-integrated learning; and second the emphasis on knowledge development that is shared by academics and their community or industry partners. This second emphasis distinguishes community-engaged research from applied research, which is more common in work-integrated learning.

The second emphasis brings community-engaged research closer to Participatory Action Research (PAR), from which it differs in so far as it does not lay claim to the two aspects of PAR's marginality that Steven Jordan discusses. According to him, PAR firstly rejects the notion that social research could be value-free, objective or scientific – he denounces this notion as an ideological position trapped in capitalism's power relations. Secondly he outlines how PAR is inherently linked with the struggle of oppressed or subordinate groups to improve their situation. He adds that PAR's 'commitment to linking social justice with research is yet another reason why mainstream social science has relegated PAR to the fringes of legitimate social research' (Jordan 2003: 186).

Community-engaged research shares with participatory action research the concern for an active role of the community partner in the development of knowledge, which ensures a specific contribution to the disciplinary knowledge. But community-engaged research does not necessarily share the inherent link with the struggle of oppressed or subordinate groups that is constituent for participatory action research – at least in its non-coopted form. Thus, any fringe status community-engaged research may have in a particular discipline must come from its second conscious emphasis discussed above, that of 'a self-reflectivity of the knowledge development process itself'.

However, if in a particular discipline the thinking about the process of knowledge development, the raising of epistemological questions leads to a position at the 'fringes of legitimate social research' in that discipline, it is actually the discipline itself that has a few questions to answer. Raising such questions in an Honours thesis is a courageous effort that deserves strong support from work and academic supervisors alike.

CONCLUSION: A REVISED APPRENTICESHIP MODEL FOR HONOURS STUDENTS

This community-engaged Honours research project grew out of a particular work-integrated learning experience as an ad-hoc solution. However, this solution overcomes some of the key constraints that led to the described abandonment of the work-integrated learning opportunities for Honours students through the CEED program at UWS a decade earlier.

The chances for successful replication of our approach are higher than they were for CEED for two reasons. First, the community-engaged Honours research has grown out of the work-integrated learning experience of a vacation project, which gives the community or industry partner a clear understanding of the quality of work that can be expected. Second, the combination with other collaborations in the context of

university community engagement assures the industry partner that academia is serious about the quality expectations and the supervisory support, as well as about the mutual benefit.

Thus, while the Honours students undertake community-engaged research, their academic and work supervisors act as two masters in the medieval guilds' apprenticeship model, as the Honours students stand at the threshold between being taught and researching themselves, in a context of mutually beneficial exchange of knowledge and resources between their masters.

In summary, our model would start with work-integrated learning in a cooperative education winter vacation project, which follows the capstone engagement unit that has been integrated into the third year of all degrees at UWS. In this vacation project the students' suitability for research and work with a particular community or industry partner can be established. Together with their work and academic supervisors the students identify a research project

- which is of sufficient interest to both partners for them to commit resources;
- which has the potential to contribute to both the practice of the community or industry partner and to the academic theory; and
- which raises epistemological questions of sufficient interest to be discussed in the thesis.

The community-engaged research for the Honours thesis itself can be supported by a research internship through the Careers and Cooperative Education program, funded in the context of other community engagement activities between the academic unit and the community or industry partner. This ensures the commitment from both partners to provide supervision in the form of two masters for the apprentice and to collaborate not only regarding the supervision, but also regarding the joint investigation. The dollar amount required for such a research internship brings the project back into the financial range of small and medium-sized enterprises in Greater Western Sydney. And last but by no means least, the income earned brings an Honours degree back into the realm of possibility for those students who have to fund their studies through part-time work.

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The project to cultivate the leader of a small group by PBL system

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A project utilizing PBL (Project Based Learning) for a small number of group has been carried out to produce the leaders who can make a practical management of a concrete task in one's company as a leader. Based on the survey 2005, the project in 2006 had three themes, 1) the performance estimation of material property, 2) the evaluation of the energy conservation equipments in building, and 3) embedded software in machines. A subsequent project in 2007 was executed to produce the leaders of a small group by PBL system for the latter two themes above. This paper describes the brief outline of the project, the function and the effects of the knowledge model, SECI model. The staffs consist of the members of local bodies, private companies and col-leges including students. The program has four stages in a sequence; 1) stage I : the basic knowl-edge for a professional engineer in related fields, 2) stage II : to provide the basic knowledge of MOT, Management Of Technology, and includes the discussions, 3) stage III-1 : to provide the basic knowledge in the field related to each theme, and 4) stage III-2 : to execute the practical experiment and/or learning. Each stage can be efficient by the questionnaires, replies, discussions, etc. during all activities, where the participants and the staffs are involved in the process of transferring the tacit knowledge and/or formal knowledge among them.

Keywords: PBL, Human resource development, Energy conservation, Embedded system, A Leader, Project Management

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INTRODUCTION

Miyagi National College of Technology and Sendai National College of Technology (MNCT) had been funded as a national project to promote human resource development and to increase the number of workers in local area, particularly for the employees who have worked within three years in a new field.

The survey to the around 250 private companies in local area, Miyagi prefecture and Fukushima pre-fecture was executed to clarify the need of relatively small size of companies (Miyagi National College of Technology and Fukushima National College of Technology, 2006). The result indicates that they need the human development education, and 42% for the fields to apply existing technology and 17% for the high technology. The expected talent is the ability to solve the problem that occurs in the company ac-tivities, i.e. need oriented rather than seed evolving.

In 2006, in order to acquire the capability of practical management while the task should be basic level according to the participants, two colleges together have proposed the PBL (Problem/Project Based Learning) with three themes as below considering the survey and available resources of both col-leges(UTSUMI et al., 2007, Miyagi Organization For Industry Promotion, 2007).

> 1. The performance estimation of material property,
> 2. The evaluation of the energy conservation equipments in building, and
> 3. Embedded system in machines

The project in 2006 indicated the performance for the above three themes and the discussions in the preparation phase for the next project in 2007 proposed that the group leader of several members is ne-cessary in near future, considering the increase of the offices and factories of the fields related to 2) and 3) in local area.

This paper describes the framework, content and some example of the project in 2007 based on the above background.

THE FRAMEWORK OF PBL PROJECT TO CULTIVATE THE LEADER OF SMALL GROUP

The overview of the project is shown in Fig. 1. According to the previous project in 2006 and the surveys and discussions between many educational organizations that have work integrated learning system in EU, USA, China, etc., the framework can be described with five bodies (Ikeda, 2007 and In-vestigative Commission of Educational System of Basic Level Engineers of Miyagi National College of Technology, 2007);

> 1) Steering committee: The executive members from industry, local body and colleges inquire the advice and concrete plan to advisory committee. It investigates them in terms of the industrial activity, government policy, etc. and establishes the strategic basement of the project. Also it evaluates the out-come and makes suggestions to improve the project.
> 2) Advisory Committee: This committee is lead by a coordinator and makes the curriculum and the allocation of rooms, staff, educational materials, equipments, etc. The administrative issues are dealt by the secretary in this committee.

3) Teaching Staff: They executed the project in the lessons with students. They are from various or-ganizations corresponding to the subject of themes and have an experience and expertise in the related fields from five to thirty years.
4) Center for enhancement and support of basic technology: Miyagi prefecture has an alliance to en-hance the capability of private companies in the fields of basic technology, such as mechanics, electronics, etc. It includes all related universities and colleges so that its human network has provided the teaching staff. In effect it established the educational project in 2007.
5) Private Companies in Miyagi Prefecture: The networks of private companies mainly focused are society for industrial technology promoting of MNCT that has supported Collaboration Technology Center of MNCT and Sennan Area Industrial Association that has exchanged information with MNCT for years.

As seen as arrows, teaching staffs have surveyed the needs in local area and advisory committee makes plans under the advises and controls of the steering committee. Private companies apply to advisory committee and will attend the educational course.

FIGURE1
The Framework of the Project in 2007
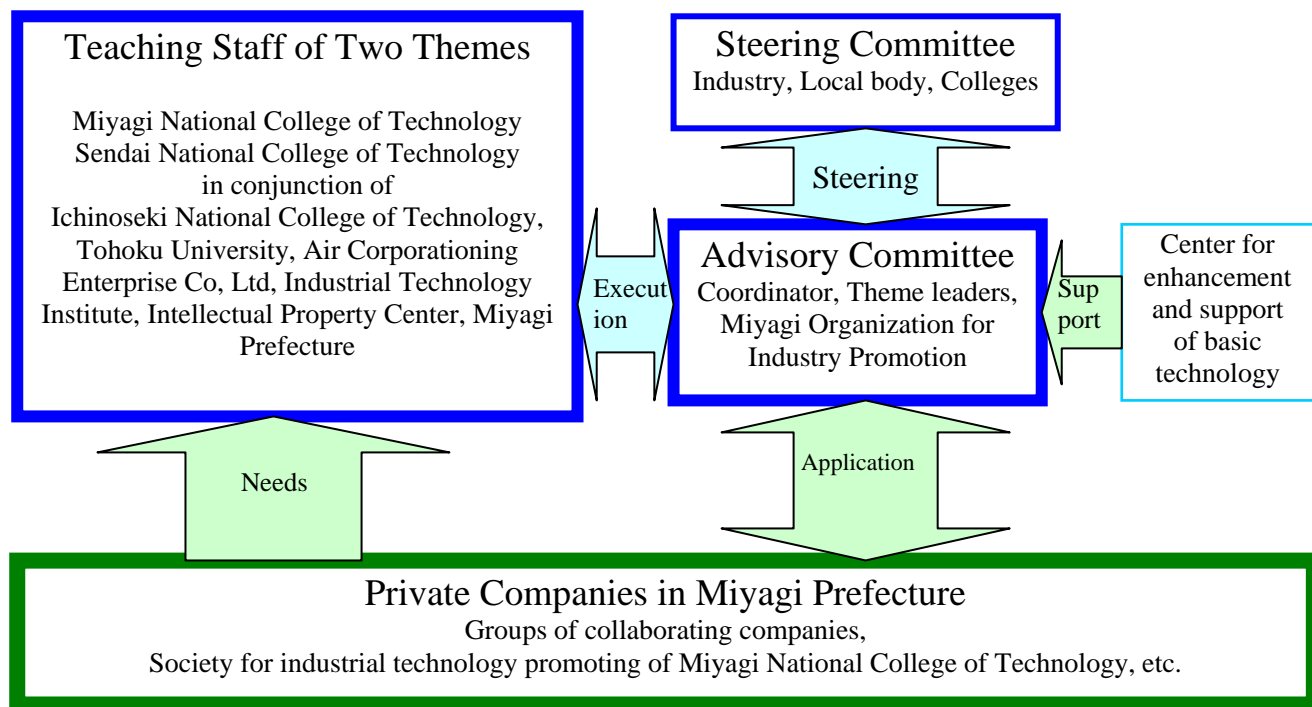
OVERVIEW OF THE EXECUTED PROJECT

The actual project was executed with two themes listed above, and the participants and the brief content are;

1) Theme 1: the evaluation of the safety and energy conservation equipments in building (eight trainees)
Scope: The development, operation and management of the machines and equipments in factory and building needs the knowledge of the fields of mechanical engineering, architectural engineering, etc.
Targeted level: The productivity in the industry is based on the safety, high efficiency and energy conservation of machines and equipments. It is necessary for the engineers to achieve them in practical field.
Resulted talent and its role in practice: The capability of the analysis of required performance of the working and/or inhabitant space.

2) Theme 2: embedded system in machines (six trainees)
Scope: The concerning field is where industrial devices and machines can be more efficient and have higher performance with implementing the control part, e.g. mobile phone.
Targeted level: This theme deals with software but also the combination with hardware, while the recent evolvement of FPGA/CPLD (field programmable gate array/complex programmable logic device) enables mounting hardware on the product.
Resulted talent and its role in practice: The capability of using software (micro computer) and hardware (FPGA/CPLD) to design the embedded system corresponding to the usage in practice is in-quired.

THE PROCEDURES AND RESULTS IN THE EXECUTED COURSES

As there are different backgrounds among the trainees and many knowledge and requisite as for the engineer, the procedure consists of two phases shown in Fig.2;

1) Stage I: The knowledge required as a member of the society and an engineer is learned, therefore, all trainees attend. Subjects are engineering ethics, business studies, intellectual properties, global envi-ronment and bioengineering. Also to acquire the capability as the leader, the subject on MOT, Man-agement Of Technology was added.
2) Stage II: This stage is subdivided into two sub-stages according to the themes as below.
(II-1) Basic knowledge necessary in each theme is provided.
(II-2) PBL is executed in each theme and there is a variety of learning methods.

This is essential part of the course that all the knowledge learned until this stage is summarized and used to solve the problem brought by the trainee and/or the teacher. There are questionnaires before and after the each lesson, and all members including teachers discusses about the questions and comments at each lesson for mutual understanding.

The curriculum was developed from 2007 March and the principle is "less period for basic expertise and longer period for the PBL learning". The course started in 2007 September and finished in 2008 March. Stage I takes two months and stage II takes

six months. Subsequent period is interactive com-munication between trainees and teachers for the discussion, summarizing the report, preparing the presentation, etc. It enables us to transfer the formal and tacit knowledge to trainees during the dialogues among the members, where the discussions of the trainees' job site are very useful.

After the execution of two themes the meetings including the employer are held and the questionnaire is applied in order to evaluate the effect of the project. The results show;

1) The trainees have started to ask the supervisor about the principle of the practical fields in their company, that is, they started to think about the management and the steering system.
2) The trainees succeeded to make the plan and the execution of the project in this project including the presentation.

FIGURE 2
The Procedure Executed in the Project

PBL * ; Problem (Project)-Based
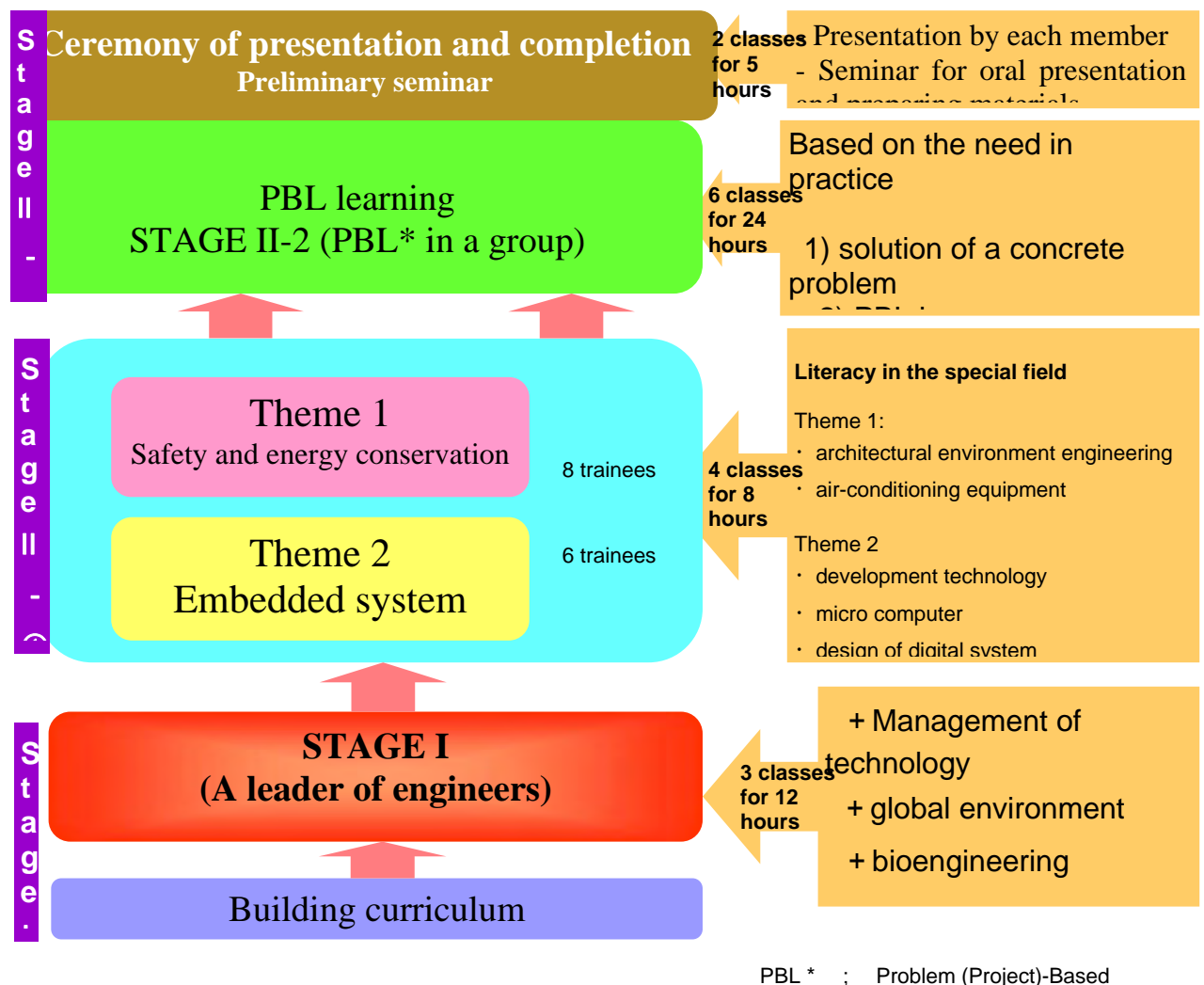
DISCUSSION

According to the response of trainees and belonging companies, it is likely to approve the effectiveness of this project. And the points to be improved including the project in 2006 would be;

1) The number of trainees: There are fourteen trainees in this project and teaching staffs are five for stage I and eighteen for two themes at stage II. The number of trainees is thought as the maximum when the PBL is applied to one or two groups according to the available equipments and teaching staffs.

2) The principle, 'less period for basic expertise and longer period for the PBL learning' allows all members to have more chances to transfer the knowledge through the communication in lessons. The questionnaires at each lessons and the careful survey of participant's demand supported the under-standing between teaching staffs and trainees. For example the teacher can provide the expertise and future direction based on each trainee's need and capability.

3) MOT lectures: They are newly introduced in this project adding to the previous one and are effective to acquire the capability as a leader of the group of several members. The trainee's scope was extended to the upstream activity such as the meaning of the facing task and also to the downstream activity, e.g. the influence of the task achievement.

4) PBL Structure: The reason that this project can achieve the purpose can be explained with SECI model (NONAKA, 1995) shown in Fig.3 with comments provided here and corresponding stage in the project. In this project the cycle starts at the combination and ends at externalization. The combination is done by the lectures with textbooks and presentation slides, and through internalization and socialization processes, the knowledge and expertise are externalized in the form of report and presentation by the trainees. The cycle is rotated only once basically, however, some trainees may rotate a few times because the report was written at each class and the final report and presentation materials has been checked several times in some cases.

5) The whole project may depend on the capability of teachers: The discussions among teachers show that the teacher should be able to answer the student's question within a few days since the will to study tends to decrease after days (Miyagi Organization For Industry Promotion, 2008). It means the teacher should have the broad expertise and the links of knowledge. The books and the introducing many related organization were helpful, and well prepared materials may help about that situation in the next project.

FIGURE 3
SECI Model and PBL Project

Tacit knowledge

Socialization	**Externalization**
- The person who has and/or experienced the capability that merges the broad knowledge and creates new idea and products is mandatory **Stage II-1 and II-2**	- It evolves from the presentation, report, technical paper to the handbook - The range for common property tends to expand **Stage II-2**
Internalization	**Combination**
- Practical training, experiment are effective. **Stage II-1 and II-2**	- Basically the knowledge of various areas is needed, mainly through lectures, books, etc. - Merging the different areas and indicating good example is effective Stage I, II-1 and II-2

Tacit know-ledge

Formal know-ledge

Formal knowledge

CONCLUSION

The PBL (Problem/Project Based Learning) project to cultivate a leader of small number of engineers was executed in the framework of professional education and it has two themes according to the survey performed in advance. The procedure has two stages, the first stage is for the literacy for an engineer and the second stage is for study of professional knowledge and PBL in a group, while the structure is similar to the previous project in 2006.

As the conclusion, this new PBL procedure is effective to make professional education approved by participants and employers. The several trainees in a group are the maximum to execute the project and the capability of teachers is essential. The lectures of MOT allow the trainee's scope to be wider and the longer period of PBL seem to be better to transfer the knowledge. All the activities may be explained by the SECI model.

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Service Learning @ Hospitality Management Phase 11

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What is service-learning? How does this set of teaching and learning practices differ from internships or other kinds of experiential learning? Are we merely giving credit for volunteer activities? How can community service be academic? Do people who advocate service-learning also have a particular political agenda? How would service- learning fit into a Hospitality Management programme?

Robert Putnam's (1995) "Bowling Alone" essay brings a sense of urgency to this challenge. Putnam summarized a series of indicators that pointed to a decline in participation in neighbourhood groups, voluntary associations, and other "institutions of civil society". Although he may have overstated the case for this decline, Putnam's essay nonetheless highlights the importance of civil society in preserving and modifying democracy. As former Senator Bill Bradley (1995) has argued, these institutions – neighbourhood and local voluntary associations – are necessary along with government and free markets for the preservation and transfer of strong democratic traditions. If Putnam and Bradley are right, then the viability of democratic institutions requires the involvement of everyone, not just the people involved with the programme.

At the School of Tourism and Hospitality (STH), University of Johannesburg (UJ) we see service-learning then, as a pedagogy that addresses both our obligations as "institutional neighbours" in the communities in which our campuses are located and our historic role of preparing students for participation in civil society.

To be affective in producing such skilled personnel, a great need for teacher/lecturer transformation must be produced. The novelty of community service-learning arises out of moving away from being just transmutator-lecturers who are capable of embracing change, to being transformation teachers who are initiators of change;
able to eradicate the obstacles towards change in their institutions of higher learning and ultimately to being transcendental lecturers who can manage change and become leaders that are critical, analytic and intellectual (Maxwell,1993).

The purpose of this paper will be to report on the early stages of what will be a longitudinal study. This will outline the structure and implementation of service-learning in 2009 into the hospitality management programme over a 3 year period.
Also, we will refer to students and learners as follows:
Students being from the School of Tourism and Hospitality
Learners being pupils from the EP Bauman school

The implications of these findings will be discussed.

INTRODUCTION

Service-learning has the various pedagogies that link community service and academic study so that each strengthens the other. (Dewey, 1996) underpins the basic theory of service-learning as the interaction of knowledge and skills with experience to be the key for guided learning. Students learn best not by reading the "Great Books" in a closed room but by opening the doors and windows of experience. This does not have to become an increasingly sophisticated and complicated process and procedure. .

Service-learning appears to be an approach to Work Integrated Learning (WIL) which is an expression of values and service to others. This determines the purpose, nature and process of social and educational exchange between students and the people they serve and between experiential education programs and the community organizations in which they work (Stanton, 1987).

AIM

The aim of this paper is to reflect on the beginning stages of our first contact with a community school close to the STH, by the name of the EP Baumann primary school.

Dr. E.P. Baumann has lent his name to a number of institutions including the E.P. Baumann Convalescent Home, the Baumann Crèche and the E.P. Baumann School. Dr. Baumann, a paediatrician, was one of the pioneers of the former Transvaal Memorial Hospital for Children which opened in 1923. As a gesture of gratitude for his selfless work amongst the indigent children of the Witwatersrand, the Transvaal Education Department determined in the early 1930's that a primary school be opened in Johannesburg and be named in his honour (E.P. Bauman yearbook, 2004).

How can the faculty get started?

Close collaboration in the beginning between the STH and the E.P. Baumann School will indicate and demonstrate how we will eventually reach the communities.

In order to have no "failures" in the proposed project the following issues were identified:

- a dedicated person or office to make links with the community and to handle issues of transportation
- deal with on-site supervision or monitoring
- address legal concerns
- develop a field to operate within.

As the relationship develops, the partners can explore the opportunities for further linkages to specific courses.

OBJECTIVES

Our objective for this service-learning program provides educational experiences:

- under which students learn and develop through active participation in thoughtfully organized service experiences that meet actual community needs and are coordinated to collaborate with school and community, in this case the EP Bauman school;
- that are integrated into the students' academic curriculum or provide structured time for students to think, talk or write about what they did and saw during the actual service activity;
- that provides students with opportunities to use newly-acquired skills and knowledge in real-life situations in their own communities;
- that enhance what is taught by extending student learning beyond the classroom and into the community and helps to foster the development of a sense of caring for others; and
- where members of a community define the need. Community is another one of the contested terms; it is rich in history and meaning. However it is conceived, it is certainly true that many people may define needs, including the WIL department, who generally know what kinds of skills, attitudes, and preparation the students have.

METHODOLOGY

Data Collection

Data collection for this research project comes from three sources: (1) discussion with the principle and staff members of the EP Baumann School; (2) a questionnaire sent to 36 school staff members; and (3) informal discussions with senior learners at the school.

Data Source 1

During interviews with the principal and her senior staff members, it became evident that the outcomes of this project would address the research carried out during 2008. It was made clear that this must be a sustainable and on going project.

It was also interesting to note that the different approach of this project would be welcomed by the school and the community.

Data Source 2

Questionnaires were sent to 36 staff members during the first quarter of the 2008 academic year. Of the 36 questionnaires handed out 32 were returned.

Some of the results are listed:

- Do you have any previous experience in the field of service-learning? Result: 68.2 % with a valid NO
- Do you think a service-learning component would benefit your school and community? Result: 95.5% with a valid YES

- Do you think the involvement of the STH would enable you to prepare learners to be more aware of the demands of society?
  Result: 90.9 % with a valid YES
- Would you and your class become actively involved with the proposed service-learning programme?
  Result: 90.5 % with a valid YES

These results clearly indicated to us that we would have a very successful relationship with the EP Bauman school.

Respondents were asked to answer to the following questions about the goals of service-learning:

- Section A, background information: Through the 14 questions asked in the questionnaire we would be able to get insight into the needs of the immediate communities from where the teachers come. This section is aimed at getting to the needs of the school as well as the different communities represented by the learners.
- Section B, referred to the struggle of service-learning. In this section we explained that learning flows from service activities, from both those who provide service and those who receive it (the students STH and learners EP Bauman school) "learn" from the experience.
- Tables B1 and B2 reflect on the needs of the learners, again aimed at the school and the society.

Data Source 3

From the "informal discussions" with learners, we discovered that there is a great need to communicate with senior students from the STH. Learners at EP Bauman "opened up" more easily to the STH students. Topics already identified are accepting discipline, relationship building, community awareness, why us or me, impact and influence on a community, concern for order, quality and accuracy, self confidence and self control. This again confirmed that our direction with this project was totally on track.

DISCUSSION

According to Sigmon (1979: 9-11), "If we are to establish clear goals for service-learning and work efficiently to meet them, we need to move toward a precise definition" Later on Sigmon (1994) attempted to provide a more precise definition of service-learning through a typology that compares different programs that combine service and learning. This typology broadened his earlier "reciprocal learning" definition to include the notion that "service-learning" occurs when there is a balance between learning goals and service outcomes.

After studying Sigmon's (1994) definition it was realized at the STH, and specifically the WIL department that that is exactly what should be achieved in working with the EP Bauman School. Not only will we penetrate the needs at the school, but through the learners at the school we will get involved in the communities.

Herein lies the key to establishing a universal definition for service-learning at the STH. (TableA1).

TABLE A1
A service and learning typology (Sigmon, 1994)

Service-LEARNING	Learning goals primary; service outcomes secondary
SERVICE-Learning	Service outcomes primary; learning goals secondary
Service learning	Service and learning goals completely separate
SERVICE-LEARNING	Service and learning goals of equal weight and each enhances the other for all participants

In this comparative form, the typology is helpful not only in establishing criteria for distinguishing service-learning from other types of service programs but also in providing a basis for clarifying distinctions among different types of service-oriented experiential education programs (e.g., school volunteer, community service, field education, and internship programs).

To represent the distinctions among various types of service programs, a pictorial is offered that presents an experiential education continuum upon which various service programs might lie. The pictorial is based on both Sigmon's 1979, and 1994 earlier "reciprocal learning" principles and his most recent typology.

Although within our research, we will be able to bridge over to some of the related programs, our core business will be focussed on service-learning, where each service program lies on the continuum determined by its primary intended beneficiary and its overall balance between service and learning (Figure 1).

FIGURE 1:
Distinctions among service programs

Service-Learning

Community Service   **Field Education**
Volunteerism   **Internship**

As the pictorial suggests, different types of service programs can be distinguished by their primary intended purpose and focus. During our early stages of identifying the needs in the school and communities close to the school, we would be able to define the program needed for that specific project. Each program type is defined by the intended beneficiary of the service activity and its degree of emphasis on service and/or learning. Rather than being located at a single point, each program type occupies a range of points on the continuum. Where one type begins and another ends is not as important as the idea that each service program type has unique

characteristics that distinguish it from other types. It is that ability to distinguish among these service program types that allows us to move closer to our final goal with this project.

Bridging the divide between theory and practice

Below is a suggested outline for the structure which will be repeated each semester for the implementation of service–learning at STH.

First Semester
First Year Students
Shaping community service to service-learning missions.
Integrating 3 goals of service-learning
Academic + Practical + Civic

- Promoting a spirit of concerned, active and democratic citizenship.
- Using intellectual resources of staff and students to improve the lives of underprivileged communities through provision of practical services.
- Infusing the academic curriculum with greater sense of relevance by engaging in difficult political, economic, environmental and social problems.

Towards the end of semester one, first year students will be addressed by senior students regarding their experiences at EP Bauman School and the relative communities.

First Semester

Second Year Students
Zones of engagements

- Understanding the service-learning concept.
- Involvement at EP Bauman School.
- Immediate projects identified through research and questionnaires will be discussed.
- Proposed plans will be finalized and a full plan will be delivered to the class in groups.

Second year students will visit EP Bauman School once a month. Time will be spent talking to the students on the selected topic/s.
Final presentation will be handed over to the WIL Co-ordinator.

First Semester

Third Year Students
Zones of engagements
Creating partnerships with civil society to meet the challenges of modern society.
Adopting a holistic approach seeking to develop

- Students civic and academic interests (learning and development outcomes of students as well as community enhancement.
- Finalization of the project, presentation to the school or community.

Third year students will immediately start to work in the EP Bauman School and communities as per outcomes of the research.

Students will be addressed by the Principal and staff members.

Students will be involved at the school, once a week or as needed to finalize the project during this semester.

Every semester a project will be finalized, or handed over to the next senior students.

Role of Faculty as Co-participants in Community-Based Learning

A final issue that we feel needs more discussion deals with the role of the faculty member teaching a community-based course and how the experience of students going into the diverse communities affects his or her own teaching and scholarship. To date, most faculty members have not joined their students in going to the placements. But faculty members who don't themselves engage in community-based learning are not in a position to understand their student' experiences; they are also missing out on ways to make the experience relevant to the subject matter they are teaching. It is appropriate for the faculty to challenge themselves to become involved in teaching marginalised groups of people. In doing so, they take on the role of public intellectuals, "who scholarly and pedagogical practice to serve and educate students to become active citizens" (Scholle and Denski 1994: 34). Giroux (1991) also articulates this redefinition of the role of the faculty member.

Academics can no longer retreat into their careers, classrooms, or symposiums as if they were the only public spheres available for engaging the power of ideas and the relations of power. If social justice goals define a central – but not exclusive – part of the hospitality curriculum for our students, should they be a central – but not necessarily exclusive – part of a faculty member's agenda as a teacher-scholar. Participation in community-based learning experience is not the only way for faculty to engage in teaching that actively serves the interest of those who are on society's margins. But if we do value this experience for our students, then it makes sense to engage in it ourselves.

Limitations

The STH has made its choice and has chosen service-learning as its goal towards the accomplishment of its vision and mission in creating a new generation of highly-skilled graduates capable of understanding and addressing complex societal challenges with critical scholarly and entrepreneurial attributes grounded on morally sound work ethics and responsible leadership.

Through the interaction of our students (STH) and the learners at EP Bauman school we will have a solid foundation to work and operate.

It is through this service-learning that we have identified some limitations that will have to be addressed to ensure a soundproof component to be added to the WIL programme:

- not inclined to display self-complacency,
- not to start tasks without training,
- adapting to new environment (from classroom to live community),

- adapting to culture shock (from being taught to being trainers).
- adapting communities to equal partnership awareness (preparing communities),
- abandon class mentality (middle class, elite class, intellectual class),
- must have deep passion in what we do,
- not idealism but practice,
- not to be seen as imposing,
- not academic and commercial,
- not to lull but to awaken the community to the reality of their woes and to seek correction and challenges politically and socially,
- not a false creed re-orientation but a re-education of communities,
- not a disorderly hotchpotch exercise,
- not directed to a few elite middle-class but be all inclusive of rural strata,
- relevant common ground establishment. Not a soothing of conscience but a commitment of human equals,
- a work-among-the-poor ethic,
- recognize one's strength, naivety and powerlessness remembering the people have long lived well before one knew them,not seeking to help the communities but to work among and beside them as partners.
- sharing actions, experiences and reflections to build intelligent knowledge and
- encouraging social responsibility to the students rather than individual responsibility.

Although seen as limitations, the STH has keenly pledged to avail time, money and energy to enliven the service-learning culture in all the spheres of teaching, research and service that connects to the real world.

CONCLUSIONS

The experience gained at EP Baumann School, combined with lessons learnt from the related literature, will hopefully be able to provide a useful framework for the service-learning component to be incorporated in 2009 academic year at the STH. In fact, many of the ideas could bridge to more specialised fields as indicated in table B2.

It should be noted that the service-learning components is by no means a substitute for, but rather a supplement to, more traditional learning environments. The traditional classroom setting helps create the knowledge that will in turn be applied and reinforced through the WIL education that takes place during the exercise. When combined, tremendous synergies among the two can take place, resulting in the co-ordinator's ability to fulfil the increasingly important role of "preparing students to think, to solve problems, to apply knowledge, to engage in constructive teamwork, and most important of all, perhaps, to develop their capacity to continue to learn throughout their lives" (Cross, 1994: 21-24).

In the milieu of accelerated change in higher education Zlotowski (1996: 22) challenges institutions that resist service as part of curriculum: "Are we to conclude that while our understanding of teaching and research needs rethinking and renewal, our understanding of service – and its relationship to teaching and research – does not?"

Part of this cultural critique focuses on higher education's role in society (Parks Daloz, Keen, Keen and Daloz Parks, 1996). How are institutions of higher learning preparing students for active roles in public life? What "good" does college and

university research provide for society? What is the responsibility of these institutions to the larger society? What is the responsibility of these institutions to the larger society, and are they fulfilling it?

In this context, attention to service learning takes on vital importance. Proponents of service-learning contend that the cultural critique cited above must, first of all, be taken seriously, second, that service-learning must provide a positive though partial response to that cultural critique; and third, that this pedagogy can offer potential advantages to all members-communities, students faculty, colleges, and universities-through the work of forming new challenging partnerships aimed at advancing knowledge and helping to remedy the deficiencies in our common life. The pedagogy is not risk-free, but it is precisely because the stakes are so high that the risk is worth taking.

Although this is a new approach towards service-learning we are confident that together we will accomplish a sustainable relationship with EP Bauman school.

RECOMMENDATIONS

These are summarized in four important points.

Firstly, there is the joy that academic service learning provides. It can contribute to the renewal of the love of teaching that draws so many into higher education in the first place. Many faculties wanted, and still want, to have teaching and learning to make a difference – for students, for themselves, and ultimately, for the world. Service learning not only makes that desire real again but also offers a way of affecting it.

Secondly, because service-learning crosses so many boundaries, it offers new opportunities to think more consciously and more creatively about relationships, including those of faculty and student, disciplinary and interdisciplinary or multidisciplinary knowledge, campus and community.

Thirdly, because service-learning is an evolving field, those who enter it have the opportunity to contribute to its development.

Fourthly, because service-learning calls for a link between what goes on in the classroom and what goes on in a community, it offers a vehicle to faculty, students, and community partners for thinking and responding in new, collaborative ways to the critical issues that confront our local and global world.

ACKNOWLEDGEMENTS

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Graduate employability – embedding career management skills in curriculum

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This paper reports on a work in progress approach where a partnership of academic staff, careers adviser and academic developer worked collaboratively to embed career management skills in the curriculum. The tri-partnership drew on the various sets of knowledge and skills of the three protagonists: the careers adviser's expertise and knowledge of the careers field, the academic staff's knowledge of and experience of the discipline and professional area and the student cohort and the academic developer's knowledge of the institution's teaching and learning priorities, curriculum development, assessment and teaching and learning strategies.

UNDERLYING PRINCIPLE

Employability is a frequently discussed topic in higher education internationally. It is a consequence of various governments' aims to prepare an educated workforce to participate in a globalised knowledge economy. Employers, faced with an uncertain future marked by rapid and continuous technological change, an ageing workforce and employees willing to move countries to gain optimal employment, seek graduates who are flexible and adaptable, who demonstrate lifelong learning, sound interpersonal skills and a strong capacity for problem solving.

Employability can be broadly understood as the development of career management skills in order to gain employment as soon as possible after graduation and also the development of qualities which contribute to the long term aim of continuing to develop and be successful within the chosen field of graduate employment. (Watts and Hawthorne, 1992)

Changes in Australian Federal government policy in 2003, as part of the Our Universities: Backing Australia's Future higher education reform package, has compelled universities to pay attention to, and deliver against a range of performance indicators to qualify for a share of the funds available through the newly developed Learning and Teaching Performance Fund (LTPF).

The LTPF assesses universities against seven indicators to measure their respective success, outcomes and satisfaction. The performance indicators are drawn from the Higher Education Statistics Collection (HDSC) and the Graduate Destination Survey

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(GDS). (Australian Government 2008). Of these indicators, 'successful outcomes in graduate full-time employment' has the most impact on universities' expectations of Career Services units.

Career education literature suggests that a potential gap exists in any approach to student employment and employability if Career Management Skills (CMS) are not addressed. Alternately, when CMS are incorporated with strategies that develop students' graduate attributes and Work Integrated Learning experiences, the employability and employment of graduates are maximised. (Watts, 2005; Yorke & Moore, 2006)

While there are many definitions, Watts suggests that CMS are best categorised as four interconnected areas:

- Self awareness – in relation to interests, abilities, values and constraints
- Opportunity awareness – knowing what career opportunities exist and what is required to pursue them
- Career decision making skills
- Transition learning – including skills required to source jobs, prepare applications and perform in interviews

(Watts 2006, p10-13)

These skills are increasingly relevant and important to both universities and their students firstly, because competition between universities for students and a share of government funding is increasing, and secondly because students strive to convert their qualifications into appropriate employment. (Kent, 2002) The issue is how to ensure that all students benefit from learning about CMS.

Yorke and Knight (2003) propose that students can be provided with opportunities in the curriculum to develop CMS. Watts (2006) indicates that the delivery of CMS falls into three approaches:

- integrated (developing CMS across the whole curriculum by embedding CMS into existing courses;
- generic modules (the delivery of CMS through additional generic modules which may be assessable;
- extra-curricular (the delivery of CMS outside of the curriculum through approaches such as online learning, special careers events and workshops, face-to-face careers appointments (p.17).

However, for CMS to be embedded into curricula, it is necessary to engage the collaboration of academic staff. The Association of Graduate Career Advisory Services (AGCAS, 2005) Careers Education Benchmark Statement provides an overview of best practice in careers education in the UK. It's benchmark statement provides exemplars integrating careers education within course curricula, premised on "the philosophy that enabling academics to take ownership of careers education within their discipline, through appropriate support and training, is key to embedding careers in curriculum." (Exemplar E, AGCAS Careers Education Benchmark Statement, 2005)

CONTEXT

The University of South Australia (UniSA) has a fifteen year history in preparing its graduates to begin practice in their preferred profession. Degree programs at the University develop and assess a profile of seven graduate qualities related to the knowledge, skills, values and beliefs required by specific professions. This graduate quality profile forms the basis of curricula and assessment tasks that allow students to learn, practise and demonstrate those quality outcomes. (UniSA, 2008)

However, while UniSA requires all students to develop and demonstrate professionally related graduate qualities within program curricula, the CMS necessary for winning initial employment is largely left to individual students' discretion and responsibility.

Traditionally the career services provided to students, have tended to be either static (e.g., the provision of a careers website) or, provided in addition to students' program of study (the "bolt on" approach). Seminars and workshops related to career planning, preparation of resumes, interview skills, job search strategies etc., are usually generic rather than program specific in content and student participation in these activities are usually voluntary. While large numbers of students register to attend, actual attendance is typically poor. Consequently, many students miss out on important information related to employability and self-marketing.

Graduate employment data, also known as the Graduate Destination Survey (GDS), is collected annually as part of the Graduate Course Experience Questionnaire. Cumulative data since 2001 has indicated that some UniSA programs have demonstrated low rates of full time graduate employment over a sustained period of time.

A project was put in place to develop resources aimed at supporting students in developing their Career Management Skills (CMS). It was anticipated that existing CMS resources would be tailored to suit the requirements of the identified programs.

DEVELOPMENT PROCESS

A series of meetings were scheduled between the Careers Adviser, the Project Officer and each of the Program Directors of the identified programs. The purpose was to discuss the project and its possible implementation in programs. The meetings provided important feedback from Program Directors which impacted significantly on the subsequent direction of the project.

A concern consistently expressed by academic staff was the amount of content in the eight existing Career Management Skills (CMS) modules. Many staff believed that the modules could not be embedded in their programs without displacing current content. Program Directors in one School were also concerned that if CMS modules were embedded in courses in each of their undergraduate programs there was a strong possibility that students could repeat CMS content several times because programs within the School shared a number of courses.

The needs of each of the programs were quite different and ranged from students in a School finding work while on placement and not returning to complete their program, while in another, the course choices students made at enrolment affected their future career options. It soon became clear that, even with careful tailoring of the eight modules, meeting the different needs of each program would require a more integrated approach. Rather than simply finding space to insert the modules, the key success would be linking career content closely to the program curriculum, while taking into consideration the likely needs of students for this type of content at various stages during the course of their studies.

At this point it seemed appropriate to involve an Academic Developer to engage staff in embedding CMS in programs. The small team of the Careers Adviser, the Project Officer and the Academic Developer began by analysing what the CMS modules offered in terms of learning outcomes. The results of this process included:

- Linking the compatibility of CMS to various critical points in the student university cycle. For instance, attrition in first year (because of student uncertainty with their choice of program). CMS could provide an opportunity to engage students in reflecting on their interests and strengths in relation to potential career options and result in students remaining in a program or changing to a more suitable program. This could benefit both the University and the student. Similarly, the final year of study, when students' begin to think about applying for employment, was the ideal point to implement learning activities related to formulating a job search strategy, writing application letters, responding to selection criteria and developing a résumé to improve their chances of gaining employment.
- Refining the content of the eight modules and distilling them down to three themes - 'reflecting on self', 'reflecting on industry options' and 'job search strategy' - with related indicators.
- Linking the CMS themes to Graduate Qualities to sign-post how they can be integrated into existing courses:
    o Reflecting on self (lifelong learning)
    o Reflecting on industry options (body of knowledge, lifelong learning)
    o Job search strategy (lifelong learning, problem solving, oral communication, written communication)
- Embedding the skills in the curriculum through a curriculum audit to ensure that the career management skills are appropriate to the program/discipline/profession and are owned and recognised by academic staff.

Follow-up meetings with Program Directors included the academic developer and focussed on:

- Promoting the use of CMS to address student issues such as retention, networking or job-seeking
- Discussion of the three broad themes in the CMS modules
- Linking CMS learning outcomes with learning outcomes in the programs
- Identifying courses across the respective three year programs which related to the CMS learning outcomes
- Assuring academic staff that embedding CMS themes in programs would occur in stages and be supported by the project officer, careers adviser and the academic developer.

Almost without exception, this revised approach led to Program Directors agreeing to work with the project team to embed CMS in the curriculum using a range of different strategies.

OUTCOMES

The programs involved in this project are well on their way to supporting the objective of providing opportunities for students to engage in learning and assessment activities that will help them practice, demonstrate and enhance their ability to find employment. This includes facilitating student recognition of those aspects of Career Management Skills that they need to develop and the opportunity to engage in activities that assist them to close the identified gap in their capability.

The embedding of CMS across the program curriculum was successful when academic colleagues could:

- Identify the employability issues of their graduates
- Have the relevance of CMS with their courses made explicit to them
- Identify the core courses that contributed to the development of CMS
- Contribute to the development of CMS activities

The partnership developed between the academic, Career Adviser and Academic Developer was crucial to the successful implementation of CMS in the program. Each role brought a different perspective which complemented the others and enabled a greater understanding and awareness of the opportunity and potential for the embedding of CMS.

DISCUSSION

Embedding CMS within curricula was based on three areas of potential benefit to students. Firstly, embedded CMS ensured that all students had the opportunity to develop the skills, rather than just those students who had the motivation to attend extra curricula workshops (usually those who needed the skills the least). Secondly embedding CMS provided an opportunity for program staff to better engage students with course materials in a way which was 'relevant' to their career goals and ensured a stronger engagement with the University's Graduate Quality framework. Thirdly, embedding CMS across curricula allowed a developmental approach, facilitating the development of key skills during the course of a program, which also linked with students specific needs at specific stages of the program.

This case is a good example of the exchange of expertise and an indirect academic development approach to embedding the delivery of CMS across a three year curriculum. Academic staff were responsible for the delivery of CMS in the curriculum, however they were assisted by the expertise of career and academic development colleagues from the Learning and Teaching Unit.

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Making connections: the complementary roles of academic and clinician in nursing education

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There is a global shortage of qualified nurses. There is a resulting dilemma for higher educational institutions in how to achieve quality outcomes for students in an internationalized and competitive employment market. Throughout nursing's historical literature however, the perceived 'theory practice gap' has impeded the transition of student to registered nurse, despite competencies designed to support them in a variety of settings. If we propose there are minimal theory practice tensions, we need to identify aspects of current best practice between academia and industry. Within nursing in the School of Health Science, cooperative educational clinical placements are assigned directly between faculty and WDHB's Director of Nursing. Specifically, this paper addresses the practice partnership between faculty and WDHB at operational level, relating to senior students undertaking community clinical experiences in 7 week blocks. The partnership process between Unitec and WDHB is unique in that there is direct collaboration between clinician and academic in the theoretical preparation, selection and monitoring of students within health services. We propose that this practice partnership presents several advantages: involvement in preparation and evaluation increases the credibility of this academic programme for future employers; provides opportunities for tailoring specific learning needs of individual students in the workplace; whilst providing collaborative clinical research opportunities. This practice partnership supports student nurse learning by the transparent integration of theory to practice and ultimately quality patient care.

BACKGROUND

The world's supply of nurses seems unlikely to meet global needs now or in the near future. New Zealand (NZ) is no exception. Such nursing shortages in developed countries have accelerated nurse recruitment and migration (Aiken, Buchan, Sochalski, Nichols, & Powell, 2004). In an innovative approach to nurse recruitment, the University School of Nursing in Northern Illinois, incorporated strategies to encourage middle and high school students into nursing careers (Cohen et al., 2006). In NZ we have a large nursing workforce, but problems with recruitment, retention and an ageing workforce (Jackson, Mannix, & Daly, 2001) has meant that NZ has become dependent on nurses trained in other countries, particularly the Philippines (Aiken et al.; Sparacio, 2005). Conversely, New Zealand prepared graduate nurses seek more attractive working conditions and remuneration across the Tasman in Australia (Parker & McMillan, 2007). As a consequence, the process of international recruitment may be preventing New Zealand from addressing the root causes of local and national nurse shortages. Jackson et al., consider overseas recruitment unsustainable while others consider the removal of professional nursing expertise

from other countries ethically dubious (Sparacio). Matthews (2003), considers the nursing shortage to be a nursing faculty shortage, requiring creative collaboration between faculty and service settings to better resource nursing education.

The NZ Institute of Economic Research (New Zealand Institute of Economic Research, 2004) and the District Health Boards of NZ (District Health Boards New Zealand, 2006), have presented projections and workforce implications for 2001-2021. Their conservative estimates indicate that changes in service demands will drive an 11% increase in required workforce numbers in 2011 compared to 2001. It will be of interest to nurses if fundamental issues are addressed: the work environments for nurses, including unsafe staff to patient ratios, are deficient in many correctable ways (Cain, 2005; Cassie, 2008). Nurses still spend an inordinate amount of time doing non-nursing tasks as a result of poor work design and lack nurse saving technologies. In addition, there remains a significantly high level of burnout, dissatisfaction and turnover, adding to the perception of nurse shortages (Aiken et al., 2004; Jackson et al., 2001).

In Australia, a prospective study to systematically track a cohort of contemporary undergraduate and new graduate nurses in Australia, New Zealand and the United Kingdom began in 2007. The intention is to quantify student attrition, graduate retention rates and career planning to build an evidence base (Gaynor et al., 2007). Such a data set is a bench mark to begin tracking trends over time that will truly inform workforce planning and needs supporting (O'Connor, 2008).

THE THEORY PRACTICE GAP

Throughout nursing's historical literature, the perceived *theory practice gap* has impeded the transition of student to registered nurse, despite competencies designed to support them in a variety of settings. It is also recognized within nursing that clinical learning is essential in developing a critical graduate nurse and is considered the very *heart* of professional practice (Brown, White, & Leibbrandt, 2006; Mathews, 2003; Palmer, Cox, Callister, Johnsen, & Matsumura, 2005). Unfortunately, since the beginning of nursing education, there has been a perceived discrepancy between what is taught in the classroom and what is practiced in the clinical area (Forrest, Brown, & Pollock, 1996). This is compounded following the transition of nursing education to the tertiary sector with service sectors seeing new graduates as being insufficiently prepared to practice as registered nurses, while the education sector suggests that the expectations of industry are unrealistic (Brown et al.). Forrest et al., suggest that mitigating factors against the nurse lecturer undertaking these functions include the nurse lecturer's responsibilities in classroom teaching and a perceived loss of clinical skills. Due to limited resourcing, the theory-practice gap is to a minor degree somewhat rectified, as current *clinical* teaching functions for student nurses in the community rests with the service provider in Primary Health Care in NZ.

Specifically, for public health nursing practice, this gap between industry and academia presents specific challenges and these include limited resources for the:

> provision of educational programming and maintenance of competencies for a skilled workforce; development of integrated information systems; implementation of research based initiatives leading to best practice standards; procurement of funding; *and the provision of linkages that facilitate student access to public health nursing as a career* (Truglio-Londrigan & Macali, 2005, p. 20)

It is into this context that this paper presents an aspect of partnership between Unitec's School of Health Science and Public Health Nursing within the WDHB at the operational level of a Community Praxis course. There is little in nursing's literature that specifically investigates collaborative partnerships that provide students with optimal problem based learning opportunities in nursing's community clinical settings.

THE PROGRAMME

Evaluation of course content is an ongoing process, directed by policy development in health care delivery via NZ's Health Care Strategy (Ministry of Health, 2000) the NZ's Primary Health Care Strategy (Ministry of Health, 2001), alongside an international shift to population based healthcare (Moon, Henry, Connelly, & Kirsch, 2005). The first author negotiated with Public Health Nursing within the WDHB, to include local, primary health care nurses in the development of the theory component of the Community Praxis course.

The Community Praxis course for senior students occurs in a 7 week block: two weeks of theory, including clinical preparation, then 5 weeks of experiential learning within the Auckland community. The emphasis is that health care and health promotion are social, political and cultural phenomena, inclusive of ethical/legal issues. The course content has a specific experiential practice focus with individuals, families and communities experiencing health changes. It includes 40 hours of lectures, 20 hours of tutorials, 20 hours of self directed learning and 160 hours of practice based learning.

The learning outcomes to be demonstrated by the student via 3 written, 1 midway formative, and 1 final summative, collaborative, clinical assessment points that:

- apply the learning outcomes of relevant year two courses
- develop strategies to reduce the impact of interpersonal and political restraints within the nurses role in the community
- critically evaluate the diversity of nursing practice in the community and its relationship to other providers
- demonstrate the integration of literature and research into current complex health issues in the community (Unitec New Zealand, 2002)

The core module included key theoretical concepts of primary health care nursing for public health nurses: *equity, access, empowerment and self determination in the client population, alongside intersectorial collaboration within communities.*

In NZ Public Health Nurses are primary health care nurses employed by District Health Boards and charged with a community focus. The scope of practice encompasses individual and community assessment, an understanding of the broader social determinants of health, plus an emphasis on prevention and early intervention at multiple levels. A specialized skill set is required for school based immunization programmes, epidemic response strategic plans, and multi disciplinary child protection.

Demystifying the theory-practice gap for the student entering this complex practice setting is a key component of the presentation. An in-depth description of the public health nurse's role within her geographical area, identifying her multi disciplinary team members and weaving a tapestry of practice examples, creates a reality for the student of the work undertaken.

A student handbook to transition the student into the service includes:

- well child contract
- common health issues
- management of referrals
- adolescent, HEADSSS and family assessment, including home visiting
- Health Promoting Schools, Immunization programmes

In the clinical setting the student is overtly exposed to as many team members as possible: Ear nurse specialist, hearing vision testers, medical officer and social workers.

On the first course day in the Community Praxis course, students choose from a range of primary health care clinical placements across the Auckland community, self selecting the area they are most interested in. Discussion and negotiation occurs between the lecturer, student and preceptor clinician about practicalities, the suitability of the student to the clinical setting and a contract is signed to consolidate the student's learning objectives. Self-selection is seen as a motivating factor in introducing nursing students to specific clinical placements.

In the clinical setting, in small weekly reflection groups, and via written clinical logs, students reflect with their clinical preceptor, peers and lecturer to demonstrate via personalized clinical objectives, the following:

- develop an understanding of public health nursing within WDHB
- discuss public health issues and the resources to meet these needs
- formulate strategies for clinical assessment in public health nursing practice that utilizes prior learning
- apply Treaty of Waitangi principles to public health nursing and demonstrate a knowledge of issues in cultural minorities/new immigrant families
- demonstrate capabilities to reduce barriers in the public health nurses' role

DISCUSSION

During their clinical experience student nurses were able to develop clinical skills in physical assessment, health teaching, immunization and health promotion. Most importantly, it appeared via their weekly logs that the continuity of 7 weeks work integrated learning provided experience of a therapeutic nurse-client-relationship. Students also wrote about what it meant to influence people's lives and the experience of being a real nurse. It is a dimension all undergraduates want to understand; recognizing that only clinical practice provides this opportunity (Thompson & Feeny, 2004). In the process of sharing their experiential learning in weekly reflection, they discussed issues of vulnerability in deprived populations and the impact this has on health and health care delivery. When considering vulnerable populations, undergraduate nurses well understand ethical and informed consent principles (Beckett, Gilbertson, & Greenwood, 2007). Such reflection provided both preceptor clinician and academic with the opportunity to tailor student learning strategies through their educational preparation to clinical experiences. The students delighted in the expertise of their preceptors.

> "I admire my nurse a lot in the way she cares differently for different families. The way she did her Well Child visit for Jay was so sensitive towards Lucy. Her visit was more a support session for the mother which is much more helpful than ticking the Denver Developmental Chart. I could only imagine that asking Lucy the normal questions about her child the way we often ask mothers would not only be insensitive but also wasteful. She's probably heard enough stuff telling her that her child isn't as healthy and developing as normally as other children".

The philosophy of the humanistic paradigm has been applied to relationships between student, teacher and clinician connection in this context (Gillespie, 2002). As such, in the face of increasing acuity in the community and the reality of students' clinical worlds being less than ideal, the authors were conscious of the challenges that would hinder student learning. For example; establishing a positive preceptor whose work hours would coincide with the student's itinerary; the supernumerary status of students becoming resented when more nurses were required to carry high workloads; conflicting documentation between the clinical area and the classroom; structuring of assessments over the clinical experience; and how to support the student who is not achieving.

CONCLUSIONS AND FUTURE IMPLICATIONS FOR NURSING

International literature supports the concept that student satisfaction is dependent on good interpersonal relationships between all participants in providing a positive learning environment for student nurses (Clarke, Gibb, & Ramprogus, 2003; Dunn & Hansford, 1997; Endacott, Scholes, Freeman, & Cooper, 2003). Critical to the development of this module was the ability of the Community Praxis lecturer and Public Health Nurse Coordinator to form a partnership based on communication and trust, away from the silos of individual nursing roles. Such collaborative partnerships between faculty and industry support the integration of theory to practice by providing quality learning for students and ultimately the organization of patient care (Brown et al., 2006; Foss, Bonaiuto, Johnson, & Moreland, 2003; Gillespie, 2002; Jackson &

Mannix, 2001; Palmer et al., 2005; Twinn & Davies, 1996). *Such transparency in the integration of theory to practice has meant that managers within primary health care organizations within the WDHB now facilitate new graduates into this sector.*

Pedagogically, learning contracts increase student autonomy and motivation (Chan & Wai-Tong, 2000), while shared online journaling, reflection and self assessment in professional practice assesses outcomes, supports improvement and critical thinking skills (Daroszewski, Kinser, & Lloyd, 2004; Fitzpatrick, 2006; Plack & Santasier, 2004). For Unitec nursing students, this provided clarity in the standard of undergraduate practice required and their satisfaction is supported by the SEQUAL Course Evaluation Survey Reports in student satisfaction with the course for 2006 and 2007 at Mean 4.25, St Dev 0.97. Documented student evaluation is also fed back to the clinical area.

Understanding the complexity of public health nursing in NZ's community is a substantial undertaking for undergraduates. Networking, relationship building and subsequent partnerships are the key for policy development in nursing. Hughes (2005), postulates that "this is not a mere intellectual activity confined to papers and obsessed with theories, rather it is a practical tool for change in education, research and practice" (p.331). Despite the challenges of NZ's health system, long term effects in positive client outcomes can be achieved if educators, clinicians, and managers engage in the process.

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Placement podcasts – project update including the employer's perspective

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The University of Huddersfield is one of the UK's top providers of sandwich education. Like other UK institutions, there is an awareness that as student expectations change the take up of placement opportunities needs to be more actively encouraged.

Often the best ambassadors for placements are the students who have already benefited from them. Therefore in 2007 an original project 'Placement Podcasts' was instigated which set out to document students talking about their placement experiences. This work was presented at WACE, 2007 in Singapore.

Materials can now be viewed at: http://www.hud.ac.uk/tqef/placementvideo.html

Now, into its second phase, selected students are being 'followed' throughout their placement year, with the aim of recording their personal and professional development. To enable a broader perspective and cover the alternative dynamics of this partnership the views of both employers and placement tutors are also being sought. In particular, how the university sector is supporting the development of higher level skills.

INTRODUCTION

The University of Huddersfield is one of the UK's top providers of sandwich education. (The University of Huddersfield Strategy Map, 2007) states that students can expect: 'An education that challenges and creates excellent career opportunities,' supported by our strapline, 'Educating tomorrow's professionals'. Baseline investigations in 2005 for the 'Student Employability and Good Practice in Placement Provision' project showed that only fifty percent of students who registered onto sandwich degrees took the one year work placement (Ward, 2006). This contrasts with anecdotal evidence from placement tutors suggesting that in the 1980s and 1990s it was almost one hundred percent. Experienced placement tutors suggested that many students now viewed placements as optional, and found it hard to convince them of the benefits. In 2006, further analysis on a cohort of around 2,000 students showed that those who undertook a sandwich placement benefited by gaining higher degree classifications, and improved job prospects with affiliated enhanced salaries. Research carried out by (Harvey and Little, 2006) demonstrated that student's experiences of work placements are changing. However just as students needs change, so do those of the UK economy, in particular (Leitch, 2006) talks of need for higher level skills to sustain our place in the global workplace.

In phase one of the project, to develop this work further and to encourage more students to become aware of the benefits of work placement, it was decided to film and document a sample of the best ambassadors for work placements, in our view, the

students who have already benefited from them. Final year students are often requested to talk to second year students about their placement experience. However this tends to only take place once in the year. These resources complement 'live' student talks, and also showcase a wider range of subject areas.

Although there are occasionally students who are unhappy with their placements, in order to showcase the benefits of this type of learning experience only those students who were enthusiastic were selected. In 2007 the project 'Placement Podcasts' filmed twelve students across a wide variety of ages and ethnicity who had undertaken a mixture of sandwich degree, professional placements, and shorter work placements. To allow access to the materials by a wide audience the films are hosted on the web and a DVD has been produced for students to watch in their own time. This first phase work was presented at WACE, 2007 in Singapore. The films to accompany this can be viewed at: http://www.hud.ac.uk/tqef/placementvideo.html. Phase two of the work was built upon feedback from phase one focus groups and placement tutors which indicated that it would be beneficial to follow students on their sandwich year, and include interviews with their employers and placement tutors. This discussion paper provides an overview of the employer's perspective on work placements. It covers the triangular relationship between student, employer, and university. Benefits to students of work placements are also discussed.

METHODOLOGY

The purpose of the project was to make generic films which could be used to show the benefits of work placements from a student's perspective to their peers and potential students. They could be viewed in a student's own time and dipped in and out of as required. In phase one students were invited to participate in the project via the university job shop. As this was primarily a promotional film, selection was based on a short application form, which accessed the benefits that the students had described, together with their enthusiasm for work placements. Out of the forty applications, twelve were filmed whilst trying to embody a broad cross-section of disciplines, ages, genders, and ethnic backgrounds, including international representation. Differing types of placement were also considered including traditional 'sandwich', professional and short term. Each student undertook a fifteen minute filmed interview which was then edited, into a short individual film. A composite film was made which highlights the various learning experiences of the group of students. A DVD was produced which is available to placement students and other interested groups. It has also been shown at university open days to prospective students. The films are available for a wider audience via the university web site.

The second phase of the project is to build on the first phase by focusing on the views of employers, alongside the views of students and finally with placement tutors. Feedback from phase one university focus groups suggested concentrating on sandwich students and allowing tutors to undertake selection of employers and students to showcase a range of work placements. Feedback from placement office's suggested that students generally preferred local companies, such as engineering or chemical, with the more ambitious students looking for blue-chip hospitality or food manufacturing or highly specialised companies, such as yacht designers. A cohort of fourteen students on placement with nine employers are being interviewed across a broad range of work areas. The cohort was restricted to this number due to the time

consuming nature of the project. Initial filming of students took place at the university in late 2007. Mid placement updates in spring 2008 with students filmed at their place of work and employers interviewed alongside students. Final 'catch up' films are planned for late in 2008 with students reflecting on their placements and tutors views on how students have developed over the placement period. Each filmed interview is edited from its original thirty to around two to three minutes to extract the main points. Material from this second phase will be published on the web.

FINDINGS – THE EMPLOYER'S VIEW

Discussion with employers on their reasons for employing a placement student has been the highlight of the project to date. Whilst there are many case studies on student's views, there is much less work on the employer's perspective. Many employers had been placement students themselves and consequently very supportive of the value of sandwich placements. Some commonalities have emerged with the strongest factor in offering the work placement opportunity being the ability to demonstrate a genuine interest in the job, the company and its area of work. The enthusiasm of students is therefore one of the key reasons for employing them and explains why they quickly become such a valued member of the team. Employers are not expecting the 'finished product' and all saw their role to develop and train professionals for the future. Our project emphasised there is not a huge difference between what an employer expects of the placement student and a new graduate. With some employers stating that they would only take a graduate with work experience anyway. Employers indicated they would be more 'forgiving' of mistakes made by placement students, although they did not recall placement students making many mistakes. Finally, students who are able to articulate the relevance of their part-time work are at a distinct advantage. Employers want to hear about real examples of showing initiative E.g. one student who had worked in a bar explained how re-locating the bottle bins led to better workplace design.

Some examples from the filmed work show the skills and attributes that employers want. These include an engineering manager at an international food company who said he looked for students who were interested in pursuing a career in engineering but was surprised at how many had ambitions to become the next managing director. A textile employer loved the 'car load' of samples brought by a student to interview. It showed her development through both high school and university, demonstrating that she had the practical skills alongside the commitment and perseverance to be successful. A fashion student on placement with a major sportswear firm got the job because she was the student who 'pestered' the employer the most. Her persistence, determination and desire to work convinced them to offer her the placement.

The gains are not all on the employer's side with students also bringing considerable value to the employer. In particular the learning and understanding of recent academic and wider market place developments can be disseminated amongst work colleagues and used to inform business practice. Students often challenge existing processes and procedures, bringing with them the academic perspective, analytical skills and perhaps more importantly a fresh pair of eyes to look at how things are done. This is particularly important in organisations with an established workforce. Additionally students are often keen to volunteer for research projects and work that will benefit

both the business and their personal learning. Finally, students tend to acquire skills and develop personally and professionally much quicker than school leavers. This flexibility can allow them to 'cover' for colleagues in other parts of the organisation.

Students are able to take on more advanced projects as the placement progresses with many starting off in relatively junior posts and learn on the job alongside other employees. Employers become aware of the student's development and can gradually increase responsibilities. For example the following ladder of growth can be seen by a new recruit in the hospitality industry. The student starts off by helping at functions, as s/he become familiar with the role independent team-supported work is undertaken. Supervisory skills are developed by overseeing the work of agency staff. Once sufficient competency has been gained in managerial, planning and organisational skills the student progresses to independently managing their own small dinner function. This leads onto the management of larger proceedings, perhaps a conference and culminates with the sole responsibility for organising an event such as a wedding where attention to detail and client satisfaction are critical.

Finally, many employers said it would be hard to replace the students, and it is obvious that students quickly become key members of a team. One employer said that they had a choice when making an appointment – they could either appoint an administrative assistant or a student as the wages for the post were similar. However, she reported some key differences between the students and the assistants. Students were genuinely interested in the company, whereas often assistants just wanted a job. Initial output levels tended to be similar and the same amount of work could be covered. However students showed more flexibility and were happy to move to other departments to cover for holidays or sickness, it was all extra experience for the students – whereas extra work for the admin staff. Due to the willingness of the student to learn and experience as much as possible, three to six months on, there was a huge difference between what the two worker groups were able to do.

FINDINGS – THE TRIANGULAR RELATIONSHIP

The triangular relationship between student, employer and University is critical to the success of work placements. Most employers work closely with the University, with many having strong relationships built up over several years. Others who have less contact feel that the university is there when needed. Employers feel that students are their workers for a year and often that they are offering a one year 'work-trial'. Many employers hope their students will return following completion of the degree, but also feel that they are doing a service to their industry by training the professionals of the future. Students tend to be quick to train with keenness and flexibility. This can allow them to move around the company as business needs dictates. In particular their development of higher level skills over the course of a year, allows for students to be assigned project work of a much deeper nature than with a shorter work placement.

The benefits of work placements are well documented from a student's perspective.

Following students on their workplace 'journey', has confirmed the positive impact on the development and growth of skills and self-assurance. Many start off shy and unsure of themselves. They find the requirement to work within a 'real' team, communicating with colleagues, expressing ideas and solving problems improves

their confidence exponentially. Students appreciate the opportunity to use specialist equipment in a 'real-life' setting. Placement also offers students the chance to widen social circles and improve time-management skills. From the student perspective it is a chance to 'try out' a career, and decide whether it is right for them. Occasionally a placement leads to a student deciding on a different career path with the benefit of experience from the placement year.

The visits made by tutors and the knowledge that the students bring back helps to keep the University informed about changes and improvements in business practice. Both employers and tutors seem to benefit from shared communication about how the University and industry can support each other.

Placements also provide the university with a first contact point for employers. Over time these links can be developed and may prove fruitful in terms of consultancy, knowledge transfer and related activities.

SIGNIFICANCE OF THE PROJECT

The project aims to document the placement life-cycle and include views from all perspectives of the triangular relationship. The films are a generic resource which can be watched at the convenience of the viewer, be it students, academics or potential employers, who can dip in and out as required. The format provides a visual documentation of students' development and growth throughout the process thus aiding an understanding of how the three 'partnerships' complement and benefit each other. The project aims to enhance students' awareness of employers needs, thereby enabling better preparation for the placement experience.

Initial feedback from phase one showed that many people enjoyed watching the films with much interest being generated at dissemination events. Over 50 internal staff personally requested a DVD and over 700 DVDs have been distributed to date.

The visits made by tutors and the knowledge that the students bring back helps to keep the University informed about changes and improvements in business practice. Both employers and tutors seem to benefit from shared communication about how the University and industry can support each other. Placements also provide the university with a first contact point for employers. Over time these links can be developed and may prove fruitful in terms of consultancy, knowledge transfer and related activities. From a marketing perspective, working with business is an important part of the university agenda. Our university strategy contains aim A7:'*to produce employable and enterprising graduates'*. One employer has already requested to host our materials on their corporate website. As the films were made by a central teaching quality enhancement team an overall view of the process can be seen, and differences in approaches of the schools compared. Finding from the first phase were disseminated internationally at WACE in Singapore, 2007. UK dissemination was at ASET (Association for Sandwich Education and Training) Annual Conference where it was voted top paper by attendees.

CONCLUSIONS

The primary aim of this project is to showcase the benefits of work placements to students. Phase one of the project and associated dissemination has shown the resources to be popular. Students and tutors have been viewing the DVDs, often in facilitated discussions. Externally this work has been showcased at conferences where delegates said that films in this area are the first they have come across. It has inspired other institutions to think about this approach or variations of it. For example Ulster University has used produced films of employers marketing difficult to fill placement vacancies. Primarily, the work of the project supports both staff in placement offices and busy placement tutors. A frequent comment is: 'I would have liked to have done this project, if only I had time'.

In phase two by highlighting the employers' perspective it is hoped that students will receive a broader appreciation of why undertaking course related work experience is so important for their future career prospects. Hearing direct from the employer what they are looking for in a potential employee is a valuable insight. The employers' interviewed during this project have all said that enthusiasm a positive attitude and a desire to learn are of most importance as work skills can easily be taught. A genuine interest in the job role and company also makes a huge difference to who they select. Likewise the information that employers do not really treat placement students any differently to newly recruited graduates implies that they are trusted and their competency is recognised. The triangular relationship has been seen to benefit and supports all three partners.

As is often the case with research, this project leaves many more questions than it answers. Further work will involve inviting staff to consultation events. At these the work to date will be shown and discussions held on how it can be further disseminated within the schools. How the finding can be embedded into the curriculum will also be investigated.

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Connecting the KIIP with Japanese university students

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Co-op education programs cannot simply be a pathway to lead students to career success and to place them into blue chip companies. KOSAIDO will report its every day efforts currently being conducted to implement the Work Integrated Learning program in Japan

The workshop including lectures, counseling and activities for paper works is a mandatory requirement for students for development purposes. At the same time, participants are recommended to register with each school's internship office for credits where available, but others just have experience only. The importance of proactively engaging with the school's offices is to share the responsibility with the actual universities where students reside in because the experience will be deeply related to their field of study in their courses.

We request students to set their own criteria for evaluation on their performance with ten objectives to be achieved during their work-experience period. Each student evaluates their outcome on their return, based on the set criteria pre-determined by self. Students are also required to create a portfolio of paper works done by them during the period, which will be reviewed by faculty members.

KOSAIDO suggests WACE members to request partner universities in Japan to employ the reciprocal co-op programs, following the Ritsumeikan / UBC model. We believe significant positive changes will be brought upon Japanese universities through a newly formed WACE & NCCE initiative: "The International Workplace Student Exchange Program as reciprocal international placement programs".

Keywords—reciprocal international placement, Japan, evaluation, portfolio, HQP

KIIP PARTNERSHIP WITH UNIVERSITIES

We are here to support students achieve their goals together with universities and industries as an agent to "go between". As a part of "career education" course in each university's curricula, students are able to work in cooperation with the faculty members and administrators of their universities and receive supports from their own friends and family. Some students already score higher points in English examination and plan to acquire improved communication skills in overseas experiences.

KIIP is basically a two-week work-experience program for Japanese university students, which is equivalent to a normal internship program as "Japan Standard"; short term and unpaid. We understand that some students have an intention to go overseas trip to visit the overseas organization. They spend several days at industry worksites with some observation, escorted by their faculty members, in search for

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international professional development. The understanding of everyday life in a foreign environment also enables them to "grow" as well as gaining a language training experience.

In KIIP programs, no company is paid to take our interns. It is a gesture of good will on their part and we advise them with following reasons; it gives them exposure to different cultures and teaches their staffs how to become better communicator. To better prepare the students for their "overseas internship program", KOSAIDO offers a workshop which covers educational topics within its curricula.

WORKSHOP: INTERNSHIP FOR EXCELLENCE (WISE)

Our program is not for backpackers who are just interested in to broaden their horizons without directions. It is all related to their major or field of study in university courses and the interactions with other cultures are for their international development. We recruit all university students ready to share responsibility with us for the realization of these objectives.

Through "WISE", students are expected to come up with action plans to achieve their objectives. Our promises to students are as follows:

- To go abroad
- To meet people
- To understand competence for Grown-up
- Networking
- Improve English
- Exploit talent

Students are required to have TOEIC® score 500 or better to participate in our programs. We do accept students who do not have a score of 500 into our programs with condition that they will take English language courses in advance. The choices of a company depend largely upon the students' English levels as well as their area of interest. I expect students to gain some of the virtues or practical values in our KIIP programs:

- Disciplined or well-mannered in everyday life
- English as communication language
- Competence in coping with the occasion
- Communication
- Mobility or to live abroad
- Keep regular hours or time management
- Awareness or know of self-help
- Human relations
- Sound judgment or sense
- Able to establish a systematic and interactive reporting line in law-abiding and adaptable attitude

"INT'L WIL" PROGRAM AS "CAREER EDUCATION"

Most Japanese universities have some kind of accredited internship programs in-house mostly offered during summer. The main purpose of KOSAIDO International Internship Programs (KIIP) is to provide students with opportunities to experience work in organizations and to prepare them for the international business field in the near future.

KIIP is a work-experience program for Japanese university students to experience overseas business customs and cultural exchange with people at workplaces. Originally, we prepared the programs for university students who had studied abroad in Vancouver and Melbourne (experienced varies from enrollment in English Language School to university exchange programs), upon the request of some universities to create an opportunity to re-visit their locations of study.

The needs for the programs come from other directions as well. One of the issues seen with practicing internship in Japan is the increasing number of participants in internship programs, and the lack of growth in the number of companies willing to accept these students. We decided to revise our program into "Japan standard" internship program for students to participate in overseas companies for a short-term period, based on their level of English Language proficiency. Students will have a great understanding about the needs of business field through their experiences at companies. Students will improve their communication skills and broaden their way of thinking globally.

We have started to offer a program in Spring Break. Japanese corporations are very busy recruiting university graduates for the next year at their graduation. There are no chances for the second year students in a school to find a place domestically to apply for internship in Spring Break. But these college students gain professional training and are able to see themselves as young professionals in our programs.

EVALUATING THE KIIP PROGRAM

The self-evaluation sheet is a goal statement prepared by students how to achieve their objectives. It shows us student's policy on experiential learning, course of action to achieve their goal(s), and how they measure and evaluate their result in the program. Application and utility of the program into students' major in classroom activities on campus is expected. Students' evaluations on our programs are based on formality of a package (Portfolio), which are all required or assigned papers submitted, and also attendances to our workshops, and not an individual performance each student would make through a program.

We provide a step-by-step guidance with e-mail counseling in a WISE program. The courses are given for resume and cover letter writing and telephone conversation. In "Survival Business English - oral and writing-" class, they will practice self-introduction or speech on their interest, family and Japan. Topics cover techniques for interview and practice in mock-interview and some advice for protocol. We do not think a program is better the longer, but the one-week orientation cannot fully

mitigate the differences students experience in the two countries during the period. The level of English varies by students and we have seen that the higher language capabilities they hold, the longer they are able to stay abroad.

EXPLANATIONS ON SELF-EVALUATION SHEET

Students are requested to set their own criteria for evaluation on their performance with ten objectives to be achieved during the period. Each student evaluates their outcome on their return, based on the set criteria pre-determined by self.[*] These are representative values students chose as their objectives.

Course I for Private Company

Communication, Challenge, Identity or Personal Impact, Cooperation, Sincerity, Accountability, Potential, Self-Help, Logical Thinking, Creativity, Leadership, Specialty, Reliability, Common Sense, Foreign Languages, Sensibility, Moral, Qualification.

Course II for Public Servant or Government Official

Special knowledge and skills, International, Enthusiasm, Moderation, Practical, Understanding, Comprehension, Decision-Making, Design, Creativity, Common Sense, Education, Stamina, Health, GPA

Course III for Graduate School

Relevant to major, Knowledge, Insight, Problem-Finding, Future-Path, Goal, Analytical Skills, Problem-Solving, Projection, Team-Work, Communication, Management, Interest, Concern, Human Relations, Leadership, Aggressiveness, Enthusiasm, Flexibility, Adaptability, Sociability, Common Sense

THE CASE FOR A RECIPROCAL COOPERATIVE EDUCATION PROGRAM

The numbers of students to look for overseas opportunities is increasing in this international and globalize circumstance. To meet these demands from students is very urgent and important to develop overseas internship programs in Japan. For some years, Ritsumeikan University students have taken part in cooperative education programs at overseas universities. For example, students on the Ritsumeikan University-American University Dual Degree Program have taken part in internships and cooperative education for credit.

The first of Ritsumeikan's inter-university internship exchange programs was the "Ritsumeikan University/the University of British Columbia Reciprocal Cooperative Education Program". This is a cooperative education program based upon an academic exchange program agreement in 1991. In June 2003, the University of British Columbia sent three students to Kyoto, to work at Japanese companies under the cooperation and guidance of Ritsumeikan University. They demonstrated maturity

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[*] Student-selected objectives list are made based on fill-out in "Self-Evaluation Sheet" by 18 students and their future career path plans in 2006 KWIP program.

and flexibility within the circumstances in which they found themselves, and their Japanese managers enjoyed the new values and ideas that their young interns brought into the Japanese company scene.

CONCLUSION

Ritsumeikan's commitment to "Reciprocal Cooperative Education Program" reflects its desire to gain invaluable know-how from the leading Canadian University. Their internship programs may thus be considered as a pioneering program within the Japanese academic.[*]

To send students out for over three months for training in a specific field of business in a foreign country would be big challenge for Japanese universities. KIIP office aims to transform Japanese university students into "gentle" men and women with the fine sense and excellent qualities; the highly qualified personnel.

A win-win relationship is gained on both students and receiving companies with benefits such like exposure to different cultures and teaching students as their staffs make their employees to become better communicators. I believe that education will bring peace, happiness, and prosperity to people on the earth.

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F. Rosei and T. Johnston, Survival Skills for Scientists, Imperial College Press, 2006

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[*] JRCM(2007), URL:http://www.sangakuplaza.jp/page/616732
Ritsumeikan University is ranked as the 12th place on the league table.

An ethnography of mentoring practice in partnership with YAA mentees

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On the practical side action or engaged learning requires substantial support to ensure high quality, measurable outcomes in an acceptable time frame. The University of Western Sydney is expanding its stable of engagement based awards with a Key Program in Enterprise Management. A major component of the key program will be the Young Achievement Australia Business Skills Program. This paper undertakes a reflective examination of the role of the mentor and the process of mentoring. Accepting pedagogically that learning is a lifelong, often interactive, process where the 'teacher' can also learn from the 'student' the paper takes a mentor perspective in examining the pitfalls, solutions and learning that takes place in the mentor- mentee partnership.

Keywords: coaching , ethnography, mentor, mentee, action-learning, engaged learning, employability, work ready, work integrated learning, graduate attributes

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> "Thinking that this very question – viz whether or not anything can be known – was to be settled not by arguing but by trying, applying no rule, but made everything turn upon hard thinking and perpetual working and exercise of the mind" Frances Bacon 1620 (in Hammersley & Atkinson pv)

AUSTRALIAN UNIVERSITY ACTION/ENGAGED LEARNING: A RECENT HISTORY

The search for a solution to produce 'fully employable' graduates for 'enhancing national productivity' (Universities Australia National Internship Scheme, 2007, p3) is the impetus to the increased pressure for active, engaged learning experienced by Australian Universities in the late 21st Century. Repeated investigations have concluded that the growing skill shortage and slowing productivity growth can only be addressed by a two fold approach. This is to be obtained firstly, through explicitly identified employability skills being integrated into curriculum design. Secondly, the curriculum design needs to be complemented with opportunities for students to be exposed to professional settings which give them access to work which provides them with vocational preparation. (Council of Australian Governments, 2004; Department of Education, Science and Training, 2007; The Committee for Melbourne Higher Education Task Force, 2007; Universities Australia National Internship Scheme, 2007). The Universities Australia National Internship Scheme (2007) goes even further to recommend that such curriculum involvement should meet study credits (p4) and equity issues, by providing information and support networks, referrals and references (p5).

While Communication skills always top the graduate employability list (Department of Education, Science and Training The Employability Skills Framework n.d, Graduate Careers Australia 2006, 2007) Teamwork, Problem solving, Industry Knowledge and Work Experience enjoy different rankings depending on when, where and who conducted the survey. However, it would appear that the ability to effectively communicate, work in a team, or apply basic research skills in a work context, is what is actually sought by those employing graduates.

A "TEMPLATE" THAT ADDRESSES THE RESEARCH FINDINGS

Young Achievement Australia is a non-government not for profit organisation operating since 1977 which aims at "empowering our next generation of business leaders"® (Young Achievement Australia brochure n.d.) through their Business Skills Program™ for Senior Secondary or Tertiary students. The program runs over 24 weekly modules from inception in April to liquidation of the propriety limited company in October each year (Young Achievement Australia, 2007a). Essentially, the Business Skills Program™

> "provides the framework for a group of young people to set up and run a real self directed business and challenge themselves by putting their ideas into action…guided by comprehensive program manuals and experienced business and industry mentors from a sponsor organisation" (Young Achievement Australia brochure n.d)

> "The mentor's role is to use their invaluable business experience to support …participants to learn by doing – which helps participants develop independent thinking, enhance their skills and make better informed decisions now and in the future… (M)entors should also …inform them of the entry level requirements and career pathways within their industry and organisation." (Young Achievement Australia, 2007b).

YAA defined the mentor as a consultant and guide (Helen Smith YAA State Manager presentation to ACEN NSW Chapter 30/10/07 UWS 2007). However, the reality supports the findings of Kafai, Desai, Peppler, Chiu and Moya (2008) in that the mentors are teachers, facilitators, co-constructing, observing and themselves learning in this group mentoring situation. Finding sufficient mentors is often problematic; a complication supported by observation in this case. Formally acknowledging the learning of mentors will assist moving away from the deficit model of mentee, rebalancing the power differential, opening up to mentors from wider backgrounds, and provide more contexts for mentor relationships (Barnett, 2008; Kaffia et al, 2008; Storrs, Putsche & Taylor, 2008).

PUTTING THE RESEARCH INTO ACTION

In 2007 the University of Western Sydney (UWS) Senate endorsed the introduction of the new Bachelor of Business and Commerce including a major in 'Enterprise Management'.
(http://future.uws.edu.au/ug/business/businessandcommerce/enterprise_management).
In accord with the UWS mission the new degree has an increased emphasis on community engagement and action learning. The UWS graduate attributes, which inform the institution's curriculum and syllabus design, align with the previously quoted body of research. (http://policies.uws.edu.au/download.php?id=189).

This major, aimed at increasing professionalism and productivity in small to medium businesses, will be offered in the third year of the major. The capstone engagement units of Enterprise Simulation and Enterprise Internship give students the option of running their own business through the modularized Young Achievement Australia Business Skills Program™ supplemented with theory, content and practices to complement the criteria based outcomes. The program requires a sponsoring organisation which, along with the provision of in-kind services, provides $5500 to YAA to cover the cost of one Business Skills Program™ for 15 to 25 student company members. (Young Achievement Australia brochure n.d) A coordinating mentor and four or five functional mentors are also required to effectively offer the program (personal interview with Helen Smith NSW State Manager Young Achievement Australia).

From the research, cited in the introduction, universities are increasingly charged with providing students with content, concepts, skills and attributes which can be effectively transferred to application in the workplace. Liberman, McDonald, & Doyle (2006) provide an excellent chronology of the theory and application of transfer learning. Their findings stress the importance of engagement in a community of practice before going it alone in the profession. The UWS Enterprise Management major, and the YAA program it incorporates, is well placed to provide the basics for the transfer of learning.

DEFENDING AN ETHNOGRAPHIC METHODOLOGY

Practical issues often dictate the choice of methodology and method when undertaking research and this case is no exception. This pilot investigative research is no exception being constrained by time resources and lack of access to ethics clearance. McNeill and Chapman (2005) provide an excellent review of the literature on ethnography and support of the method for empirical research. Traditionally the methodology of choice of anthropological research ethnography has been widely used by sociologist and increasingly organisational theorists. (Barley, 2008; Hammersley & Atkinson, 2007).

At the time this paper is written the researcher has lived with this community of 18[*] young Australian potential achievers and their team of business mentors for two hours per week for 11 weeks. The researcher is both observer and participant in the development of the business. She is an expert in business and education and a student in learning the roles, duties, practices and procedures of the coordinating mentor in implementing and progressing the program. In accordance with theory the author finds herself concurrently undergoing vocation training through action learning and direct engagement in a community of practice while herself mentoring the students as a group.

Prior to engaging I saw my role as a learner to observe, record, take away and reflect, analyze, adjust, develop, then return to practice in delivery as a mentor the next week. The expectation was that my skills would evolve under apprenticeship to a skilled master. That is a mentored, engaged project to practice on! How I was going to record

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[*] 19 members started. However, following only 3 attendances one formally resigned in week 11 after obtaining full time employment.

my observations, reflect and implement practices at the same time, had not entered my consciousness. Snatching minutes to record while the meetings are in progress and recording from memory sometimes days later became the practice. Observation became even more difficult after week 7 of the program when members were split into departmental teams for small group work and mentors assigned to a group (or two) each in separate breakout rooms.

In week 1 an agenda, and a loose plan, were issued by the coordinating mentor prior to the meeting. This practice quickly fell off. Attendance of mentors also proved to be erratic. From week eight the coordinating mentor removed the company directors to a board room to do breakout work. These sessions have produced the Mission, Slogan and Business Report. The directors appear to have remained motivated and actively seek the mentors for advise and direction. Other members of the company are becoming directionless and de-motivated. This is partly due to a lack of direction in the intricacies of day to day activities, but also partly due to inconsistent and irregular attendance by mentors. Both Storrs etal, (2008) and DuBois et al (2007) mention the counterproductive and even damaging effect on the development of mentee of this type of behaviour. My observations support these findings to some extent. The observed impact on the mentees by week 11, of erratic mentor attendance and lack of a lesson plan, was confusion, frustration and lack of motivation. Editing the paper, six weeks after the first draft, I can now say the student company members have progressed to greater level of autonomy where mentors can operate as consultants and resource providers. What did I learn from this? Have detailed lesson plans with activities to allow mentors to step into different roles. Have small group and larger group activities as an alternative plan.

THE IMPORTANCE OF FEEDBACK

Feedback is a path for learning, developing and changing in that giving and receiving feedback remain the critical success factors for effective management. Not giving feedback with a balance of positive and constructive feedback is a lost learning opportunity. In organisations were feedback is lacking or disproportionately critical employees are suspicious, withhold commitment, ideas, energy and are cynical of management. (Harvard Business School, 2006, pix-x.) Conversely, the benefits of providing feedback include reinforcing good performance, redirecting poor performance, improved relationships, and increased awareness. (Harvard Business School, 2006, p6). The impacts of lack of feedback have become apparent at this stage (mid way) in the program. Evans (2007) supports this view in his auto ethnographic paper on the importance of communication in mentoring. A system was established to where in student members where assessed by their 'managers' and awarded issued regularly. The author trained student members in the importance of giving positive feedback first followed by constructive suggestions for improvement during training sessions. By week 17 company members where observed to be giving each other feedback on the importance of using this model.

A meta-analytical review of mentoring programs undertaken by DuBois, Holloway, Valentine & Cooper (2002) found mentoring generally had positive effects. They concluded that the characteristics of successful programs included regular contact over a significant period with the mentor and mentee agreeing to the frequency and duration of contact prior to the program. Successful programs also incorporated initial

monitoring of implementation. Finally the most successful mentoring programs included screening, pre-program and ongoing training of, support for and structured actives for, mentors.

CONCLUSIONS

At this stage, while the author finds the proposal that an ethnographic methodology is appropriate for action research, definitive conclusions on other aspects, such as the mentor role, transfer learning and whether the YAA program provides an effective and efficient template for the employability and productivity issues raised in the introduction, would require a longitudinal study of graduates of the YAA program. Anecdotal evidence maintains that students that complete the YAA program are more likely to gain employment in a field related to their studies. Commonly this is with the sponsoring organisation. Within the timeframe of this paper, students involved in the program, who have part-time employment, have reported to the researcher an increasing rapport with management and their workplace supervisors, promotion and access to special projects. This can be taken as evidence that knowledge, terms, practices and moors of business behaviours are quickly learned in the YAA program and transferred to other contexts and settings.

Lack of formal detailed agenda and work or lesson plans for each week have resulted in low productivity and increasing down time at subsequent meetings. This is compounded by the poor and irregular attendance by a number of the mentors. However, there does not appear to be any long term damaging effects on mentee development as all members have been observed to have found greater autonomy.

Note taking and the research investigation required for this paper confirmed to the researcher the conclusion of Leberman, McDonald & Doyle (2006) that the "Reflective process post experience is critical for the transfer of learning to occur in different contexts" (p6). Assessment must include questions which investigate the student perspective of "What happened?", "What did you learn?" and "What next?".

While the program includes a number of the necessary characteristics for successful mentoring for business work ready graduates others are missing. My observations would support the findings of DuBois et al. Missing from this program to date are activities for mentors (educators and trainers would recognize them as lesson plans). It also supports the literature on the need for feedback, particularly the importance of positive feedback.

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Will or won't WIL survive in South Africa's new higher education qualifications framework?

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The new Higher Education and Qualifications Framework (HEQF) has South African higher education institutions in a flutter. The inclusion of the accepted term work integrated learning for the first time in a Department of Education document was widely welcomed. However, the statement: 'It is the responsibility of the institutions which offer programmes requiring WIL credits to place students into WIL programmes.' is causing concern. This as the inclusion of a WIL component will 'add' a year to the qualification without a raising the HEQF level. WIL is currently also not funded by the Department of Education. Has this rung the death knell for WIL?

The authors have investigated these issues, with legal opinions being sought about the legal application of this statement and its implications. The valuable contribution that WIL makes towards the employability skills of new entrants to the world of work remains undisputed. South Africa with its reported skills shortages would benefit greatly by having graduates with qualifications and skills that are 'ready to go'.

The paper will sketch a background to the HEQF and experiential learning in South Africa and will unpack the notion of 'placement' with reference to WIL. Special reference will be made to the developments in the Engineering Technology field where the three-year qualifications have always included 12 months on WIL.

Will or won't WIL survive the South African HEQF?

Keywords: work integrated learning, qualification frameworks, placement, legislation, South Africa

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INTRODUCTION

The promulgation of the new Higher Education Qualifications Framework (HEQF) in South Africa in 2007 has for the first time acknowledged the term *work integrated learning* (WIL) in a Department of Education document. Whilst this was welcomed in education circles, the document poses a challenge, viz, the requirement (now legal) that higher education institutions are obligated to place students into WIL. This matter will be explored further in this discussion paper concluding with a recommendation as to a way forward. The effect of these legislative changes on institutional responsibilities and practice in relation to WIL is leading to many programmes gearing themselves to drop the WIL component.

BACKGROUND TO HIGHER EDUCATION AND THE WORLD OF WORK IN SOUTH AFRICA

"The main function of an education system is in essence the provision of education for its community" (Dekker & Van Schalkwyk, 1995: 31). These words remain true today. Higher education institutions have a responsibility and duty toward society and employers to provide an entry-level work force of high calibre, ideally one that is "job-ready" (Taylor, 2003: 8). The cooperative education model, with its WIL component is widely accepted as being one way of achieving the aforementioned. Cooperative education has been practiced in South Africa for more than 30 years. The credit-bearing WIL component is known by various terms, experiential learning and in-service training having been the most common in South Africa.

The South African higher education sector landscape has changed since 2002: from one of having 36 public higher education institutions to 23. Higher education institutions in South Africa are now classified as being: traditional universities offering general formative education; universities of technology offering largely career-focused programmes and so-called *comprehensive* universities that offer a mix of general formative (traditional) education and career-focused programmes. It is mainly the career-focused programmes that include a WIL component.

South Africa has adopted an outcomes-based approach, where the education system focuses on what it is that the student must be able to do at the end of the learning experience (Geyser, 1999: 26). This education model is not viewed without criticism (Malan, 1997: 73). It is, however, the model that is being implemented in the South African education system and requires consideration in any new curriculum design.

Experiential learning theory, which defines learning as "the process whereby knowledge is created through the transformation of experience" (Kolb, 1984: 41). Dewey's theory of experiential learning has been built on and integrated with those of other experiential learning theorists such as Kurt Lewin, William James, Jean Piaget, Carl Jung and Paulo Freire. Mason, Furtado & Husted's (1989) fourth model is that of experiential learning that is the learning model of choice for many career-focused programmes, where the workplace learning is not only directly related to the formal study, but is integrated into it and where the student cannot achieve the qualification without completing this practical work-based phase.

Whereas the practice of cooperative education is becoming more widespread, it is not without its problems and challenges as is evidenced by various publications on these issues (the Asia Pacific Journal of Cooperative Education being one such publication). In South Africa, the Southern African Society for Co-operative Education is an association that actively promotes the concept of cooperative education.

Legislation governs education institutions and the industry/business sector alike. Adherence to governmental legislation is non-negotiable and, as with anything else, this legislation changes periodically. Various national policies and draft policies influence and shape higher education. The most relevant of these policies are: the South African Qualifications Authority (Act 58 of 1995) which paved the way for the implementation of South Africa's National Qualifications Framework and the Higher Education Act (Act 101 of 1997) with its amendments.

The South African Qualifications Authority requires that all training/education providers be registered as such and that all qualifications issued by them are recorded on the National Qualifications Framework. The most recent legislation and the document that is at the heart of this paper is the Higher Education Qualifications Framework, which was gazetted on October 5, 2007. (Department of Education, 2007). This ten-level qualifications framework necessitates the revision and re-design of programmes in the higher education sector and is viewed by many as both an opportunity (to re-design, update and develop programmes that are more relevant to industry) but also as a threat in that for the first time higher education institutions have a legal requirement to place students into work integrated learning programmes. The statement: "It is the responsibility of the institutions which offer programmes requiring WIL credits to place students into WIL programmes." (Department of Education, 2007: 9) now makes the placement into work integrated learning the responsibility of the education institution. It is this statement that is causing higher education institutions offering particularly technology and career-focused programmes (and specifically those with a WIL component) much concern.

The issue is not quite as cut and dried as it may first appear. WIL placements have always loosely been interpreted as being a joint responsibility of the institution and the student. Does this statement in the Higher Education Qualifications Framework change this? It is clear is that there needs to be a commonly applied interpretation of this statement across the higher education sector, else universities could well find themselves in hot water or in a court of law.

It is against the above education and legislative background that this paper is presented. There is a very real concern that requires an *ear* and a solution or, it is feared, WIL will not survive the new HEQF.

DISCUSSION: THE HEQF PARAGRAPH UNPACKED

The complete paragraph dealing with WIL as gazetted in the HEQF reads:

> **"Work Integrated Learning**
> Some qualifications will be designed to incorporate periods of required work that integrate with classroom study. Where Work Integrated Learning (WIL) is a structured part of a qualification the volume of learning allocated to WIL should be appropriate to the purpose of the qualification and to the cognitive demands of the learning outcome and assessment criteria contained in the appropriate level descriptors.
> *It is the responsibility of institutions, which offer programmes requiring WIL credits to place students into WIL programmes.* Such programmes must be appropriately structured, properly supervised and assessed."

It is the sentence in italics that is relevant to this paper. This is what is proving to be a root cause of the strong consideration to omit WIL in re-designed programmes. Legal opinion was sought to shed light on the statement. A brief overview looked at an interpretation on the rules that govern interpretation of policies/contract and their applicability in legal scenarios.

As a general point of departure, the intention of the parties to a contract is contained in a declaration of will, with such a declaration either being tacit or express. In many cases one finds that language or symbols that are used by the parties to express their intention are not always immediately clear, more so if they are vague or carry more than the one possible meaning. In this case, the statements must then be interpreted to ascertain the true intention of the parties.

The next aspect is the purpose of the interpretation. The whole purpose of interpretation is aimed at determining the common intention of the parties as expressed in the policy document or contract. This is known as the "general rule" or the "golden rule" of interpretation. In fact, however the determination of the intention of the parties is not a rule of interpretation.

The rules of interpretation are the guidelines, which have in fact crystallized as aids in achieving this object. The above approach follows from the acceptance of consensus between the parties as a basis of contract. However, where actual consensus is absent a party to the contract may be bound by an impression of intention created in the mind of the other party. Keeping the above in mind a person/party who consents to words with a prime facie clear and unambiguous meaning may be precluded from relying on a special meaning as that which be actually had in mind if the other party reasonably accepted the clear meaning to have been intended.

The starting point in the interpretation of a policy/contract must be the words or language chosen by the parties themselves and it is presumed that they were fully aware of the meaning of the words they used.

The general rule therefore is that where the words used are clear and do not contain any ambiguity a court assumes that it need not look beyond those words for the intention of the parties. However, this apparently is not a hard and fast rule. If it is clear that the parties did not use the words in their plain and ordinary sense but intended them to bear a different and technical meaning then the latter meaning should prevail. Therefore, in summary it could be said that when a contract/policy is interpreted, the words used by the parties MUST be given their ordinary grammatical meaning. This is called the first step in interpretation. The rule is also expressed in terms such as the "plain and ordinary meaning", "the ordinary and natural meaning" and the popular meaning".

These expressions seem to refer to the fact that words acquire an "everyday" or "normal" meaning through constant usage in society. It is this meaning, the sense the words convey to the reasonable or normal person using them to express his intention that the courts seek to find, on the assumption that the parties acting as reasonable men/educators used the words in this sense. If the words used do not give a clear intention of the parties then it must be interpreted within the context of the contract in which they appear. Now, having provided the background to the rules of interpretation one will be in a better position to understand the legal application of the HEQF statement.

Given the ordinary grammatical meaning to the words "responsibility of institutions to place students" to any reasonable educator it would simply mean that the higher education institutions have a legal duty to place students into WIL programmes.

Failure to comply could be tantamount to a breach of legal duty and thus students could litigate in terms of the above breach, albeit that a whole lot of other surrounding factors have to be taken into account before such a breach could be impinged upon the institution.. These factors include:

- Was any reasonable attempt made by the institution to place students?
- Has the best interest of all parties been taken into account?
- Did the students accept the placement, if not why not?
- Did the students go out and seek a placement on their own accord if it serves their best interest, and was that ratified by the institution?
- Did the student sign the relevant learning contract?
- Did the students accept the terms of training?

Taken at face value the statement is interpreted to mean exactly what it says: there is no other interpretation. This also is the opinion Anton Bruwer (previously legal advisor of the University of Johannesburg, South Africa) shared the concern of higher education. In his opinion, the statement would be binding on education and institutions would have very little (if any) leeway and would have to apply the relevant provision verbatim. He suggested that the intention behind the provision should be interrogated thoroughly and that all institutions needed to apply a shared understanding of what the provision would mean in practice. He agreed that the Minister of Education should be lobbied for such an interpretation.

The advice offered by Adv Omar Khan (Tshwane University of Technology, South Africa) is clear as well.

> "The best approach would be to approach the Ministers office or the legal department in the Department of Education and ask for a response in regards liability of institutions. What are the parameters of the institutions' liability as regards placement of students in WIL programmes and so to put the burden of submission of a response on the Minister."

Various case laws were examined to see the approach that the courts adopted in cases of placement of students. None were identified as being directly related to non-placement litigation. It is precisely this sort of future possible litigation that has prompted this study. Higher education institutions seek to ensure that they are not held responsible for WIL placement and this is why it is deemed to be so important that a common interpretation of the WIL statement in the HEQF be made public. Instances do occur where students do not immediately secure a WIL placement.

There are various reasons for students struggling to secure a WIL opportunity, not all that may be attributable to the institution. Due to space constraints, these will not be outlined in the paper. No institution would like to find itself in the position of having to pay claims for *loss of earnings* or *loss of self-esteem* or the like.

THE RESPONSIBILITY FOR WIL PLACEMENT

One may well ask: "Well, then whose responsibility *is* it to secure a WIL placement?" Ultimately, it is the responsibility of the student with the full support of the academic Department concerned to place students into WIL. It must be noted that higher education is not wishing to shirk its responsibilities but equally, it cannot be expected

to carry the full responsibility. Departments usually allocate the management of their WIL to one/more staff members (Cooperative Education/WIL coordinators), who prepare the students for the WIL workplace, assist in the identification and notification of opportunities, approve the workplace as suitable for achieving the stipulated WIL outcomes, monitor and assess the student – formative assessments in the workplace and summative assessments once the final report is submitted.

Higher education institutions have always operated from the principle that whilst students are assisted in this process, the onus remains on them to secure a WIL placement. This is a responsibility that has never been taken lightly. Various initiatives are implemented and much support is offered to students and industry to ensure that WIL contacts can be made by the parties concerned. This includes aspects such as enrolment management, preparation of the students for WIL and many more similar activities. Nonetheless, the legal implication of the HEQF does not sit well. The international status of such legislation is still being investigated.

A BRIEF INSIGHT INTO ENGINEERING TECHNOLOGY PROGRAMMES IN SOUTH AFRICA

In South Africa Engineering technology programmes have all been developed in conjunction with industry and the relevant professional bodies, the most relevant being the Engineering Council of South Africa. During this process certain outcomes were identified as best being achieved in an authentic industry workplace. These components were put together into the *in-service* module/s, which students completed in industry, with the structured WIL being recorded in the logbook. Industry thus serves as the external partner in the education process. Currently, all Engineering National Diploma programmes are three-year qualifications of which two six-month periods are spent in the workplace. Students then have technician status.

Most departments offering Engineering technology programmes are currently debating the HEQF and its implications. Top of their agendas is the question: should WIL be retained given the implications of the HEQF statement? The various international accords that affect the Engineering levels – from artisan, through technician, technologist and professional engineer – need consideration.

CONCLUSION – A WAY FORWARD

This matter was put to conference delegates at the Southern Africa Society of Co-operative Education International Conference held in South Africa in 2008. It was evident from responses (of both national and international delegates) that clarity on the interpretation of the statement should be sought as a matter of urgency.

A way forward that was recommended (and that has already been acted on) was for representation to be made to the Minister of Education via the Southern African Society for Co-operative Education's alignment with the South African Technology Network (a network that has been modeled on the Australian Technology Network). This discussion has resulted in a meeting scheduled with the Chairperson of Higher Education South Africa where this specific and other concerns regarding the HEQF on technology higher education will heard. Hopefully the relevant statement will then either be modified or a commonly agreed interpretation will be published.

The valuable contribution that WIL makes towards not only the employability skills of new entrants to the world of work, but also the importance of nurturing this component within the education sector is undisputed. WIL enables the production of graduates with skills that are *ready to go* and so assisting in closing the skills gap that is such a hot topic in economic circles especially in South Africa. The concern has been raised, it will be heard and the hope and wishes are that WIL will indeed survive South Africa's Higher Education Qualifications Framework.

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Effective transfer of skills and knowledge to the workplace – how are we doing so far?

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This paper examines survey findings from students completing a cooperative education course taught in the Bachelor of Information and Communication Technologies (BICT) degree at Christchurch Polytechnic Institute of Technology (CPIT). Each course usually takes students four to five months to complete and produces academic credit worth three of the student's last eight papers of their third year on the degree. Most of our graduates intend to enter a highly dynamic IT industry that prizes technical skills and knowledge, especially if they are demonstrated in a commercial environment. The industry is characterised by constant change and potentially high job complexity that require a broad range of skills. This compulsory coop course is a vital component of the student's preparation for the IT industry, since it requires them to express their ability to apply classroom learning in an unfamiliar, often novel and rapidly changing commercial setting. As academic placement coordinator for this capstone project, I want to know how well their industry supervisors say students can apply themselves; I also want to know what factors influence the skills and learning transfer process. Are there barriers to skill and knowledge application – what contributes to a supportive environment, one that allows students to successfully bridge the gap between the classroom and the workplace? What effect does the placement have on their own level of confidence, itself an important factor for students seeking employment?

INTRODUCTION

Entering a workplace that is so rapidly changing puts additional strain on new graduates, who are often already unsure of themselves, as they seek their first employment in the IT or ICT[1] industry. New Zealand's Communications and Information Technology Minister, David Cunliffe said last year "Advancements and developments in ICT are moving so fast, it is often hard to keep up and stay abreast of everything that is happening" (Cunliffe, 2007). If this is true of seasoned practitioners with some years of experience in the industry, the situation must be especially daunting for new graduates, entering it with little or no experience to lean on and increasing expectations from employers demanding a productive employee, practically from the time of hiring. Birkett, (1993) speaks of hard skills in terms of the technical parts of performing a job, and soft skills that apply more to behavioral features of an individual including interpersonal and human skills that are needed when dealing with people, rather than technologies. It has been increasingly apparent over the last 10 years (at least) to any staff involved with coop that employers not only look for current, often specific, hard technical skills from new employees, they

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[1] Often used interchangeably, ICT is broadly the technology that relates to the storage (optical and magnetic media) and broadcasting of information, including radio and TV. IT, as defined by the Information Technology Association of America (ITAA), is "the study, design, development, implementation, support or management of computer-based information systems, particularly software applications and computer hardware."

also increasingly ask for the aforementioned softer skills from the new recruit. Evidence can be found elsewhere, e.g., Hodges & Burchell, 2003; Leppimäki, Tammi & Meristö, 2004 and Williamson, 2006. From initial discussions with students in 1997 came the need to find out about the effect of the placement on their level of confidence, as they entered the workforce proper. Related discussions with employers over the ensuing years prompted further questions regarding the students' level of technical (hard) and what was referred to in the discussions at that time as "other" skills, now referred to as "soft" skills.

In addition, employers often seek graduates who can demonstrate an ability to assess their own learning needs, research them and then provide their own learning opportunities to meet those needs. This requirement to self-manage is at least in part due to the constant and rapidly changing nature of the industry – a manager's time is precious, so less of it spent on servicing the immediate needs of junior techies frees up more to spend on the business. This feature is referred to in the NZ government's "Skills Strategy" released in April 2008: "We need systems … [which] … allow workers to think about their own professional development and talk to managers about this" (New Zealand Skills Strategy Discussion paper, 2008).

Furthermore, IT graduates are increasingly asked to apply their skills in new areas, as the merging of IT and other industries continues apace (Leppimäki, Tammi & Meristö, 2004; Dench, 1998). Understanding the needs of widely different businesses is tough for new graduates because each industry has a wealth of cultural and structural legacy that takes time to absorb, make sense of and adopt. This is often compounded by industry-specific jargon, large numbers of acronyms, and often age-old traditions that act as a barrier to entry or acceptance and tend to mystify the new graduate. The whole process must be repeated if (or more usually, when) the individual moves elsewhere. Flexibility is an important asset, therefore, for any graduate and demonstrating an ability to manage these changing learning needs is an enormous advantage.

RESEARCH METHOD

In order to simplify the process of data collection and allow more time for verbal follow up if possible, it was decided to continue with a survey instrument devised for an initial study of students completing work placements in 2002, the preliminary results from which were presented that year (Wieck, 2002). The survey data was collected after all the assessments relating to the students' work placement had been completed an ethical requirement, in case students felt inhibited by the situation and that their responses might compromise their marks awarded for the course. The survey allowed for a collection of some quantitative and qualitative data.

To assess the students' own perception of how *confident* they felt prior to tackling the project, they were asked award themselves a score on a Likert scale from nought to five: No confidence (zero) to fully confident (five), as below.

Fully confident ❑ 5	*Mostly confident* ❑ 4	*Fairly confident* ❑ 3	*Little confidence* ❑ 2	*No confidence* ❑ 1

Similar questions were posed regarding the students' use of specific technologies needed for their own particular project – they were asked to rate their overall *technical* competency on starting the project, as below.

Fully competent ❑ 5	*Mostly competent* ❑ 4	*Fairly competent* ❑ 3	*Little competence* ❑ 2	*Not competent* ❑ 1

This second question, relating to competency, was asked in a similar way, again using a Likert scale, this time asking about the students' *soft* skills. These were grouped into time-management, interpersonal or social skills, since discussion with local employers had suggested that these were especially valuable in their employees.

All three questions were asked again but now the students were to consider their post-placement levels of confidence and competency. It was hoped that these scores would indicate, albeit crudely, some improvements, even if they only related to the students' own perceptions. A supplementary question was then asked, essentially to confirm the students' view that any changes upward or downward, were attributable to the placement. Again the students were asked to score this level of attribution on a Likert scale.

Since this is a one-sided view of the placement, a separate survey, that asks the organisation's view of student competency changes has been compiled to obtain the view from the other side of the desk, as it were. This is incomplete at the moment and is intended for future publication. Early signs are that the majority of organisations agree with the students' own rankings, though there are of course, anomalies for reasons that will be explored more fully.

The written responses accompanying the scores proved interesting. They appear to reinforce the belief that the coop course is regarded as fulfilling a unique role in creating a managed but authentic environment in which the student can put theory into practice. More than that, the course requirements ensure the student has an opportunity to critically reflect upon the coop experience, both at the end of the course when submitting material for final assessment, and perhaps more importantly, along the way, recording their experiences in a daily journal and during a weekly meeting with others on the same course (though generally completing very different placements), when highs and lows of the week are discussed and deeper learning might occur.

RESULTS

The complete questionnaire is not reproduced here, however the most significant questions from the survey are summarised in a results table, Fig 1, next page. Twenty three surveys have been returned.

FIGURE 1
Summary of results from the student survey questionnaire

Pre work placement		Post work placement		Difference
Question	model value (1)	Question	model value (2)	[(2) – (1)]
What was your confidence level before placement	3	What was your confidence level after placement?	4	1
Technical Skills before placement	2	Technical Skills after placement	4	2
Other Skills before placement	3	Other Skills after placement	4	1
		How much was any change due to the placement	4	

DISCUSSION

An important theme for this research emerged very early on in the shape of student confidence, or rather lack of it – many students lacked the level of confidence they sought in order to feel reasonably prepared to enter full-time employment, immediately after graduation. Since a clear majority tend to seek employment upon graduation, this was a significant concern for the staff teaching into the degree. It was hoped that the coop placement, taken just before the end of the programme would raise their confidence level. Thankfully this was usually the case, although a minority had awkward placements, with hard-to-get-hold-of, unappreciative or uncommunicative bosses featuring on the negative side of the balance sheet. Changes in the level of confidence reported by students on starting the project and after its completion were calculated by applying a simple measure both before and after the work placement, as shown in Fig 1. It was hoped to highlight changes in this level. By dint of a corollary question that asked students to attribute changes to this level to the work placement or some other cause, some measure of the student's own impression can be induced.

Here are some quotes from the students who have completed the course:

"Entering the project I had a lot of knowledge but I had not put my knowledge into working on a large industry based project. This project put this knowledge into context and greatly increased my understanding in the area of my major. At the end of the project I had more confidence going into the workplace and even greatly assited in setting [up] a business."

"Entering the project I was confident with what needed to be done, as I knew how much more I had learnt since starting the degree. The project exposed skills that needed to be better developed. After completing the project I had learnt so much more technically (I.E routing, VLAN's and HTML) and generally (I.E communication, time management) that it made me aware of how much I didn't

know and thus I was a little less confident going into work.. Having worked now for a year I know that its not about knowing "everything" before you enter a job, although it does help, its more about being able to learn."

"I found that doing the project gave me an insight into how tasks and the management of the tasks are carried out in the real world, but with the advantage of having the supervision of Tutors to guide me for any questions or queries that I may have had throughout the project."

Another aspect of the work placement that has always interested the organisations with whom we interact is the students' capabilities when using specific technologies. The range is extensive and might include familiarity with certain methodologies when reviewing business processes, software development environments and programming languages, network topologies, configuration, load and traffic management and often major, class-leading software packages. While many organisations are more concerned with a student's demonstrated ability with more general competencies such as problem-solving or time management, for others the focus falls on highly specific skills, often with well-defined technologies such as .NET, C++ or PHP. The organisations that tend to take a long-term view of their time spent employing a student – including those taking the opportunity to size them up as potential full-time employees following graduation – tend to be the ones emphasising skills of the more general kind. These organisations claim they have the greatest difficulty finding new graduates who can quickly fit in with the existing organisational culture in general and the smaller sized team with whom they will mostly be working on a day-to-day basis in particular. These attributes, more to do with the individual's personality, communication skills and behaviour are highly prized. Businesses tell us that this is because these softer skills are far harder and more time-consuming and thus more expensive to teach; to a bright, effective and self-managed communicator, the "techy" stuff they can teach fairly quickly.

CONCLUSION

Starting out in any industry is tough on the new graduate. There are many advantages to joining the IT industry, for example there is a greater chance that working hours and conditions will be flexible, since for example programmers often need only an internet connection to get their work to the boss or direct to the client. A few of our students do work for overseas companies in the USA and Europe while remaining with friends and family in New Zealand. On the other hand the IT industry is tough for new graduates in the sense that they need to be extremely self-reliant if they are to be successful – there is a real need here for the institution to produce not only work-ready but self-directed, independent learners. That learning usually needs to happen frequently due to the pace of change that typifies the IT industry and when it is needed, it is needed quickly.

A reported increase in the levels of confidence and competence, especially when combined with suitable supportive responses, is taken to indicate that the course, and by implication, the course coordinators and supervisors, are doing "OK".

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Assessment of architectural work experience by employers and students

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A major element in the architectural work experience program at Queensland University of Technology is the assessment reports provided by students and employers. This paper gives an analysis of assessments submitted during the period 2000 to 2007 as viewed from a practice-base perspective. By comparing the 398 student assessments with 403 employer assessments in five specific categories over an eight year period one is able to obtain a clear understanding of the performance of the program and the relevance of its various sections for its participants that is not always obvious in a yearly analysis. In the major work experience areas there is close agreement between the student and employer assessments. However, the analysis did highlight a misunderstanding of the program's aims by some participants. Overall the students were very positive about the program and appreciated the opportunity to work on real projects and be given a degree of responsibility for these projects. For Work Integrated Learning (WIL) practitioners this study clearly demonstrates the value of obtaining assessments from students and employers in order to establish the acceptance of a WIL program.

Keywords: practice, architecture, assessment.

INTRODUCTION

The current Bachelor of Architecture course at Queensland University of Technology (QUT) combines a work experience program with university studies. The work experience component is an early version of Work Integrated Learning (WIL). It has some similarities with a 'cooperative education' system but with the practice experience undertaken in parallel with the academic program so that they complement each other. This paper examines the architectural work experience requirements in the current QUT architectural course and establishes the relevance of this work experience as viewed by its participants by analysing the assessments provided by students and their employers during the period 2000 to 2007. As a result the strengths and weaknesses of the program during this period are identified.

BACKGROUND

The QUT architectural work experience arrangement dates back to about 1918 in the QUT predecessor institution, (QUT, 1996). In those times architectural students worked in an architectural office during the day and attended academic classes at night. As the architecture course moved from a part-time to a flexible-full time mode the practical experience in time became a formal part of the architectural course. In 1994 this practical experience program was restructured into its present form that requires the students to work 72 weeks in the last three years of the course and to obtain some nominated architectural experiences. To achieve the objectives of this

early version of a WIL program, QUT has developed over the years an informal arrangement with the local architectural offices where the students can undertake their QUT practical experience requirements and also develop their documentation and professional skills by being involved in real life projects.

Student Employment Issues

In this program QUT has restricted itself to the educational issues only and it is not a party to employment arrangements between the students and their employers. The students obtain work themselves and they become paid employees in architectural firms under the conditions of the Architects' Award. Therefore, the problem of inappropriate job placement of a student by a university, as identified by Weisz and Kimber (2001), is avoided. Although availability of work for architectural students does vary each year due to market forces in the building industry, so far all students have obtained adequate work. Most QUT architectural students commence their architectural work experience in their fourth year of the architectural course. Entering the work force at this stage the students need to have developed adequate skills, understanding and personal attributes in the early years of the course to enable them to benefit from practice with its knowledge-building potential, (Savage, 2005).

Employers' Needs

Unfortunately the needs of the architectural practitioners and the objectives of architectural education do not always coincide. Academics aim to prepare architectural students for the broader perspective of life in the profession by developing students' graduate capabilities and life-long learning skills to enable the students to survive and adapt to changing circumstances. On the other hand practitioners are currently giving preference to students and graduates who already possess the practical skills to work immediately on projects. This standard required by practitioners can only be achieved after a period of employment in an architect's office where the students can develop their skills and competencies during practical experience together with their academic skills. Then the students will possess a dynamic package that makes them very employable on graduation, (Canter, 2000). Such graduates are able "to display a critical intelligence combined with imagination, a capacity to question, a sense of ethics and responsibility as professionals, a well informed architectural design ability and sensibility, a knowledge of precedence through history and theory, an understanding of the assembly of buildings, and importantly a willingness and hunger to continue to learn," (Maher 1995, p.26).

ASSESSMENTS BY EMPLOYERS AND STUDENTS

In the QUT program the students are required to submit certified evidence that the nominated time has been worked in an architect's office and that the nominated architectural experiences have been obtained. The separate employer and student reporting documents were designed to encourage employers to assess the performance of the students and the students to evaluate their work experience. To-date, employers have cooperated with this arrangement on the condition that they did not have to fail a student in their report. To cater for this arrangement the terms used on the assessment sheet were 'excellent, good, fair, pass, poor and not applicable'. Where the student's work is unsatisfactory the employer soon finds a reason to terminate the employment

as the student is a paid employee. In that situation the student then has to seek employment with another firm in order to complete the program's practical experience time and nominated experience requirements set by QUT. In 2005 the students were given the opportunity of using either the existing paper reporting arrangement or an electronic reporting system which enables an employer to assess a student's practical experience by email and record it on a data base, (Savage, 2000). However, due to electronic program problems, not all employer assessments were received in 2006 and 2007. The numbers of employer and student assessments received during the eight year period are recorded on Table1.

TABLE 1
Assessments received

	2007	2006	2005	2004	2003	2002	2001	2000	**Total**
Employers	93	55	40	39	43	49	46	38	**403**
Students	107	58	37	34	36	44	46	36	**398**

The participants were asked to assess the program in five categories – design, documentation, site investigations, contract administration, and overall assessment of the program. The results obtained are provided in the following sections.

Design Assessments

The bulk of the design assessments are in the excellent and good categories with higher ratings provided by the employers as shown in Table 2.

TABLE 2
Average design assessments over period 2000 to 2007

2000-07	N/A	Excellent	Good	Fair	Pass	Poor	**Excellent + Good**
Employers	0.5%	36.0%	56.3%	6.0%	1.0%	0.2%	**92.3%**
Students	0.5%	20.9%	65.3%	11.6%	1.2%	0.5%	**86.2%**

N/A = Not Applicable

Follow up discussions with students revealed that many students had the perception that they were not given adequate design opportunities by their employers. In many cases the design for the project had been undertaken by senior staff or completed before the students entered employment. There are other situations where the employer was not impressed with the student's design ability. Nevertheless, there are only a very small percentage of assessments in the not applicable category. However, in all these cases the students provided other evidence of design work undertaken.

Documentation Assessments

The analysis of data in this category shows a very close correlation of employer and student assessments. One would expect final year students who have worked 72 weeks, to be either excellent or good in undertaking documentation work. However, a close analysis revealed that in 2000, 2002 and 2003 there were a small number of assessments in the pass and poor categories. Discussions with the students involved

revealed that these assessments were mainly due to personality problems that they encountered with their employers. The students' and employers' assessments received over the eight year period are summarised in Table 3.

TABLE 3
Average documentation assessments over period 2000 to 2007

2000-07	N/A	Excellent	Good	Fair	Pass	Poor	Excellent + Good
Employers	-	49.1%	46.5%	4.0%	0.2%	0.2%	**95.6%**
Students	-	49.2%	47.0%	3.5%	0.3%	-	**96.2%**

Site Investigation Assessments

Overall the employers' assessments are higher than the students' assessments. Some students expected to obtain more experiences in this area. However, many firms find it difficult to justify paying a student to visit a site when the student is unable to make a noticeable contribution to the investigation work. QUT is aware of the cost to offices of taking students onto a building site and therefore it only requires a student to be involved in at least one site inspection. An unusual feature of the results obtained was the percentage of not applicable assessments even though other evidence was submitted showing that all students obtained an adequate experience in this area. The students' and employers' assessments are outlined in Table 4.

TABLE 4
Average site investigation assessments over period 2000 to 2007

2000-07	N/A	Excellent	Good	Fair	Pass	Poor	Excellent + Good
Employers	4.0%	27.5%	63.0%	4.5%	0.7%	0.3%	**90.5%**
Students	2.5%	16.6%	57.5%	20.4%	3.0%	-	**74.1%**

Contract Administration Assessments

Over the years it is clear that many employers are reluctant to give students experience in contract administration, which occurs during the construction phase of a project. This is clearly shown by the high percentages in the not applicable category. The aim of this section of work experience is to expose the student to the final stage of a project by requiring the student to obtain at least one experience in some aspect, but not all aspects of contract administration either as a participant or as an observer. Naturally most students consider that they should be given more experience in this area. Unfortunately, a number of employers find it difficult to justify the cost of involving a student in contract administration. Although the percentage of not applicable assessments is high, all students did meet the requirement by being at least an observer in one aspect of this work experience. Contrary to expectations, no poor assessments were received in this category as indicated in Table 5.

TABLE 5
Average contract administration assessments over period 2000 to 2007

2000-07	N/A	Excellent	Good	Fair	Pass	Poor	Excellent + Good
Employers	12.9%	17.9%	55.8%	12.2%	1.2%	-	**73.7%**
Students	6.8%	13.3%	48.8%	23.1%	7.0%	-	**63.1%**

Overall Assessment of Program by Employers and Students

Both employers and students rated the total program very high. There were no assessments in the poor category in the analysed period. However, in 2000, 2001, 2003 and 2004 were some assessments in the pass category as shown in Table 6.

TABLE 6
Average overall assessments of program over period 2000 to 2007

2000-07	N/A	Excellent	Good	Fair	Pass	Poor	Excellent + Good
Employers	-	37.4%	58.6%	3.5%	0.5%	-	**96.0%**
Students	-	20.1%	75.9%	3.3%	0.7%	-	**96.0%**

DISCUSSION

The program is designed to provide students with exposure to most stages of a project and not be confined to documentation and design work only. To ensure compliance with the program requirements the students have to provide not only assessment sheets but also signed log sheets to verify their experiences. Where unusual reports are received the employers and/or students are contacted.

Assessment Discussion

Tables 3 and 6 clearly identify that the results obtained in the documentation and overall categories are very good. The problem areas for students are in site investigation and contract administration where some employers are reluctant to involve students. This indicates that the aims of the program are not fully understood by these employers by not allowing the students to obtain some involvement in these stages of a project. A comparison of the participants' acceptance of the various work areas of the program is provided in Table 7.

TABLE 7
Comparison of results obtained in each Category

	COMBINED EXCELLENT AND GOOD ASSESSMENTS OVER 8 YEAR PERIOD				
	Design	Documentation	Site	Contract Admin	Overall
Employers	92.3	95.6	90.5	73.7	96.0
Students	86.2	96.2	74.1	63.1	96.0

Report Feedback by Students

In 2006 and 2007 the students were required to submit a report on the value of their work experience in assisting their architectural education. A detailed review of the 66 reports received in second semester 2007 was undertaken. All the students discussed the type of work that they received and how beneficial it was for them. A significant number of students provided additional comments which are classified according to their subject matter and in comparing the positive and negative comments it can be clearly seen that the overpowering comments are positive.

Number	Positive subject matter
37	Improvement in communications and confidence.
19	Obtained better understanding of the profession.
19	Practical experience improved their architectural education.
16	Practical experience provided opportunities to apply university knowledge on real life projects.
15	Improvement in team building.
8	Obtained a better understanding of budgets for projects.
3	Improvement in one's time management.

Number	Negative subject matter
1	Insufficient university support for students in practical experience.
1	Insufficient preparation for students before undertaking practical experience.
1	Time management problem in balancing firm's needs and university requirements.

These finding agree with the observations of Parks, Onwuegbuzie and Cash (2001) who found that students "were extremely positive about their cooperative education experiences," (p.29).

Below are a few typical positive statements received from students.

> Fantastic to be able to work on buildings and projects with architects and consultants has been absolutely rewarding.

> I appreciate that my work experience has given me an invaluable stepping stone into the Architectural Profession.

> My undergraduate work experience attained between January 2004 until November 2007 has been of paramount importance in my development as an architectural student.

CONCLUSION

The following conclusions can be made from the study of the program:

1. Overall the program is strongly supported by both employers and students.
2. High assessments results are provided in the type of work where the students are employed to undertake the principal duties required by their employers, that is, documentation work by architectural students.
3. Wide variation in assessment results occur in work areas where some firms are not prepared to give students extensive experience, that is, site investigation and contract administration experiences in this program.
4. To avoid misunderstandings and the incorrect not applicable assessments by employers, the aims of the program need to be communicated each year no only to new employers but also as a reminder to existing employers.
5. To improve the student's feedback reporting system the students need to be requested to give comments on specific items as well as providing general comments about their practical experience.

For WIL practitioners, this study shows the value of obtaining assessments from employers as well as students to identify the successes and problem areas of a program. It also shows that one can expect a wide variation in results in nominating experiences in work areas where some employers are not prepared to give students adequate opportunities.

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Student feedback on their professional experience: from quality assurance to critical reflection

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The University of Surrey is one of the pioneers of Professional Training (WIL) in UK Higher Education. Most of its undergraduate programmes offer the opportunity of a year's placement in industry or alternative professional environment, normally in year 3 of a 4-year undergraduate degree programme. At the start of their final year of study, on their return from a typical 12-month placement, students complete a questionnaire on various aspects of their Professional Training experience, from the planning stage through to the present day. Over time, the intended outcomes of WIL have moved from development of practical knowledge to development of propositional knowledge but the questionnaire, introduced in 1984, has remained unchanged. This paper traces the evolution of the University's use of student feedback, from 2003 to 2007 as a new analyst has shifted the focus of the exercise from quantitative indicators of satisfaction for purposes of quality assurance, through the rich, qualitative feedback for quality enhancement to the individual benefits to be derived from reflective learning processes. Paradoxically, as a more formal analysis of feedback has been adopted, greater scope has been achieved for utilising the survey as an additional tool for individual critical reflection in order to prepare graduates for the dynamic world of the 21st century.

Keywords: critical reflection, quality assurance, student feedback, WIL

BACKGROUND TO THE UNIVERSITY OF SURREY

The University of Surrey is located in Guildford, 30 miles south-west of London, England. It is home to 12,000 students, a quarter of whom are from overseas, and comprises some 3000 members of academic, research and support staff.

The University began as Battersea Polytechnic Institute, in central London, in 1894, under a Charities Commission initiative to establish "technical and recreational institutions" (Douglas, 1991:9). In the intervening years it developed into one of the country's first Colleges of Advanced Technology (Robbins, 1963) before acquiring University status in 1966.   From its original focus on science and technology, the University of Surrey now offers undergraduate and postgraduate programmes in such diverse fields as Dance and Microbiology, Psychology and Civil Engineering.

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PROFESSIONAL TRAINING (WIL) AT THE UNIVERSITY OF SURREY

The common theme throughout Surrey's history has been its pioneering work in professional training (work-integrated learning). This is encapsulated in its Charter which states:

> The objects of the University shall be the pursuit of learning and the advancement and dissemination of knowledge, in Science and Technology and all that pertains to *a fuller understanding of humanity*, in close *co-operation with the industrial life of the country and with commerce and the professions*; so that (…) its Members at all levels may *grow in wisdom* as well as *knowledge* and be enabled, according to the best of their several talents and abilities, to *enrich their own lives and the life and livelihood of the community*. (University of Surrey, 1992)

The italicised text indicates the University's combined concern with individual, industrial and social objectives. Today, it proudly boasts that:

> When it comes to employability, Surrey graduates have an enviable track record of career success. Over a ten-year period we have had the lowest average graduate unemployment rate of any UK university. (University of Surrey, 2008)

But Professional Training (PT) is about more than production of industrial manpower and securing graduate employment. Whereas only five years ago, it was being defined as:

> a set of achievements, *understandings* and *personal attributes* that make individuals more likely to *gain employment* and be *successful in their chosen occupations* (Yorke and Knight, 2003)

we now recognise the need to "to facilitate the development of degree-level learning through an associated emphasis upon the *reflective learning processes*" (Moreland, 2006:3). In the complex world of the 21st century, universities must prepare graduates for a lifetime of work and leisure which is very different from that of the past (e.g. Barnett, 2000). Successful negotiation of their futures will demand the ability to cope with change and adapt to as-yet unknown circumstances. Graduates must understand themselves in order to make meaningful choices if metacognition truly enables empowerment (e.g. Beck, 2000; Butt, 2004). In other words, the values underpinning PT/WIL have changed considerably from those early instrumental days of developing practical knowledge for a specific professional role, to one of facilitating propositional knowledge (Eraut, 1994). We have moved away from notions of learning *at* work (Seagraves et al., 1996), to those of *for* work and *through* work (Barnett, 1995) in order to *be* in the world.

To this end, the University of Surrey offers its students the opportunity to undertake work placement(s) for a year (minimum 46 weeks), normally during year 3 of a 4-year degree programme, and normally paid employment. Senior Tutors work with students and employers to establish and assess a programme of work, with defined learning objectives and assessment outcomes, including enquiry-led projects and written reports. The placement is integrated within a programme of professional development planning (PDP) that spans the entire degree course. During their placement, students receive (generally) three visits from a University academic tutor, and they maintain

additional contact with the University through web-based systems and 'return days.' Reflecting the diversity of professional experience acquired and differing perceptions of its validity, many programmes count the period of placement towards the final degree whilst others recognise it through the award of Associate of the University of Surrey.

Oversight of PT lies with the Professional Training and Careers Committee (PTCC), a group comprising academics, employers, students and support services, which has a dedicated budget to support tutor visits, awards for employers and staff, staff development and academic exchange.

STUDENT FEEDBACK AND QUALITY ASSURANCE

Since 1984, an annual survey has been conducted with students on their return from placement. The questionnaire was originally designed for purposes of quality assurance. It gathered (anonymous) biographical data and assessed personal satisfaction on various aspects of the placement. Respondents had the option of adding narrative comments about their experience.

In 2003/04, a change in analyst took place. It was evident that most respondents took the opportunity to expound verbally, so, for the first time, their comments were fully transcribed. A formal report for PTCC and Faculties was produced, including recommendations for improving student satisfaction rates. This was a first, unwitting, step towards altering the nature of the annual exercise, albeit that the content of the questionnaire was unchanged since its inception.

The following year, a framework for qualitative analysis was derived from the emergent thematic trends. Comments were transcribed and analysed for reporting to colleagues. The report aimed "to improve practice through sharing of student feedback, whilst respecting departmental sensitivities" (Willis, 2005:3). Implicitly, this was moving away from quality assurance towards quality enhancement, with feedback used as a means to improve pedagogical practice. By 2007, this aim had become more overt. The report was now structured into two sections, one dealing with the total data, the second analysed by School (later Faculty) in order

> to meet the different needs of the Professional Training Committee and Schools, viz. monitoring professional training as a whole and sharing good practice, and detailed examination of practice within the School and at programme level. (Willis, 2007:2)

By focusing on qualitative data and disseminating the findings, the annual survey was being repositioned. From the second year (2004/05), themes and sub-themes had been identified in the students' comments. Each comment was classified and counted, producing a dataset for annual comparison. An example of the positive overview for two years is illustrated in Table 1. (Negative comments are analysed using the same framework.) This shows that in 2003/04 there was a total of 112 positive comments, compared with 75 in 2004/05. Of these, 21 and 30 respectively related to affective support by the University; 1 and 10 to affective support in the workplace; 91 and 45 to practical support by the University and 47 and 24 to practical support in the workplace. These findings were consistent with aspects of affective support identified by Boud et al. (1985), and the positive and negative factors confirmed Jowett's

conclusion that "Effective and lasting learning takes place when learners experience a balance of challenge and support, confrontation and encouragement." (Jowett, 1995:17)

TABLE 1
Comparative Qualitative Data Summaries, 2003/04 – 2004/05

	1 UNIVERSITY	03/04 %	04/05 %	2 EMPLOYER	03/04 %	04/05 %	3 GENERAL	03/04 %	04/05 %
.1 AFFECTIVE	1 Contactable	**8.9**	**36**	1 Valued, given responsibility	**3**	**17.6**	1 Personal growth	**13.4**	**10.8**
	2 Staff commitment	**9.8**	**4**	2 Independence/ support balance	**4.5**	**2.9**	2 Professional development	**29.4**	**20.5**
				3 Helpful colleagues	**18.18**	**5.9**		**7.6**	**8.1**
				4 Social contact with colleagues	**3**	**2.9**	3 Relevance to programme	**47.9**	**57.8**
								1.7	**1.1**
								0	**1.6**
% subset **Total subset**		**18.75** **N 21**	**40** **N30**		**28.7** **N 1**	**29** **N10**	4 Enjoyable experience		
.2 PRACTICAL	1 Info prior to PT	**0**	**5.3**	1 Contact with supervisor	**12.12**	**11.8**	5 University reputation for PT		
	2 Prep (tut, CV)	**7.1**	**16**	2 Projects, deadlines	**15.15**	**8.8**	6 Timing of placement(s)		
	3 Informed tutor	**0**	**8**	3 Interview /questionnaire to match ability with tasks	**3**	**8.8**			
	4 Planned and followed schedule	**61.6**	**14.7**		**3**	**8.8**			
	5 Timing of visits	**0.89**	**6.7**	4 Training provided	**24.24**	**14.7**			
	6 Constructive visits	**9.8**	**8**	5 Variety of work	**7.57**	**11.8**			
	7 Debriefing	**1.78**	**1.3**	6 Kept engaged/occupied	**3**	**2.9**			
				7 Information available	**3**	**2.9**			
				8 Previous experience as placement host					
% subset **Total subset**		**81.25** **N 91**	**60** **N45**		**71.2** **N47**	**71** **N24**			
% set by year **Total by year**		**100** **N112**	**100** **N75**		**N66**	**100** **N34**		**N119**	**100** **N185**

STUDENT FEEDBACK AND CRITICAL REFLECTION

Since 2003, there has been extensive change both within the University and across the UK Higher Education sector. Externally, the introduction of 'top-up' fees (2007), the annual National Student Survey (since 2005) and increased competition for students, and internally, the appointment of a new Chairman and Secretary for PTCC (August 2007), academic restructuring of Faculties (August 2007) and movement towards a Managed Learning Environment, are just some of the challenges and opportunities we face. Significant for PT, and in recognition of its record in WIL, Surrey was successful in its bid to become a Centre for Excellence in Teaching and Learning (January 2005).

The Surrey Centre for Excellence in Professional Training and Education (SCEPTrE) is premised on the belief that:

> Learning in a rich context such as the workplace lends itself to the development of complex capabilities such as enquiry, observation and sense-making, all of which contribute to SCEPTrE's core theme of learning in and for a complex world. (SCEPTrE, 2008)

In 2006, in line with its research into supercomplexity and the University's consequent Appreciative Inquiry initiative (2007), and following ongoing work across the University to support reflective learning, SCEPTrE requested some additions to the annual PT questionnaire, inviting students to comment on the impact of their experience on their personal and professional development. The resultant data were qualitatively richer than previous years' comments, which had been predominantly limited to bland recognition of 'a thoroughly enjoyable year' or 'no problems'; they now indicated a deeper level of critical reflection on the part of our students. Some typical examples are shown in Table 2, below.

TABLE 2
Examples of Qualitative Feedback 2006/07

Q21 Most important things learned/gained	Q21 Have you changed?	Q23 impact on academic success	Part C Any other comments
Gained confidence, learned new skills, insight into an industry that I had little prior knowledge of; developed existing skills.	Grown in confidence; more independent, better time management skills.	Learned to develop new knowledge; related theory into reality; break from academic learning.	PT course gave good insight into what would be expected of me throughout the year. Structure worked well – liked when tutor visits + return day scheduled. Worthwhile doing; potential career at end of placement.
Ability to work in a professional team; importance of communication; importance of working as a team.	Confidence has improved.	Having a year's experience in a blue chip multinational company + in the leading division will hopefully provide an excellent foundation for understanding the complexities involved in day-to-day business.	I think the overall placement module was well structured and supportive. The list of available vacancies was extremely useful and the one-to-one advice concerning applications and CVs was very beneficial.
Learnt how big organisations and their cultures work; learnt to deal with delicate situations, problem solving, time management, experienced different environments and people.	Better organised; improved skills; clearer career goals; more mature, understanding what I want from life and myself.	I am much more organised now and I have very clear career goals. I understand things more maturely and I am much more focused on my studies than I would have been otherwise.	Overall, a great experience, thank you for the opportunity. I would encourage any student to take this chance and benefit from this experience. I am particularly happy that my placement didn't go very well with the company, because it is this way that I managed to learn a lot about other people, organisations and myself. I regard this year as a highlight of my time at Surrey.

This feedback indicated that changes in pedagogy were beginning to permeate the student experience. Building upon the insight and engagement of respondents (98% choose annually to make additional comments), the survey has been further refined for 2008. Equal weighting has been given to quantitative and qualitative questions, the range of the latter has been increased, and the questionnaire is being linked explicitly to the process of PDP by suggesting that students retain a copy for their portfolio. Where previously completion was optional, it is now a requirement for those returning from placement.

CONCLUDING REMARKS

Over four years, the writer has adopted a more formal analysis of the survey data and procedures have been put in place to disseminate the findings more widely and for Faculties to report on their action in response to these. The aim of quality assurance for audit purposes has been replaced first by one of quality enhancement through pedagogical improvement, now by critical reflection on the part of students. Strategic actions are in hand to coordinate with the work of SCEPTrE and Faculties, so that the exercise becomes a tool for individual reflection, transforming process knowledge into propositional knowledge as we prepare students for the uncertainties of living and working in the dynamic world of the 21st century.

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Why do some students opt out of professional training?

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The University of Surrey has a history of Professional Training (WIL) that dates back to its early days in the 19th century, when it was known as Battersea College. Today, most undergraduate programmes offer students the opportunity to spend a year in paid, professional placement, normally in the 3rd of a 4-year undergraduate degree. This is integrated with the taught programme, and may count towards the degree award. Every year, a proportion of students choose not to undertake professional training. Why so? Are they locked into an instrumental, functionalist perception of the value of WIL? Do they reveal an implicit prejudice against 'tacit' knowledge? Two years ago, a survey was conducted with those students entering their final year of undergraduate study who had opted out of professional placement. Findings indicated that their decisions were considered but they did, indeed, fail to appreciate the potentially transformative opportunity they were foregoing.   How can such students be motivated to engage with WIL? Since this first survey, the drive for British universities to enhance graduate employability has escalated. In the intense competition for undergraduate recruitment, the University must maintain its lead in the field. The survey of those students in their final year who did not undertake professional training was repeated in 2007/08. This paper discusses the findings of the two surveys and describes how student feedback may reveal different assumptions about the benefits of WIL. A more explicit understanding of reflection, propositional and practical learning is called for.

Key words: competition, employability, engagement, reflection, WIL.

THE UNIVERSITY OF SURREY'S REPUTATION FOR PROFESSIONAL TRAINING (WIL)

The University of Surrey has an international reputation for its provision of professional training (work-integrated learning) that dates back to the last decade of the nineteenth century when, as Battersea Polytechnic, it offered "mainly evening classes for apprentices and the like." (Douglas, 1999).   By the mid 20th century, its pioneering sandwich courses, which integrated periods in industry with the academic programme, were attracting the attention of governments seeking to position the UK competitively in the global economic market. As one commission followed another, a former Chairman of the University Professional Training Committee recalls

> From 1981 onwards, industrial training as part of courses became very political and it was almost an annual event for a government minister or notable politician to visit the campus and receive presentations by our students and staff. (Pollard, 2006)

From Robbins (1963) to the Dearing Report (1997) and latterly the Leitch Review of Skills in England (2007), the University of Surrey has been cited as a beacon of excellence in the field of professional training. But as the political drive for

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employability becomes more intense, what was once its unique selling point is now in need of review. Is the University still able to deliver the aims of today's government whilst also respecting its duties to the individual student? Surely there is nothing new in a political agenda that recognises that

> In our rapidly-changing world, having a highly-skilled workforce isn't an optional extra; it's an economic necessity. But developing the right culture for skills and employment isn't just about being able to compete in the global economy. It's also the most effective way of tackling family poverty, encouraging people to strive for a better life, and increasing social mobility. (Leitch, 2007:4)

What, though, of its responsibility as educators to go beyond a functionalist notion of professionalism (e.g. Somerlad, 1996) to preparation of individuals for their place in a learning society (Barnett, 1994)? If Surrey's vision for its students has not changed, the environment has. Under new regulations which came into force in 2007, English Universities now charge variable tuition fees. Overseas students have been particularly badly affected (Brady, 2008). As University of Surrey students continue to pay a proportion of their annual fee during their placement year, there is a potential financial deterrent to engaging with the scheme. Furthermore, a recent Quality Assurance Agency report (QAA, 2008) acknowledged the increasing pressure on institutions to find sufficient appropriate placements. In this context the University of Surrey has conducted a two-year investigation into why some of its students opt out of professional training. Are their reasons for rejecting a placement purely practical or is there an ideological or aspirational mismatch with those of the University? Before examining the findings, the institution's professional training arrangements are outlined.

THE ORGANISATION AND MONITORING OF PROFESSIONAL TRAINING AT THE UNIVERSITY OF SURREY

Since 1984, Professional Training at the University has been overseen by the Professional Training (now Professional Training and Careers) Committee (PTCC), a standing committee of the University Senate comprising representatives from Faculties, employers, students, the Careers and other support services. Its principal responsibility is

> The review and evaluation of policies and strategies which relate to the University's provision of professional training and careers guidance, recommending change where necessary to maintain best practice. (Terms of Reference PTCC)

Regulations include preparation prior to, and debriefing after, the period of placement, academic tutor visits to students, partnership arrangements with employers, support and assessment of placement students. In order to monitor Faculties' adherence to regulations and standards of delivery, an annual survey of student satisfaction is conducted when those who have been on placement return for their final year of undergraduate study. The survey is analysed and reported to PTCC, Senate and the Faculties. Faculties are required to make a formal report on their response to findings in their area. Whilst originally intended for quality *assurance*, there has been a gradual move towards using the survey as a means of quality *enhancement* and as a tool for reflective learning.

In 2005, a second student survey was devised and conducted, parallel to the traditional exercise. It was issued to those students who progressed directly from level 2 to level 3 of their programme in 2004/05, without having undertaken a year of professional training in between. The aim of this survey was "to investigate the reasons for their non-participation in Professional Training, thereby providing data to improve practice in any areas of weakness." (Willis, 2006).

THE STUDENT QUESTIONNAIRE AND FINDINGS 2004/05

The questionnaire was constructed to allow for some comparison with the standard survey. Part A elicited factual, biographical, data e.g. programme of study, age, sex and nationality. Part B listed 19 possible reasons for not undertaking professional training, each of which respondents rated on a Likert scale (attached at Appendix A). Part C comprised 4 open-ended questions for respondents to offer additional information on their decision, their feelings about this in retrospect, and the support they received from the Department/School (Faculty)/University.

182 valid returns were made, representing 45.5% of eligible students. The findings were that:

1. The biographical profile of respondents not undertaking professional training differed from the norm in that they tend to be: older (15.3% of the group were age 25+ years compared with 3.2% of those who *did* undertake professional training); disproportionately male as age increases; highly represented by overseas students (33.5% compared with 4.3% of those who have placements).
2. Non-participation was largely a conscious and considered decision. Factors affecting this were: time (e.g. having repeated a year, had time out for illness, plans to go on to PhD); finance (onus on parents/sponsor, level of overseas fee); career plan (never intended to take a placement, don't yet know where career lies); family commitments (children would have to be moved, responsibility for elderly parents); fears (of losing momentum of study habits, of not returning to University).
3. 31.1% of those who commented upon their present feelings (n = 57) expressed some degree of retrospective regret at not having participated in professional training. Reasons expressed were: missed opportunity for gaining professional experience; potential loss to career; social (loss of contact with cohort, need to establish themselves with a new year group); financial (a missed opportunity to build savings).
4. Whilst respondents were generally reluctant to blame the University for their non-participation, they identified a number of areas in which improvements to current practice could be made, e.g. greater individual encouragement to participate; better timing of the application process; increased range, quality and accessibility of placement information; paid placements for all.

Recommendations were made in order to address each of the practical findings (Willis, 2006). But did these also reveal a need for academics to make explicit the differences between propositional and process knowledge (Eraut, 2003) in order to motivate greater student engagement with the scheme?

THE SECOND SURVEY, 2007

In August 2007, a new Chairman and Secretary were appointed to PTCC. For the reasons indicated above, employability has become paramount for the British government, underpinning much central funding available to universities. The new Chairman of PTCC was tasked with ensuring that the University of Surrey's practice in professional training was fit to face the challenges ahead.

Data collection was a crucial preliminary step. Longitudinal statistics were compiled to show the uptake of professional training for the last five years by Faculty, and by programme. These were disaggregated by fee status so as to investigate any trends following changes in the fee system. It emerged that, where placement is optional, the rate of uptake in Faculties was lower than hitherto believed, and clearly decreasing by year. Contrary to expectations, though, the report concluded:

> The analysis by fee status does not conclusively sustain the hypothesis that overseas students are more disinclined to reject professional training than their UK and European peers. (Willis, 2008b)

Whilst the statistics were important indicators, they did not explain the reasons for students' non-participation in professional training. So, to complement these data, the survey conducted in 2004/05 was repeated with students entering level 3 in 2007/08 directly from level 2 study. To maximise comparison with the previous findings, the questionnaire remained unchanged.

The exercise coincided with major structural change in the Faculties, which has adversely affected the response rate. At 28.7% (n = 115) it was disappointing, but has nevertheless provided comparative data with the first survey (Willis, 2008a). As always, the University's students chose to add (copious) qualitative feedback (98% of respondents did so), greatly enriching the exercise.

Significant differences were found in the biographical profile of the 2007/08 group: they were older, the predominance of women had risen from 5.1% to 9.5%, and the proportion of Home students had increased from 22.1% in 2005, to 72.5%. Complementing this, the significance of financial issues voiced by respondents had fallen by 12.6% to 37.4% in 2007. These data are valuable for marketing purposes, and the statistics belie assumptions that overseas students are those most likely to opt out of professional training.

As in the first survey, there were some students who had never intended undertaking a placement: 46.1% of respondents, 9.3% more than in 2004/05. Reasons included their lack of commitment to working in the area of their degree (n = 15, up 1.1% since 2004/05); it was not perceived to be advantageous to their career, particularly for Law, Sociology and Business Management students, some of whom had already been offered graduate positions; 40% of the group (up 4.3% since 2004/05) had prior work experience; in some cases, family responsibilities made it impracticable for them to go out on placement. It would have been fruitless to have attempted to persuade many of these individuals to participate when their expectations were patently functional.

However, there were other respondents who gave reasons which could have been challenged. For instance, 47.8% (11.6% more than in 2004/05) feared that taking a year out of the University would disrupt their studies. Explanations for these fears were: the student was not ready to think ahead; they had alternative future plans e.g. gap year; they feared the impact of stress in applying and possibly failing to succeed in obtaining placement. Greater support and encouragement by academic tutors could have reassured some of this sub-set and explored the benefits of 'tacit' knowledge (Polyani, 1967).

Other feedback indicated areas where there could be improvements in the organisation of placements e.g. 28 respondents (= 24.4%) felt there to be insufficient opportunities in their subject area, or in institutional procedures e.g. the requirement that students should be on target to achieve a 2.1 or higher degree classification in order to participate in placement.

Whilst there is variation between the results of the 2004/05 and 2007/08 surveys, there are elements of consistency within categories. Although on the surface some students have plausible reasons for not participating in professional training, the University should not be complacent. Engagement could be enhanced not only by addressing areas of weak and inconsistent practice through staff development and organisational improvements but also by making explicit the value placed upon experiences that will develop their capacity to 'be-in-the-world' rather than 'be-in-knowledge' (after Barnett and Coate, 2005). The surveys have exposed the inadequacy of selling WIL as a purely functional tool if we are to prepare individuals for life in the 21st century.

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APPENDIX A: QUESTIONNAIRE

PART B - POSSIBLE REASONS FOR NOT UNDERTAKING A PROFESSIONAL PLACEMENT

If any of the suggestions below were relevant to your not undertaking Professional Training, please indicate their importance by ticking the appropriate box on the scale:

1 -very unimportant	2 - not important	3 - important	4 - very important

5 . I wanted to complete my degree in the shortest possible time | 1 | 2 | 3 | 4 | (10)

6. I wanted to avoid the additional cost/expense of a Professional Year | 1 | 2 | 3 | 4 | (11)

7. My friends were not doing a Professional Year | 1 | 2 | 3 | 4 | (12)

8. I wasn't committed to working in the area of my degree when I graduate so thought it would not be helpful | 1 | 2 | 3 | 4 | (13)

9. I didn't think it would make any difference to my future career propects | 1 | 2 | 3 | 4 | (14)

10. I didn't feel ready for employment | 1 | 2 | 3 | 4 | (15)

11. I thought it would disrupt my studies | 1 | 2 | 3 | 4 | (16)

12. I already had work experience | 1 | 2 | 3 | 4 | (17)

13. Professional Year opportunities were scarce in my area | 1 | 2 | 3 | 4 | (18)

14. I tried to obtain a place but was unsuccessful | 1 | 2 | 3 | 4 | (19)

15. I didn't think there were sufficient benefits in doing a Professional Year | 1 | 2 | 3 | 4 | (20)

16. I didn't receive much encouragement from my department | 1 | 2 | 3 | 4 | (21)

17. I expected more help from my department in finding a place | 1 | 2 | 3 | 4 | (22)

18. I never intended to do a Professional Year when I first chose my degree | 1 | 2 | 3 | 4 | (23)

2

A blogging good time – the use of blogs as a reflective learning and feedback tool for final year public relations students

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This article reflects on the use of web logs (blogs) as an assessable component in a third year professional placement unit for public relations students. The key objective behind the use of Web2.0 technology was to encourage reflective practice via an exchange between students and thereby limit the feeling of isolation during the course of this individual tuition unit (ITU). Secondary objectives were to encourage exchange between participating students based at different, on- and offshore campuses, therefore integrating an international perspective into the practice of public relations. From a unit coordinator perspective an additional objective was to create an opportunity that would aid in the early detection of potential problems and to provide a forum in which additional learning material could be provided in response to arising issues. Both challenges and opportunities are noted in this paper. Overall, the Reflective Blog trial can be described as a success, both from the staff as well as the student perspective. However, the Reflective Blog has its shortcomings, particularly from an administrative perspective. As additional students from offshore locations are slowly phasing in, the sustainability of the Reflective Blog will have to be closely monitored.

Keywords: social media, PR 2.0, reflective blog, internationalisation, Web 2.0, e-learning 2.0, professional placement

INTRODUCTION

The Professional Placement unit is a compulsory requirement for all public relations students at Curtin University of Technology, and a crucial element of the accreditation of the PR Major by the Public Relations Institute of Australia (PRIA). The final year unit is positioned as a *stepping stone* for a successful career in the industry and an opportunity to put into practice what has been learned during pervious years. The majority of students retrospectively refers to the unit as (one of) the best unit(s) of their degree (Curtin University of Technology, 2007). However, due to its format as semester long *individual tuition unit*, a number of students have commented on feelings of isolation and loneliness, due to the lack of peer interaction. Despite the overall popularity of the unit, response rates to the university wide eVALUate end of semester questionnaire have been comparatively low, which might be explained by the fact that the majority of students commence their placement before the start of the actual semester and have, by the time the evaluation is due, already distanced themselves from their studies. Instead, they focus on their future professional careers. Additionally, despite the high overall satisfaction rate, the placement unit has traditionally scored lower than the university and faculty wide average on a number of pre-determined eVALUate items, such as *learning resources, quality of teaching* and

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the quality of ongoing *feedback*. eVALUate focuses solely on levels of agreement and does not take *unsure/not applicable* responses into account. With a strong focus on satisfaction rates and the aim to improve students' experience, a Reflective Blog was trialled as assessable component during semester 1 2008.

AN INTRODUCTION TO BLOGS

Blogging is a contraction of the term *web logging* and can be best described as a form of micropublishing (Roberts, 2003; Williams & Jacobs, 2004). A blog, according to the Oxford English dictionary is "a frequently updated web site consisting of personal observations, excerpts from other sources, etc., typically run by a single person, and usually with hyperlinks to other sites; an online journal or diary"(Oxford University Press, 2008). Blogs first emerged in the 1990s, out of online forums, personal web pages and email lists (Alexander, 2006). However, over the past decade blogs have evolved from simple online diaries to communication tools with the capacity to engage people in collaborative activity, knowledge sharing, reflection and debate (Roberts, 2003; Williams & Jacobs, 2004). Featuring no or very limited start up costs, few basic infrastructure requirements and ease of use, blogs enable users to publish their thoughts to a global audience, beyond traditional boundaries and without delays (Williams & Jacobs, 2004). Blogs have the potential to provide everyone with a voice (Technorati, 2008), effectively reviving the notion of Habermas' *public sphere* (Habermas, 1989) by fostering citizen journalism. Blogs can provide the opportunity to combine text, images as well as links to other blogs, websites and other media related to its topic. Although not always enabled, the ability for readers to leave comments in an interactive format is a crucial component of many blogs (Schroeder, 2005). Some blogs have attracted large and dedicated readerships in the thousands; however, the majority of blogs are personal reflections and ongoing diaries or commentaries by individuals aimed for a small audience (Nardi, Schiano, Gumbrecht, & Swartz, 2004). There are also corporate blogs, which continue to gain popularity and attention from a public relations and communications' perspective, as well as video blogs (*vlogs*). Over the past years blogging has become more *mainstream*, with news services and even politicians using them as a tool to form public opinion. Blogs cover nearly every imaginable genre from travel, politics and fashion, to education, music and cooking. Relatively recently we have also seen the emergence of *fake blogs,* where companies create fictional blogs as a marketing tool with serious repercussions if found out (Boynton, 2007).The blog search engine Technorati is currently tracking 112.8 million blogs (Technorati, 2008). User generated content has grown so rapidly in popularity that Time magazine named *You* as person of the year 2006 (Grossman, 2006).

BLOGS AS TEACHING AND LEARNING TOOLS

With a focus on ICT as an answer to globally changing work environments, pressure has been put on education institutions to embrace flexible modes of delivery' (Beattie & James, 1997), 'open-learning' (Lockwood & Gooley, 2001), 'life long learning' (Field, 2006), 'virtual classrooms' (Reid, 2001) and 'institutions without walls'. This paper explores the potential of blogs as reflective e-learning spaces for students in higher education, particularly in the context of internship/placement units and individual tuition units, in which students may feel isolated or disconnected. Despite the fact that blogs have been around for roughly half the history of the World Wide

Web, they have only relatively recently been integrated into the teaching and learning mix (Williams & Jacobs, 2004). Furthermore, research into the effectiveness of blogs as learning tools is mainly clustered around its use as part of teacher training (Dickey, 2004; Divitini, Haugalokken, & Morken, 2005; Hernández-Ramos, 2004), and other disciplines where daily journals have traditionally formed a crucial part of the learning experience. From this perspective, blogs may be referred to as a new *genre* of learning journals (Williams & Jacobs, 2004). However, Williams and Jacobs (2004) describe blogs as having the potential "to be a truly transformational technology in that they provide students with a high level of autonomy while simultaneously providing opportunity for greater interaction with peers" (p. 244). As such, they provide a nearly limitless amount of teaching and learning opportunities, but particularly lend themselves as a tool to promote reflective practice (Hernández-Ramos, 2004; Roberts, 2003). The current generation of students is highly familiar with online communication technologies such as ICQ, MSN Messenger or Skype, they competently surf the web for information and heavily rely on email and social networking tools in their day to day lives. However, despite their existing technical abilities, the *traditional* curriculum may have neglected the need for students to develop a high level of *information literacy,* commonly referred to as the ability to access, evaluate, organise and use information gathered from a wide variety of different sources (Humes, 1999; Plotnick, 1999). With the increased use of online technologies comes a greater need for students to develop critical thinking, analytical and cognitive skills in order to perform and solve problems in digital environments (Duffy & Bruns, 2006). Additionally, students have to keep in mind that "In the blogosphere, everything you say is *on the record.* Once a story is on a blog, keeping a lid on it is impossible," explains Neville Hobson, an independent consultant on blogging and podcasting, quoted in the Shift Communications Report (2007). Students need to be aware that their current supervisor, placement organisation or even future employers will pay close attention to what they have been posting online (CollegeGrad.com, 2006; onrec.com, 2007). However, Jonassen (2000) argues that writing a diary, or blog in a public space, rather than soley for their own benefit or their instructor's eyes, usually motivates students to put more effort into the process, since the audience is more "authentic'. This consequently may provide new opportunities, in fact, Trunk (2006) argues blogging is good for your career, as it provides people with an opportunity to establish themselves as an *expert* in their field. A number of public relations students (predominantly in the UK and the US) have reportedly been *snapped up* by companies as the result of the reflective (voluntary) blog they were writing whilst still at university (Bailey, 2006).

METHODOLOGY

The Internet offers hundreds of free blog hosts, however, the blog for this particular trial project was created on Blogger.com, arguably one of the best known blog hosting services (Downes, 2004), which has been around since 1999. The blog was used as a vehicle for student reflection in semester one of the PR393 Professional Practice unit, as part of the PR Major at Curtin University of Technology. Over the course of this study, 68 students were invited as authors, creating a total of 328 posts. Students were provided with a four page long *Blogging Guide* and required to post a minimum of four original posts and four responses over the course of their (minimum) 20 working day long placement. Due to flexible placement arrangements, students were blogging over different periods of time and at varying intensity, however, for the purpose of

this project contributions were monitored between February and May 2008. Traditionally, students in this unit have been encouraged to keep a daily journal, which is a well known strategy to help them engage in *metacognition* (Hernández-Ramos, 2004). However, although these journals may have helped with the writing of the final report, they were a non-assessable component.

A blog is essentially an online diary, which reflects the personality of the author (Dickey, 2004; Downes, 2004; Nardi et al., 2004). However, instead of asking individual students to create their own blog, which appears to be a relatively common approach in teaching and learning initiatives that embrace blogging (Hernández-Ramos, 2004), a single Reflective *Group* Blog was created as a *one stop shop* for PR placement reflection, with the aim to make monitoring and student contribution as straight forward as possible. However, despite the blog design being predetermined, students nevertheless managed to develop their own (writing) style. Containing only two fields (title and entry), students were able to update their posts without having to worry about page formats or HMT syntax (Downes, 2004), with the option for more adventurous students to include images, photos, logos and links to work samples. The decision was made to restrict access to commenting tools to enrolled students, however, the blog itself was made publicly available, in order to give students a taste of writing for a *global* audience. The fundamental idea of blogs is to act as an open, uncensored forum, providing everyone with an equal opportunity to express their thoughts (Downes, 2004). However, as the Reflective Blog was used as a learning tool, it had to be monitored to ensure placement organisations' confidentiality was respected and students were discussing problems in a professional manner. Over the course of this study only a couple of students had to be asked to review their posts – with a particular focus on grammar and spelling. The Blogger technology allowed for all posts and comments to be automatically forwarded to the Unit Coordinator. Data analysed for this article came from a 14-questions strong online survey, created via Surveymonkey.com, in which students were invited to participate. For the purpose of this article, responses on the five point Liker scale were re-coded to 'agree', 'neutral' and 'disagree'. Anonymity was fully guaranteed and perceived as absolutely crucial in order to invite critical reflection on the blogging experience. Additionally, comments in student emails to the Unit Controller and on the blog were taken into account. 76% (50) of eligible semester one students responded to the survey.

DISCUSSION

Despite a slow start, students joined the blog without major difficulties. Only a handful of students allowed their original author invites to expire and one misread the instructions and created her own individual blog. By the end of the semester the entire group, representing students from three different campuses (Australia, Singapore and Mauritius) were very involved, with up to 21 posts a day. The vast majority of posts were self-reflective ("*I think that…*") and when replying to posts, most students addressed their peers personally ("*thanks for the tips, Lisa*"). 90% of survey respondents stated that they had read a blog before, but only 54% had responded to a blog previously and merely 16% (8) had their own personal blog. Considering that the average respondent's age was under 23, this indicates that current undergraduate students may be less familiar with web2.0 technology than widely assumed.

TABLE 1

	Agree	Neutral	Disagree
The Reflective Blog assisted me with my learning in PR393	85%	9%	6%
The Blog encouraged me to reflect critically on my placement experience	89%	9%	2%
The blog encouraged me to reflect critically on what I have learned at university	81%	13%	6%
The blog provided me with an opportunity to exchange experiences with other students	96%	2%	2%
The Blog made me feel more 'connected'	83%	15%	2%
Reading other students' posts and exchanging ideas provided me with a better understanding of the public relations industry	94%	4%	2%
The Blog provided me with an opportunity to gain insight into how PR is practiced in other countries (international perspective)	62%	23%	15%

Responses to the Reflective Blog experience were overwhelmingly positive (Table 1), particularly in regards to the opportunity to exchange ideas and insights with other students, thereby ultimately widening their knowledge of and insight into the public relations industry:

> "The Blog is a really good and innovative initiative, showing that Curtin is keeping pace with new trends. It's an excellent way of exchanging views and connecting with fellow students on other campuses."

> "The blog was really great! It was great to be able to compare what you do with your other classmates and see how varied PR really is."

Some students were surprised about how much they actually enjoyed the blogging experience:

> "This blog has been more beneficial than I ever expected, I find myself reading the long list of blogs and becoming so interested in my fellow students experiences and comparing this to my own."

> " I found the blog fantastic! I learnt so much from what others had posted that it was incredible - even i was surprised! Not only was the blog a good tool for learning about others experiences but because blogging is such a popular form of communication in todays (sic) society i found it great to practice my actualy blogginf (sic) skills as well. […] Overall i (sic) think that students can really benefit from this and i hope the blog stays a part of PR 393."

Connectedness - A feeling of isolation and disconnectedness was one of the problems traditionally identified with the Professional Placement Unit. However, 83% of participating students found that the blog assisted them in overcoming the geographical distance:

> "The blog was extremely useful to feel connected to other work experience students and see how they handled problems and issues within their placements."
> "Being essentially an external unit, i found that the 393 blogs allowed me to see what otehr (sic) students were doing, and made me feel like I had others to talk to about my experience. It reduced my concerns about the unit, which otherwise would have been quite isolating."

Internationalisation - 62% of respondents found that the blog provided them with an international perspective of the PR industry, thereby maximising the opportunities provided by a unit which is simultaneously run across different campuses:

> **"**the blog has provided much knowledge on the insights of the PR industry whether it is in Australia, Singapore or Mauritius, which would be very beneficial to students."

However, due to the majority of students being based in Perth, with international students only slowly phasing in, the benefit of internationalisation was predominantly emphasised by offshore students:

> "Knowing the experiences of international perspective has given me new insights into PR industry not just in Singapore, but also in places I might not get to work in. I am very thankful to be able to read about fellow student's experiences. it kinda (sic) made me feel I'm 'there' with them."

Unfortunately, dissatisfied students chose not to provide any qualitative feedback in this section.

Minimum requirements - Some students struggled with the prescribed minimum of four original posts and four responses, while others participated more than required, excited about the opportunity to stay in touch with their peers. They also used to blog as a vehicle to communicate achievements, upcoming projects and job offers. Most students agreed with the minimum requirement (81%), acknowledging that without the pressure they would have struggled to find the time:

> "as much as the blog was great, i think unless it wasn't an assessment requirement i wouldn't have given it as much time and i think a lot of students would have the same feeling."

> "if I was not forced to write them I don't think my analysis and feedback would have been as comprehensive"

Having experienced the Reflective Blog, 64% of students stated they would participate in a similar activity in the future, even if it was solely for formative purposes: *"I did feel the blog helped me feel connected with other students and therefore would use it in the future, even if it wasnt part of my marks."* This is a lower level of agreement than in William and Jacob's (2004) study into MBA students' blogging experience, arguably confirming different learning priories at post and undergraduate levels. At the end of the trial, 81% of respondents agreed that they would like to see blogging used more widely as a learning/assessment tool in public relations and marketing;

> "The blog is becoming a tool within the public relations industry and I believe it is essential for students to learn a new method of communication, but also be able to reflect on their placement experiences."

However, some students pointed out that particularly the format of this individual tuition unit lends itself to the use of a blog. From a Unit Controller perspective, the Reflective Blog provided an opportunity to pre-empt student concerns and to publish

additional learning material, based on current issues interns were facing. However, the integration and ongoing monitoring of the blog grew into a large administrative exercise, with serious impact on teaching staff's workload.

CONCLUSION

The results from this study provide reasonably strong support to continue the use of blogs as part of placement units, particularly in order to encourage internationalisation of the curriculum and student exchange, as well as to combat feelings of isolation as a side effect of individual tuition units. Students who may be shy in the classroom were provided with an equal voice and an opportunity to *shine*. While some students clearly submitted their posts only for the sake of receiving their marks, others fully embraced the learning opportunity and gained a far broader, complex and memorable insight into the industry than any *traditional* unit could have provided. Students have demonstrated that they can learn as much – if not more - from each other than from an instructor or a textbook (Williams & Jacobs, 2004). The success of the blog will have to be continuously monitored and re-evaluated. However, after the initial trial period, the blog has been embraced as an information portal for upcoming placement students, whilst first hand accounts and insights are being integrated in current lectures and tutorials to provide a student-centred insight into the *real world*. Future projects could look into collaboration between different universities, both national and international, to broaden students' understanding and insight. Research into the level of instructor involvement on the blog would be beneficial. When and how much should academics get involved – or should an opportunity to provide additional material be sacrificed for the *purity* of the blogging experience?

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A glimpse of the real world: an investigation into the perceived effectiveness of compulsory public relations internships from an industry and student perspective

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In comparison to traditional professions, such as law and medicine, public relations (PR) is still in its infancy. Consequently, there is increased global pressure to ensure the professionalisation of the industry, which ultimately emphasises the need for stronger and more successful partnerships between academia and practitioners.

Australian universities introduced dedicated PR majors as early as 1970, followed by a comprehensive accreditation process, introduced by the Public Relations Institute of Australia in 1991 ([A]Public Relations Institute of Australia 2008). A professional internship, practicum or work experience component is core criterion for accreditation, which results in hundreds PR students seeking out work integrated learning opportunities every semester, while many other programs have abandoned structured, assessed work placements on the basis that they are purely too difficult to manage and supervise.

This study provides a first hand insight into the perceived effectiveness of the compulsory, final year public relations placement unit at a Western Australian University, based on survey responses from 26 industry supervisors and 84 students' end of semester unit evaluation. Additionally, verbal and written feedback from both sides were analysed for a richer, more rounded insight into the strengths and pitfalls of the program.

While the industry welcomed the opportunity to closely examine students' skills and 'fit' with the company culture, the program and particularly the evaluative research project have strengthened the relationship between academia and practitioners, with new ongoing partnerships (guest speakers, real life clients) having been formed as a result.

[A]Public Relations Institute of Australia. 2008. Guidelines for the accreditation of courses in public relations at Australian tertiary institutions. www.pria.com.au (accessed 8 March 2008).

Keywords: internship, placement, public relations, real life experience, work integrated learning, accreditation, job ready

INTRODUCTION

Practica and compulsory work placements are not new to higher education and have long formed a crucial element of the curriculum, particularly in health and education. However, while work integrated learning is becoming increasingly popular across disciplines, Kerr (2005) discovered that *real life* experience and industry placements as part of higher education training are particularly emphasised by the public relations industry, even more so than in other communication disciplines, such as advertising.

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In comparison to traditional professions, such as law and medicine, public relations (PR) is still in its infancy. Consequently, there is increased global pressure to ensure the professionalisation of the industry, which ultimately emphasises the need for stronger and more successful partnerships between academia and practitioners. Australian universities introduced dedicated PR majors as early as 1970, followed by a comprehensive accreditation process, introduced by the Public Relations Institute of Australia in 1991 (Public Relations Institute of Australia, 2008). In addition to an industry based *advisory committee*, a professional internship, practicum or work experience component is a core criterion for accreditation. As a result, hundreds of public relations students actively seek out work integrated learning opportunities every semester, while many other programs have abandoned structured, assessed work placements on the basis that they are "purely too difficult to manage and supervise" (verbal feedback from former Professional Marketing Practice Unit Controller). The PR Major at Curtin University of Technology, based within the School of Marketing, is a typical example. Every year, around 150 final year PR students venture out to spend a minimum of 20 days full-time -or part-time equivalent- in a public relations, communication or (corporate) communications department, or consultancy. In direct contrast to this, the Marketing Major at Curtin has recently abandoned its optional professional practice, stating administrative and organisational difficulties.

In a recent report, the Department of Education, Science and Technology (DEST) identified eight core Graduate Skills: communication, teamwork, problem solving, initiative and enterprise, planning and organisation, self-management, learning and technology (2002). However, research by Rundle-Thile et al.'s (2005) into Australian-based marketing courses indicated that merely 3% covered all eight DEST skills in their curriculum. Curtin's PR Major is currently undergoing a major review and re-mapping exercise as part of Curtin's Curriculum 2010 (C2010). Centred around Curtin's recently re-defined nine Graduate Attributes (Curtin University of Technology, 2006), which are closely aligned with the DEST skills, curriculums are being streamlined, with a focus on *hand on* learning experiences and industry relevant learning outcomes. As final year unit RP393 is an industry-based capstone unit, which should at least theoretically embrace all nine Graduate Attributes. Students are provided with an opportunity to apply skills and theories acquired during earlier stages of their studies in a real life setting. This starts with the students' responsibility to find their own placement, which gives them early exposure to job searching and effective self-presentation skills (Green, Quin, & Luca, 2005).

Despite a lack of enthusiasm by some academics, Bates (2004) argues that students often refer to placements as the most significant part of their undergraduate program. This is certainly the case with the PR393 Professional Practice unit, however, due to a lack of systematic research Unit Controllers rely predominantly on informal feedback. Despite the reported popularity of the unit, response rates to the university-wide eVALUate end of semester questionnaire have been disappointingly low, which might be explained by the fact that the majority of students commence their placement before the start of the actual semester and have, by the time the evaluation is due, already distanced themselves from their studies, with a focus on graduate positions and their future professional careers. Additionally, despite a high overall satisfaction rate, the placement unit has traditionally scored lower than the university- and faculty-wide average on a number of pre-determined eVALUate items, such as *learning*

resources, quality of teaching and the quality of ongoing *feedback* received. eVALUate focuses solely on levels of agreement and does not take *unsure/not applicable* responses into account. As a result, the need was identified to conduct an in depth study into the perceived value and effectiveness of the current unit format, based on feedback from the units two key stakeholder groups: students and pracititioners/supervisors.

METHODOLOGY

This study provides a first hand insight into the perceived effectiveness of the compulsory, final year public relations placement unit at Curtin University of Technology, based on survey responses from 26 industry supervisors and 84 students' end of semester unit evaluations. Students' development during the course of their internships was closely monitored and mapped, based on comments posted on the unit's *Reflective Blog*. Additionally, verbal and written feedback from both sides were analysed for a richer, more rounded insight into the strengths and pitfalls of the program. A number of studies have been conducted into stakeholders' perceptions of placement and work integrated learning units. While Gower & Rebers's (2006) surveyed current PR undergraduate students, the assumption can arguably be made that as not only the unit but also students' time at university is coming to an end, PR393 students will be able to give more rounded and insightful feedback in regards to the perceived effectiveness of not only the unit but also the PR curriculum, similar as in Crebert et al.'s (2004) study of graduates. Taking an action research approach, the aim of this study is to use feedback to further build on the strengths of the unit and to ultimately make student learning more effective and relevant to the industry's needs.

"Provide students with realistic expectations in own ability - they won't be asked to manage a crisis" [*]

Recent PR393 supervisors were invited to complete a brief, confidential, short answer-email survey. Industry representatives were also invited to join a *Thank You Sundowner*, which provided a further opportunity to gather qualitative feedback.

Unit strength | Supervisors were asked to state the top three strengths of the Placement unit. Responses grouped nicely into three key clusters:

1. An opportunity for the students to gain a realistic insight into what public relations is like in the real world: "Giving graduates a chance to look at what real world PR work is like"
2. An opportunity for employers to have a close look at new talent: "Chance for employer to REALLY see what someone is like"
3. A forum for academics in which to evaluate the effectiveness of the curriculum and teaching practice: "Gives lecturers the opportunity to see if the message is getting across"

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[*] Unit feedback provided by a recent supervisor in regards to unrealistic placement expectations

Overall the feedback was highly positive. All supervisors stated they would take on placement students in the future, with only two exceptions: one being a government department with restrictions on external placement students. The other practitioner had just employed the most recent intern and simply did not have any office space available.

Key skills | The majority of practitioners agreed with previous findings in that they were looking for recruits that could "hit the ground running" as noted by Kerr (2005). When asked about key skills employers are looking for, feedback was largely clustered around the perceived lack of (low level) generic skills, as previously identified by various authors (Bates, 2004; Green et al., 2005; Kerr, 2005), ranging from effective CV writing and interview skills to the ability to pick up the phone, communicate confidently with a wide range of stakeholders and IT skills, to enthusiasm, professionalism, initiative and team skills. A number of supervisors also mentioned the need for graduate's work ethics and attitudes to match their organisational values, which is particularly relevant due to the small, tight knit teams PR practitioners usually work in. Supervisors furthermore emphasised a need for more and longer placements as well as general work experience, including voluntary work, which ultimately ensure that students gain a more realistic picture and expectations of the industry.

Industry needs | However, when commenting on the skills needed to match the industry's needs, answers started to get a more strategic focus. In order to succeed in the field students were perceived to need critical analytical and strategic thinking skills. They also needed to be able to critique and challenge academic skills and disciplinary knowledge as well as to contextualise subject specific practices. These comments build on the assumption that students are already sufficiently equipped with subject specific, technical skills, as a basis for the development of higher-level, strategic abilities. This point was further emphasised by a number of practitioners, who particularly highlighted the need for practice orientated, up to date academics, with either strong industry contacts or consultancy capabilities: *"Ensure there are lecturers still practising PR or networking with PR professionals to stay ahead of industry changes"*.

Improvement | The most common suggestions was to increase the length of the actual placement, as 20 days only provide a very restricted opportunity for students to familiarise themselves with the organisation. With minor exceptions, responses also indicated that supervisors preferred to host students for an intense period of time, rather than one or two days a week. Responses highlighted some confusion about the format of the unit and expectations. In the past, it had been the students' responsibility to arrange a placement, discuss the anticipated responsibilities and agree on the placement duration and mode. As discussed before, this has been seen as a key element of the learning experience. Feedback indicated, however, that there is a need for more contact between the university and supervisors, as well as more guidance to be provided by the Unit Controller, in form of guides, information material and follow up phone calls. While many organisations cater for at least one student a semester and are therefore very comfortable with the process, new supervisors indicated they felt overwhelmed.

"I really recommend this unit to anyone wishing to work in the public relations industry"[*]

The analysis of student feedback confirms that the placement provides them with an opportunity to gain a realistic insight into the *real world*. Based on the analysis of structured and informal student feedback (verbal, emails, eVALUate, Reflective Blog), a clear, five-step *Placement Life cycle* (PLC) emerged:

1. *Concerns & uneasiness |* No matter if they had worked before or not, the initial search for a suitable placement, as well as the first days in a new environment, are a very stressful period for students, with many doubting their ability and their career choice. Even for seasoned part-time workers, the exposure to a professional, corporate, office environment left many students feeling uneasy:

> "I have to admit that I was quite nervous and anxious"

> "I came into this unit with real dread as I was not prepared to face up to the reality of the 'real world" "It was an environment that i had created in my head that was scary and full of important professional people!!"

> "I don't know about anyone else but I found this extremely daunting" [calling journalists]

2. *Settling in |* After a short while, students start to settle in and become more comfortable:

> "People in my company really appreciate what I do and do not just ignore me like I thought"

They also start to appreciate the relevance of 2.5+ years of studies and the curriculum's close alignment with the industry's needs:

> "Its [sic] amazing just to see how everything we have learnt actually is used and is relevant!"
> "I have learnt so much and actually noticed that whatever was taught […] was actually put into real test in the real world."

3. *Realistic expectations |* As time goes by, students start to gain a more rounded and realistic insight into work pressures and expectations:

> "This [event at work] threw light on a fact I had known, but failed to really recognise until this week"

> "I have learnt there is a giant leap in standard" [between university assignments and writing for corporate clients]"

> "I now understand the importance of deadlines"

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[*] Student feedback provided as part of the end of year eVALUate satisfaction survey

> "PR is definitely one of those jobs where it can be glamorous at times and other times you are down and your hands and knees in the rain picking up name tags for an event, feeling terribly sorry for yourself"

- as well as an appreciation for continuous professional development (CPD):

> "I have been able to see that what we have learned at university is not everything - we have more to learn from our 'elders'"

4. *Confidence* | Towards the end of their internship students start to gain more confidence in their own abilities, often based on the feedback and recognition they have received in their placement organisations. Observing the transformation, particularly in some of the quieter and shyer students, has been absolutely remarkable.

> "I have found it [the unit] so so helpful. The big wide world is lots less intimidating"
> "I do agree that it was very satisfying! It is exciting being given a task and having the confidence in your abilities to know you can do it well"
>
> "I really come to appreciate how vitally important prac is and feel a lot more confident about entering the working world once I finish uni this semester."

5. *Satisfaction and recognition of placement value* | Following initial concerns, reluctance and even complaints by students that they had to pay tuition fees for an individual tuition unit, centred around in which they had to provide *free labour*, retrospective comments about the value of the Professional Placement were overwhelmingly positive:

> "Nothing beats experience and I never realised how important it as until participating in this unit"
>
> "This unit I think has been the most beneficial out of all the units I have taken. While other units prepare you for the real world this one puts you in it – and I think this is what everyone [other business school students] need"
>
> "Personally, I enjoyed this unit a lot and wasn't expecting that it would be fun to actually work in a company for 20 days"
>
> "If this had not been a compulsory unit I doubt I would have been able to push myself to get out there and the same type of experience that this unit has enabled me to get. It really helps to push you out of your comfort zone."

Once students had overcome the first hurdle, many who had originally planned to only cover the minimum requirement of 20 days, decided to extend their placement experience, either in their current host organisation, as they felt comfortable with the team and often reluctant to leave a project half way through, or to actively seek out other work experience opportunities to add value to their CV.

Additional perceived benefits of the unit were:

- A *trial run* for the graduate application and job hunting process
- An opportunity to build a professional portfolio
- Gaining written references that would help when applying for jobs
- Forming networks and contacts with other students and graduates but also practitioners, which will be very valuable in the future

"Thank you PR 393 – you are the platform that has kick started my career![*]"

Every semester, around 10% of students are offered a position as a direct result of their placement. This number is increasing, with employers using the professional placement as an opportunity to screen suitable candidates in an increasingly competitive job market. This includes employers who are prepared to offer students part time positions while they complete the final year of their studies, with the promise to upgrade to a full time permanent position upon graduation. A significant percentage of students gain employment as an indirect result of their placement, based on contacts made, confidence gained and the opportunity to add relevant work experience to their Curriculum Vitae.

DISCUSSION

The placement experience has undoubtedly demonstrated to students that academic success is not the only attribute for successful employment (Crebert et al., 2004) and a consequent career in the field. However, it is often not until after students have completed their first Placement Life Cycle (PLC) that they see the benefits and fully comprehend that a generic skills set and particularly the right attitude are crucial for the successful completion of an industry placement. Being required to send all students into the industry for a minimum period of 20 days is a true test for the quality of a degree course. Non-accredited competitors have taken advantage of their position by only allowing top performing students – the perceived *crème de la crème* – to complete industry placements. With increased competition for internships, due to growing intake numbers and impending PRIA accreditation of two competitors' PR courses, there is more pressure on students to be prepared, strategic and professionally. Feedback indicated that the quality of placements varies greatly. Students who opt for perceived *easy* or less challenging options*,* often realise too late that hey have missed out on a unique opportunity to set themselves up for a career in the field.

The quality of learning experiences depend on student motivation, but also on what Orell (2004) refers to as the placement organisation's *ethos*. Outcomes depend on if the host organisation's focus is on *value added* benefits, i.e. having an extra pair of hand on board, or if supervisors are taking a more strategic, stakeholder-focused perspective, seeking benefits for all parties. A number of recent supervisors are Curtin graduates, who stated that they are keen to "give something back" and to provide students with a more valuable placement experience than they might had ten years ago. However, feedback from supervisors indicates that a large number of practitioners are predominantly concerned about the intern's ability to hit the ground

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[*] Student comment on Reflective Blog

running, with a minimal requirement for further training. Arguably, this focus might shift once the placement organisation considers future employment rather than solely a short term placement commitment with the promise of *free labour*.

While practitioners emphasised the need for generic or *soft* skills, they also emphasised the need for academics to stay in touch with industry developments and to teach the latest, cutting edge techniques, in order to ensure graduates' successful integration in the workplace. While strategic and innovative thinking was valued– at least from a long-term perspective – immediate technical skills, such as writing for different audiences, were perceived as absolutely crucial, to limit the need for on the job training.

CONCLUSION

Research in Australia, the United States and the United Kingdom has illustrated that students who had undertaken a work-integrated learning experience during their course of study were more likely to reflect positively on their university experience and to have achieved employment within their chosen field (Orrell, 2004). This was definitely confirmed in this study. Once students had completed their first PLC, the majority was highly appreciative of the placement experience and the quality of their prior education and preparation. The Reflective Blog was only recently introduced, but appears to have succeeded in combating some of the isolation reportedly experienced in earlier semesters. Further research will be necessary to confirm this. Reeders (2000) compared the placement experience to the *wild west,* in direct contrast to the classroom experience, which he perceived as to have a tendency to become too *safe* and bloodless. Student feedback confirmed that although the entire PR Major is centred around work integrated learning and the use of real life clients, case studies and projects, the placement experience pushed many students out of their comfort zone.

As a secondary outcome, this evaluative research project has strengthened the relationship between academia and practitioners, with new ongoing partnerships (guest speakers, real life clients) having been formed as a result. Overall, this investigation has confirmed the value and success of the compulsory placement, with further attention needed to improve industry relationships and additional resources to be made available to support new supervisors.

Supervisors were particularly interested in job ready students that required a minimum of additional training. However, the question arises how far we are prepared to go in our efforts to please the industry and meet practitioners' demands. The 393 *glimpse of the real world* appears to have ensured that the majority of students enter the industry with very realistic expectations, improved real life experience and a growing network of contacts, which will be crucial for their future success. However, as important industry relevance may be, academics should be careful not to try too hard in their efforts to please the industry, by potentially falling into the trap where higher level skills are sacrificed in favour of technical, generic, entry level abilities. It may be time to strike a balance between the industry's immediate interests and higher education institutions' responsibility to prepare students for a successful career in the field, beyond the placement and their first job.

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In the real world: creating client-centred learning experiences for final year public relations students

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Higher Education institutions are under pressure to provide the industry with job ready graduates, which require minimum training and fully understand what is required of them in the so-called real world. Institutions who can demonstrate that their learning outcomes reflect the skills and attributes desired by the industry, will in return be equipped with a powerful marketing advantage as their graduates are more likely to be employed (Rundle-Thiele, Bennett, & Dann, 2005).

Potential employers are crucial stakeholders in the educational process. Their collaboration in the course design is a promise frequently made to attract students, demonstrating the real-world validity of the program. In addition, this collaboration is often essential to meet accreditation requirements, such as the one set by the Public Relations Institute of Australia, requiring industry reference groups and a minimum period of time spent in the field (Public Relations Institute of Australia, 2008).

According to Kerr (2005), public relations employers are particularly looking for graduates with real life and relevant work experience. In order to enrich student learning and understanding of professional public relations practice, the final year Public Relations Consultancy unit has been designed around a 'real life client', which is selected on a semester basis. This paper provides an insight into the unit design, the mix of individual and group assignments, client motivation and students' learning experiences, including an opportunity for top performers to present – or 'pitch' - their ideas and recommendations in an authentic boardroom-like situation.

Keywords: work integrated learning, job ready, real life experience, public relations, graduates, employment opportunities, client-centred

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WORK INTEGRATED LEARNING

Although work integrated learning has become a buzzword in education circles over the past years, the concept itself it is definitely not new. The potentials and benefits of Work Integrated Learning (WIL), or Work-Based Learning (WBL) (Reeders, 2000), have been recognised since the early 20th century, predominantly in Northern America and Europe (Jancauskas et al., 1999). However, as Australian universities find themselves under growing pressure to produce *job ready* graduates, WIL is now being recognised as integral to the curriculum (Green, Quin, & Luca, 2005).

Employability upon graduation is now a critical factor in students' decisions regarding where to study (Green et al., 2005). Universities have been facing increasing demand by the industry, parents, students, governments and regulatory bodies to produce students with generic, versatile workplace skills, in addition to the more traditional discipline specific skills (Bates, 2004; Green et al., 2005; Kerr, 2005). Research

indicates, Generation Y workers will change their jobs between 8-12 times during their working life, including 3-4 complete career changes (Khare, 2007). Additionally, the fast changing nature of jobs and ever faster improving technology means many of today's students may work in jobs that do not yet exist (Jukes & McCain, 2001). As a result, discipline knowledge alone is no longer a guarantee for relevant employment, as it dates quickly upon graduation. Rundle-Thiele, Bennett, & Dann (2005) argue that there needs to be a change in focus for pedagogy; away from demonstration of knowledge, to acquisition of (lifelong) skills. Work integrated learning is popular with students and strongly supported by industry and governments (Reeders, 2000). Although the idea might not be popular with all academics, curricular design needs to meet practitioners' needs. In order to prosper in the competitive education market, higher education institutions need to offer a balanced portfolio of hard and soft skills (Coll, Taylor, & Nathan, 2003; Orrell, 2004). As a result, close industry relationships, the promise of real word validity of the course design and consequent employability of graduates are now being used as a marketing tool by most universities in their efforts to attract parents' attention and ultimately to recruit students (Kerr, 2005).

Amongst others, WIL includes guest lectures, industry speakers, field trips, real life case studies, as well as practica or placements, which all provide opportunities for tertiary institutions to produce well-rounded graduates, possessing knowledge of workplace culture and values, alongside the traditional technical competencies (Coll et al., 2003; Jancauskas et al., 1999). The focus of this paper is on integrating client-centred learning experiences as essential part of the curriculum, thereby providing students with an opportunity to apply their skills in a *real life* setting, gain relevant experience for their curriculum vitae as well as their portfolio and to demonstrate to the industry the applicability and relevance of higher education training.

Jancauskas et al. (1999) argue that WIL allows students to appreciate the importance of generic skills such as team work and communication, which have traditionally been perceived as peripheral or *soft*. Similarly, Crebert et al.'s (2004) study of graduate's perception of generic skills acquired at university and importance of work placements for future careers found that retrospectively over half of respondents felt that the development of generic skills and abilities were more important than actual content knowledge. 98% or respondent recognised the importance of ongoing generic skills development in the workplace, in order to advance in their chosen careers.

CREATING A CLIENT CENTERED LEARNING EXPERIENCE

According to Kerr (2005), public relations employers are particularly looking for graduates with real life and relevant work experience. In order to enrich student learning and understanding of professional public relations practice, the final year Public Relations Consultancy unit has been designed around a 'real life client', which is selected on a semester basis. This paper provides an insight into the unit design, the mix of individual and group assignments, client motivation and students' learning experiences, including an opportunity for top performers to present – or 'pitch' - their ideas and recommendations in an authentic boardroom-like situation.

As early as in 1976, Mintzberg suggested for educators to make greater use of experimental and creative skill-development techniques, which allow students to now only practice their interpersonal, but also informational and decisional management

skills (Mintzberg, 1976). Mintzberg was calling for a blance between analytical and intuitive skills, recognising the value of both right and left brain thinking and thereby ultimately improving students' career opportunities. Kennedy et al. (2001) argue that to date business education is still struggling to fully embrace more approaches to teaching, thereby ignoring the diverse learning styles of today's increasingly varied student population. Educational philosophy currently promotes the concepts of lifelong and the evaluation of outputs/outcomes, rather than inputs (Green et al., 2005). We have moved from teacher to student-centred education (Kennedy et al., 2001), with an increasing emphasis in active learners as engaged participants in the education process (Burns, 2002). Higher education institutions embrace the opportunities offered at varying levels. In public relations and marketing education there has been a move towards the inclusion of real life clients and case studies in the curriculum, with some universities going as far as to create faculty based consultancies and businesses, that provide students with an opportunity to gain meaningful real life experience while studying. One of the industry leaders is Leeds Metropolitan's Centre for Public Relations studies, which has integrated a real life communications consultancy, which successfully pitches against well established agencies in the region (Leeds Metropolitan University).

PR300 CONSULTANCY

This article focuses on the use of real life clients as part of the final year, classroom based PR Capstone unit at Curtin University of Technology. The units is taught as part of the PR Major, based within the School of Marketing at Curtin's Business Faculty. PR300 Consultancy is a strategic communications unit, focusing on topics such a sponsorship, event management, monitoring and evaluation, time and project management, ethics and professionalism, as well as consultancy management. Also included are client services, negotiation, mediation and selling skills in the context of pitch letters and client presentations. The key distinguishing feature of Public Relations (Consultancy) 300 is the involvement of a real life client as an integral component of the unit. Unlike some earlier public relations units, PR300 requires students to produce real solutions to real problems. Consequently, very high standards of professionalism are expected. The focus of the unit is on the contribution consultants make to the overall strategic objectives s their clients, therefore, PR300 builds on knowledge gained in earlier, more technically-focused PR units but is pitched at a higher level.

Experimental learning is often limited to case studies, which – unlike in the real world – provide students with pre-assembled facts and often implied alternative courses of action (Kennedy et al., 2001). However, Mintzberg (1976) argued that "effective managers seem to revel in ambiguity; in complex, mysterious systems with relatively little order".(p. 53). Consequently PR 300 is moving away from the safety provided in earlier units and requires students to work as independents team on a real life scenario, with the option for top performers to pitch their ideas to the semester's real life client in a board room situation. Stuetns feedback has been relatively mixed. Some students struggle with the interactive format, while the majority get to love it by the end of the semester, revelling in the competition and increasing the overall quality of work produces:

"It [the unit] provides students with the opportunity to experience what the PR world is all about. It is hard work and we may not like it but it helps a lot."
"Allows me to learn how to involve in PR activities (in depth) and how to professionally create a PR
Plan for real client. In short we get to experience how to work with REAL client."
(end of semester student feedback, eVALUate, December 2007)

Student feedback has confirmed, that live cases are extremely powerful learning tools, that foster critical thinking and problem solving skills (Kennedy et al., 2001), and are actively remembered and referred to by students for years to come. Traditionally, PR 300 had made use of a range of non-for profit *clients*, which had attracted some criticism from students, who were keen to compete in the for-profit world. As a results, the unit partnered up with a locally based sporting team, which had just undergone a rather large re-positioning exercise. Competing in a national league, most students may have been supporters of the local rival team, but were reasonably aware of the client, its business and its positioning.

CLIENT BRIEFING

Students experienced first hand that real live cases are not always straight forward. As in real life, clients might not always be forthcoming. In fact, they might not even know what they want, which was the case for semester 1 2008 PR Consultancy students. A last minute change to the briefing line up resulted in a speaker who was more interested in promoting their own club than to provide student with the information they were expecting. "Ambiguity is a vital element of dealing with any business" (Kennedy et al., 2001), and scenarios like this arguably help students to learn and solve complex and unstructured problems, however, not all students were sufficiently equipped to deal with such a high level of ambiguity. Different learning styles and cultural backgrounds unarguably highlighted the varying levels of preparedness.

In order to guide students throughout the consultancy process, the unit teamed up with a local communications consultancy, that provided active support in terms of guest lectures from both senior and junior consultants as well as additional teaching material and feedback.

Following the briefing, students had to locate additional information, which had to be analyzed and synthesized. They were expected to evaluate the client's business environment, including their strengths and weaknesses, as well as potential opportunities and threats. As part of this a thorough competitor analysis was expected. To do so, they heavily relied on web based research, the online library, interviews, media analysis and client materials. Students also had to deal with conflicting information. The information age has provided us with a wide range of information sources, which demands high level analytical and critical thinking skills. However, some students struggle to determine which source was more reliable: Wikipedia – or the real life client?

Aware of potential group issues, but also the need for effective team skills to succeed in the industry, PR300 aims to strike a balance between individual and group assignments, all of which are based around the semester's real life client. First, students were expected to individually prepare a briefing document, based on the

verbal briefing session. Next, students grouped themselves into teams of 4-5, following session on team roles based on Belbin's team (Belbin, 1996) roles. The assumption was made that at a third year level students should be in the position to form productive and well-structured teams, based on prior knowledge and experience.

Students had three deadlines, equally distributed throughout the semester. Within these guidelines, they were expected to set their own deadlines and organise regular team meetings. As the teaching team had limited knowledge of the client's situation, student had to rely on their own research and analytical skills. Lectures and tutorials were focused on the various skills needed as consultants - such at presentation and pitching skills, time and project management, stakeholder relations and strategic reports – thereby assisting students throughout the process. Around mid-semester teams were provided with an opportunity to present their ideas and suggestions back to the rest of the group in a 15 minute *client pitch*. The challenge was to balance the amount of details and creative suggestions to be given away. Students were extremely worried about the potential of other teams copying their ideas. However, they also had to be creative, innovative and informative enough to keep their audience interested. The stronger teams recognised this as an opportunity to gain further feedback and to re-fine their ideas for their final strategy report. While the rest of the class acted on behalf of the client, they used feedback and probing questions to strengthen their final recommendations.

On the basis of their mid-semester pitch, students spent the second half of the semester working on a comprehensive strategy report. Again, the unit guidelines were limited, requesting the use of a business report format and providing suggestions for the various sections to be included. However, the presentations and content of the final report were completely up to the team's understanding of their client's requirements. The top three student teams were selected for an opportunity to present their ideas and expertise to the client and the partner consultancy in a live boardroom situation, in front of industry representatives and academic staff, with the prospect of securing a highly sought after placement opportunity.

DISCUSSION & CHALLENGES

Using a live business case means students face a number of challenges, which traditionally would not occur in a save, class room environment. PR300 provided both students and staff with a range of challenges in semester 1 2008. Students are socialised by universities to anticipate the left-brain, logical-linear-sequential presentation pedagogical style (Kennedy et al., 2001). They expect problems to be laid out and expect that instructors known and will provide them with the answers. Most students found, at lease initially, the ambiguity frightening and confusing.

First of all, the brief provided by the client was rather *patchy*. A number of staff and structural changes during the course of the semester meant that the client was more interested in self-promotion, than actually using the students' expertise and insight. Unarguably, this was an advantage of using non-for profit organisations in the past, which tended to be highly appreciative of the students advice and suggestions, usually providing the opportunity for a top performer to implement at least some of their strategies during a work placement.

Time was another big issue, particularly when a key contact had to travel first interstate and then overseas, and was not able to provide students with additional material and requested details as quickly as anticipated by the teams. The idea of introducing a partner consultancy was warmly welcomed. However, again time issues and conflicting deadlines presented a challenge, with the consultancy not being able to get involved as much as initially anticipated.

The group process can be very *messy* and highly unpopular with some students. However, *team skills* are part of Curtin's nine graduate attributes, recognising the industry's need for graduates that work well as part of teams and understand group dynamics. The team process can be highly rewarding – in fact, every semester appears to have a handful of extreme examples. In order to combat any underlying issues, an end of semester peer and self evaluation has been introduced.

Using live cases and experimental learning means that staff has to be prepared to receive negative feedback in the end of semester evaluations. Not all students are happy about being pushed outside their own comfort zone. However, the stronger students recognise that live cases provide a unique opportunity to connect them with the business community. They provide students with an insight into various industries and a chance to make valuable contacts. They gain a real life insight and an opportunity to develop their portfolio a well as to add *work experience* to their Curriculum Vitae. Reportedly, students often struggle with the fact that most employers are looking for graduates with a minimum of 12-24 months experience. Real life cases and other work integrated learning opportunities provide students with highly sought after experience, whilst still at university. They avoid producing graduates that rely heavily on theory and textbooks, but have an understanding of and experience in the field.

CONCLUSION

Live cases are definitely not a save alternative to teacher-centred activities. They are risky. They can be extremely messy. And student can get very frustrated. They can also be very time intensive. However, isn't' this was working in business is truly about? Working in public relations – or in fact any business discipline – is never save. Clients are very unlikely to provide you with all the information required. Deadlines are always and issues and working in teams very rarely goes smoothly. Despite the increased workload and demand on staff, using live cases is incredibly rewarding when you see students advance and step up to the challenge. Real life client pitches are a large risk, particularly when not all teams perform as expected, but the other top performers will most likely make up for their shortcomings. Live cases will certainly not be popular with all students, but they arguably provide a very good indicator for students of what is expected, and for staff of who is going to succeed in the *real world*.

The use of live cases can be extremely rewarding – both for students and staff. They provide not only an opportunity to build students' CVs and portfolios, they can also be a powerful marketing tool. As they provide an intensive, highly involving experience, students tend to talk about their real life clients for many years to come, thereby creating (positive) word of mouth for the unit and ultimately the course overall.

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UTS Faculty of Engineering and Information Technology

The recent merging of the Faculties of Engineering and Information Technology will produce a plethora of opportunities in research and industry engagement. Our courses are regularly reviewed to ensure that teaching is cutting edge and keeps abreast with industry and student needs.

UTS has been ranked in the top band of the ´Science, Computing, Engineering, Architecture and Agriculture´ cluster in the Teaching and Learning Performance Fund and thereby the top in Engineering and Information Technology for two years running. UTS is the only university in the Sydney basin to be top-ranked for teaching and learning.

Engineering and Information Technology at UTS share a commitment to excellence in practice-based education. Our industry focused courses are designed to meet the needs of employers. Work Integrated Learning is an important component of our undergraduate programs allowing students to gain valuable work experience while studying. As a result, the Faculty's graduates are work-ready, in high demand by industry and attract starting salaries well above the national average (2007 Graduate Destination Survey, Graduate Careers Council of Australia).

The practice-based framework has been developed and refined by UTS:Engineering over the past 50 years to produce a model that provides comprehensive preparation for careers in engineering. The flagship Undergraduate program (3000 students) is the award winning Bachelor of Engineering, Diploma in Engineering Practice Program. As part of the students' academic studies they undertake two six-month fully paid industry internships. Students learn to deal with complex systems and manage large-scale projects using the most appropriate proven, new and emerging technologies.

The UTS:Engineering Co-operative Scholarship Program has been in existence since 1991. Scholarships offered include one (first) year, full-degree and equity scholarships. UTS:Engineering scholars have many opportunities during their first year to make contact with the sponsoring company and develop valuable contacts.

UTS:IT has an enviable record in delivering practice-based education in Australia. Students in our undergraduate degrees have had the opportunity to do a year of Industry Training as part of their course for over 30 years. This practice was cemented with the implementation of the Diploma in IT Professional Practice in 2000. Students undertake their Industry Year after two full-time years of academic study and must work for a minimum of nine months full-time.

The UTS:Bachelor of Information Technology Co-operative Scholarship Program is a collaborative program designed by leading industry sponsors and UTS, that has been in existence since 1988. The Program incorporates two industry-based semesters with two different sponsoring organisations. Students learn how to solve business problems using IT.