'WHAT SKILLS DO I HAVE? WHAT SKILLS WILL I NEED?' – BUILDING AN EMPLOYABILITY SKILLS PROFILE THROUGH AN ONLINE REFLECTIVE LEARNING PROGRAM

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ABSTRACT: There is consensus of opinion of the value of critical reflective practice for student learning, professional development and employability. Yet, students are known to struggle with reflective practice. The purpose of this research is to describe a proposed design for an innovative multidisciplinary online program for Work Integrated Learning [WIL], which facilitates and guides reflective thinking while developing metacognitive awareness of employability skills and attributes. The paper discusses the theoretical framework and envisaged design of this online resource. Reflection and application is introduced in three stages. In stage 1, [Pre-Placement], the student reflects on their preparedness for WIL using the tool informed by the Work Skill Development Framework (WSD) [Bandaranaike & Willison, 2009]. Questioning techniques together with skill statements derived from the WSD six facets of work, guide students through the process of selfidentifying current employability skill sets. This process is then elaborated by self-appraising the degree of autonomy across a continuum for each employability skill identified. In stage 2, [In-Placement], the student collects evidence of applying practice based work skills. The progressive development of skills and the acquisition of new skills are mapped to a WSD informed online template. In stage 3 [Post-Placement] the student re-identifies and re-appraises skill competencies by reflecting on the WSD's degrees of autonomy. Reflections submitted gradually compile a personalised employability skills profile of a student's WIL journey. The artefacts that will be produce will enhance student feedback, inform WIL discussions with stakeholders and empower students with the 'language' needed for future employment.

KEY WORDS: online learning; reflective practice; work skills; employability; experiential learning

INTRODUCTION

Work Integrated Learning [WIL] has been defined as a range of approaches and strategies that integrate theory with the practice of work within a purposefully designed curriculum (Patrick, Peach, Pocknee, Webb, Fletcher and Pretto, 2008, p. iv). The value of WIL is that it places student learning at the center

of the activity. The quality of the learning through WIL is not dependent on the quality of the experience of work itself, but on the ability of the student to apply critical reflective practice to WIL so that the experience and knowledge gained produce new learnings (Kathpalia and Heath, 2008; Sykes and Dean, 2012). Critical reflection is defined as a deliberate process where a student focuses on their performance in practice and reasons carefully about the thinking that led to their actions, what happened and what they are learning from that experience (Boud, Keogh and Walker, 1985; Cranton, 2006). Educational trends in WIL programs have recognised the importance of incorporating reflective pedagogies for WIL curricula as reflective practice promotes new perspectives and understandings that contribute to transformational learnings about practice (Boud et al., 1985; Carson and Fisher, 2006; Mezirow and Taylor, 2009; Billet, 2001; Boud, 2010, Cauldicot, 2010; Castelli, 2011, Guthrie and McCracken, 2010). Few formal learning opportunities exist in regular coursework for students to develop reflective techniques as an empowering learning strategy. Learning to think reflectively needs to be taught through modelling with opportunities to practice reflection as a skill (McNamara & Field 2007; Carson & Fisher, 2006; Smith & Trede, 2013).

The literature reveals many effective models that use reflective thinking as a learning strategy to enhance WIL curricula and student learning outcomes. Common to WIL are learning activities that engage students in writing or journaling experiences through e-portfolios or through the creation of career and employment orientated artefacts such as Curriculum Vitae [CV]/ resumes and cover letters (Patrick, et al., 2008; Sendall and Dromocol, 2011; Colyer and Howell, 2002; Sykes and Dean, 2012).

The purpose of this paper is to document a blue print for a collaboratively designed, multi-disciplinary WIL e-learning program underpinned by reflective pedagogies and learning strategies that are well documented in the literature as effective for student learning through WIL programs. The distinctiveness of this proposed WIL program is that it will be designed to enable students to take a critical perspective of work and the skills required to engage effectively in the workplace through the development of reflective techniques applied pre-placement and continuing over time during placement through to post placement. The program's activities will be structured as "deliberate learning...learning

which is intentional ... [where] learners are aware of what they are learning" (Boud, Keogh & Walker, 1985). Deepening the students learning experience through reflection involves cognitive engagement as a mechanism to deepen and transform understandings and knowledge. This proposed project recognises the importance of scaffolding reflection as a learning strategy so that students gain confidence to take cognitive risks as they progressively self-identify and self-appraise their employability skill sets (Bandaranaike and Willison, 2009). Explicitly developing students' ability to articulate and communicate employability skill using the 'language' of the workplace throughout the phases of WIL brings a new opportunity for a purposefully and collaboratively designed WIL skills curricula for effective engagement in workplace settings and for future employment.

BACKGROUND

Academic libraries world-wide have long been involved in enabling students' skill development. At Monash University Library [MUL] Australia, such skills are referred to as 'information research skills' or as 'information literacy skills in other academic contexts. These are the skills that students require to engage effectively with coursework, that are valued by employers when entering the workplace and are foundation skills for life-long learning (Barnett, 2005; Bundy, 2004; Head, Van Hoeck, Eschler & Fullerton, 2013). Information literacy (research) skills include; conceptualizing, locating, interpreting, evaluating, communicating and using information (Bundy, 2004) and are articulated as quality standards and abilities (ACRL, 1989, 2000; ANZIL, 2001, 2004).

Educational objectives at MUL, focus on embedding information research skills into disciplinary curricula in collaboration with academics (Smith, 2012). MUL is now taking an innovative step towards contributing to the development of students' employability skills by adopting the Work Skill Development [WSD] framework (Bandaranaike and Willison, 2009) as a conceptual tool to inform and integrate key employability skills and graduate attributes into WIL programs. The WSD incorporates the Department of Education, Employment and Workplace Relations (formerly DEST, 2006) eight employability skills together with scaffolded levels of student autonomy that describe progressive skill attainment. The value of the WSD is that it brings together learner outcomes - the knowledge and skills

gained from undergraduate studies, consolidates graduate attribute outcomes, and articulates the skills and knowledge required to operate in public and private enterprise (Bandaranaike and Willison, 2009). The WSD mirrors concepts, structures and philosophies of the Research Skill Development (RSD) framework (Willison and O'Regan, 2006, 2012), a sister framework to the WSD which underpins MUL's research skill programs. Therefore, this makes the WSD a logical progression from information research skills to employability [work] skills. In addition to the WSD's focus on key employability skills of initiative, technology, learning, self-management, problem solving, and communication. The WSD incorporates descriptors that capture the affective aspects of learning [emotional intelligence] and connects the affective to employability skills.

It is widely accepted that employability skill development during the WIL experience is challenging. Therefore, the e-learning program proposed in this paper, aims to enhance the student experience of WIL by making employability skills explicit to the student in three stages – **Pre-Placement, In-Placement and Post-Placement**. Learning activities will be informed by reflective pedagogies to gradually draw out and articulate the employability skills the student has experienced and gained through the work placement. The practical outcome and benefits to the students of engaging in the learning program will result in a personal portfolio that includes employment and career artefacts that capture the skills developed through the student's WIL journey, serving as a tangible record for future reference.

METHODOLOGY

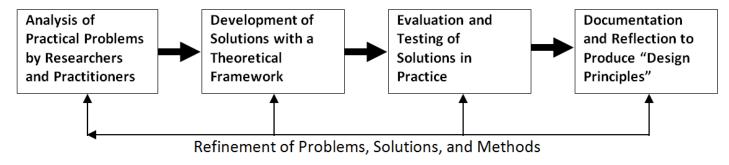
This research embraces an eclectic theoretical foundation, with insights on the design of the e-learning program derived from WIL, reflective practice, and e-learning/learning approaches. Reeves & Hedberg (2003) suggest that the eclectic-mixed methods-pragmatic paradigm (EMMPP) embraces complexity in the context of developing and evaluating interactive learning. Thus EMMPP is used as a framework in the development and evaluation of the e-learning program being proposed in this paper.

This type of research falls within the sphere of development or design research. Design research is a

type of formative research in which an educational intervention is evaluated holistically in practice and refined over time through the evaluation findings (Brown, 1992; Collins, Joseph & Bielacyc, 2004). Reeves & Hedberg (2003, p. 274) provide a useful summary in (Fig. 1) of the framework, showing its practical nature underpinned by theory to guide decisions.

Fig. 1: A Design Based Framework

Development Research



Source: Reeves & Hedberg, (2003, p.274).

This project will be an in-practice evaluation of the effectiveness of the e-learning program. The program will be evaluated using a mixed methods methodology. Mixed methods involves a mix between quantitative evaluation methods and qualitative methods (Johnson & Onwuegbuzie, 2004), so that a more complete picture of the learning intervention can be obtained and appropriate decisions made for refinement.

Subject matter experts and educational designers will be invited to evaluate the content and design of the program and its effectiveness in meeting the learning objectives. A visual rating scale combined with qualitative input fields has been designed to demonstrate whether the program is meeting the design goals. This combined data will inform future iterations of the program's design.

Aligning with the goals of authentic learning to produce authentic artefacts, the quality of the learner output will also be evaluated. This output will include a work cover letter and a CV which will be used to determine how well students have reflected on the skills required in the workplace.

Learner feedback will also be solicited through an online questionnaire to gauge the effectiveness of

the program, such as how well the program meets the learning objectives and the learners' experience of the program. The questionnaire will provide quantitative as well as qualitative data, which will be used to make informed decisions about the design and the implementation of future versions of the program.

Feedback from focus groups involving students and staff will provide multiple perspectives and rich qualitative data on completion of the prototype. This information will be used to make improvements prior to release of the program. Additional focus groups will be conducted post implementation to learn from student and staff experiences of the program.

An observation log that captures significant events and occurrences during the implementation will be created. The purpose of this is to record entries detailing any unexpected events whether related to the technology or to the design aspects of the program. This procedure is essential to the project's quality cycle.

Design & Implementation

This paper describes the conceptual design and development of the online WIL program, which aims to bring beneficial outcomes to students from applying reflective practice techniques progressively through the experience, developing an awareness of reflection as a skill in itself and as a strategy to uncover and identify employability skills. Schon (1983) describes the concept of reflection 'in-action' as a way to generate knowledge in practice and reflection 'on-action' which occurs after the event (Smith & Trede, 2013; Cauldicot, 2010; Sykes and Dean, 2012).

The design of the e-learning program will acknowledge, as Boud et al., (1985) note, that attending to feelings enhances reflection. The design of the program will therefore incorporate the affective domain using the six employability facets of the WSD framework as integral for learning to reflect (See Table1: Appendix). Importantly, the design of the program's learning activities will prompt the learner to return to the experience, attend to feelings re-appraise and re-examine the experience in the light of new knowledge acquired (Boud et al., 1985). New learnings and insights from reflection will therefore be

timely with opportunities to be applied in the workplace whilst students are still actively engaged in the WIL experience.

Reflection and application of the model will be introduced in three stages. In stage 1, (Pre-Placement), the student reflects on their preparedness for WIL using the learning program informed by the Work Skill Development (WSD) Framework (Bandaranaike & Willison, 2009). Questioning techniques together with skill statements derived from the WSD six facets of work, guide students through the process of self-identifying current employability skill sets. This process is then elaborated by self-assessing the degree of autonomy across a continuum for each employability skill identified. In stage 2, (In-Placement), the student collects evidence of applying practice based work skills. The progressive development of skills and the acquisition of new skills are mapped to a WSD informed online template. In stage 3 (Post-Placement) the student re-identifies and re-assesses skill competencies by reflecting on the WSD's degrees of autonomy.

Stage 1 – Pre-Placement

This stage will consist of three potential components: (1) an online e-portfolio (potentially Mahara) or learning management system (LMS) (Moodle) for use for the duration of the three stages, (2) a standalone self-access e-learning module (developed in Adobe Captivate), and (3) an online self-reflective tool (questionnaire) using a Google form as it is an enterprise-wide tool familiar to staff and students.

The purpose of using an e-portfolio system for this project is to provide an integrated environment for the duration of the students' placement activities, as well as to evidence the development of their employability skills. The online reflective tool is the first self-reflective activity, and it was identified that students might require further information and activities to help them recognise the various skills themselves. For this reason, a stand-alone e-learning module is proposed. This standalone module is intended to be completed by the students prior to and/or while using the online self-reflective tool. The module will provide learning activities based on scenarios and resources encouraging an active learning approach. For example, there will be embedded video clips showing what skills employers look for in

employees combined with questions relating to the video clips.

Stage 2 – In-Placement

In stage 2 students will be required to reflect on actions, events, activities and tasks undertaken in the workplace and apply reflective techniques to self-identify the skill sets they require to engage effectively in the placement. This includes reflecting on current skill sets as well as reflecting on what new skills and abilities would enhance the WIL experience they are undertaking. By referring to the WSD and critically reflecting on and responding to guided reflective questions students record responses within the e-portfolio.

Stage 3 – Post-Placement

The final stage will involve activities where students reflect on the skills required and acquired for the position experienced through WIL, as well as the work skills gained through other employment experiences or through coursework and study to create a CV/resume and cover letter for the particular position experienced through WIL. This task may require the collaboration, and guidance from experts including Employment and Careers staff, WIL coordinators from discipline programs, librarians and learning skills advisers and from industry and students themselves. This collaborative approach between a broad range of stakeholders working towards the employability skills agenda encourages a greater synergy between university departments, academics, professional staff, students and employers. The e-portfolio tool can be used to store the students' learning artefacts and students and staff will have the opportunity to share and discuss their work with each other through discussion fora.

DISCUSSION

In using the WSD framework, this e-learning program's design will be informed by an empirically tested framework for WIL assessment. To date, student engagement with the WSD for employability skills development has been through reflective journal writing and lecturer guided reflective discussion with WIL participants. The challenge has been to provide an online program for WIL that builds

students' understanding of employability skills that reaches larger student cohorts, is sustainable and sufficiently flexible to reduce lecturer intervention if required, is meaningful and relevant for the student and achieves the learning outcomes. Importantly, face to face dialogue between WIL participant and lecturer will be possible using this WIL program during the formative feedback process to foster students' skills in reflective practice. The ability of the student to effectively and intelligently reflect on the WIL experience as a whole, recapture, process and appraise the experience is part of the learning required to bring about transformational change (Boud et al., 1985; Mezirow and Taylor, 2009; Wang and Cranton, 2011).

In authentic learning, a pedagogical approach recognising the interconnectedness of knowledge and situation (Herrington & Oliver, 2000), learning tasks are designed to stimulate the solution of real life 'on the job' problems rather than the acquisition of abstract knowledge which in turn stimulates the construction of knowledge. Constructivist learning principles, as espoused by Vygotsky (1978), form the basis of current online learning interventions to address gaps in developing the knowledge and skills of staff. The practical nature of authentic learning is carried through to the evaluation of the effectiveness of the program through the evidence provided by artefacts produced by learners.

Notwithstanding that there are potential drawbacks to this online approach, such as technology and network failures, computer user experience issues, and possibly limited exposure to the background concepts integral to understanding the WIL skill sets, it is envisaged that the perceived benefits outweigh these issues. An important benefit is providing the opportunity for learners to use a readily available resource throughout the experience, as well as applying job applicable learning to the university experience. Furthermore, the modular design of the learning program implies a potential level of reusability. For example, the self-access online module could be used as a stand-alone learning resource to be used during a face to face class, where the content of that class could be tailored for different but related purposes.

The development of this program provides an opportunity to promote reflection for learning in an

online mode (Guthrie and McCracken, 2010; Wang and Cranton, 2011) whilst acknowledging the benefits of reflective practice for the WIL experience (Fong and Sims, 2010). Furthermore, situating the learners in a work context and requiring them to produce useful artefacts provides an opportunity for an authentic learning experience.

Reflections submitted gradually compile a personalised employability skills profile of a student's WIL journey. It is envisaged that the artefacts produced will evidence enhanced student feedback, inform WIL discussions with stakeholders and empower students with the 'language' needed for future employment. A practical outcome of undertaking the module will be the opportunity students have to complete an activity that will capture the skills developed, improved and acquired through the work placement experience.

The collaborative design across faculties, departments and institutions as well as the involvement of expert evaluation has potential for increasing overall engagement and synergies.

Reflective practice may be fostered as part of the skills students need to engage with coursework in a given curriculum, even though this skill may be implied rather than made explicit to students. Therefore one objective of the program is for students to be able to reflect on experiences in WIL, identify and make employability skills that they have developed or require developing explicitly.

Students' ability to articulate the skills that were required, identified, applied or still need to be developed that were part of that workplace experience is the first step to gaining an awareness of skill sets for the workplace.

The benefits of undertaking the WIL program is intended to result in the student being able to self-appraise and reflect on their skill progression by mapping skills to levels of autonomy as articulated in the WSD. Referring to the WSD for guidance will enable students to self-appraise how well they believe they were able to perform these skills in the workplace context by referring to and matching with the WSD levels of autonomy as a measure of skill development. By using these results or outcomes from participating in the WIL module students will have the material and 'language'

available to prepare a cover letter and a CV/resume for the placement they have recently experienced. A practical outcome such as a cover letter and CV/resume has the effect of reinforcing the learning and as noted by Boud et al., (1985) as a way to examine the experience "in the light of the learner's intent, associating new knowledge with that which is already processed, and integrating this new knowledge into the learner's conceptual framework, "it may be helpful to commit this description to paper or to describe it to others" (p. 27). Moreover, the creation of these useful artefacts aligns with authentic learning approaches.

Experientially based curricula developed for the online environment is still in its infancy; however it is evident that opportunities exist to create multi-disciplinary learning opportunities for WIL that can be tailored to accommodate the development of disciplinary specific skill sets. The WIL learning module will incorporate aspects of the design of this tool to make the program flexible and adaptable with the ability to accommodate multi-disciplinary employability skill sets.

CONCLUSION

This paper has documented an innovative approach to inform the development of a flexible, multidisciplinary online learning program which will enable students during their placements to self-reflect and self-appraise work skills progression to enhance WIL outcomes.

A range of curricula exists across institutions where employability skills are fostered and as noted reflective practice is widely recognised as a learning strategy that enables students to become cognisant and to conceptualise work-ready skills and their development.

The WIL e-learning program presented in this paper takes a holistic view and authentic learning approach to developing students' employability skills through the WSD framework as an evidenced-based approach. The WIL program proposes to facilitate deeper learning through structured reflection, recognising the important role of the affective domain to connect ideas with feelings which are part of the WIL placement experience.

Importantly the WIL module will be developed as a collaborative, inter-professional approach that

harnesses the expertise of stakeholders and educators, both across a university and cross-institutionally. Expectations are that the development of a multi-disciplinary learning module can only benefit from interdisciplinary thinking contributed during the development and evaluation phases of the project. Collaboration also validates a shared responsibility for developing students' employability skills and presents an economically beneficial method of resourcing the curriculum and enhancing the students' WIL journey. It is envisaged this project could form a useful model for others to share and use.

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Appendix 1

TABLE 1:

Online Reflective Self- Assessment Tool for WIL, using the Work Skills Development Framework [WSD]

Employability Facet		Work Skills	Levels of Autonomy
A. Initiative & Enterprise	1.	I am able to adapt to new situations and changing work conditions with	Guidance from others all the time Considerable guidance from others Some guidance from others A little guidance from others No guidance from others at all
Student is goal directed and embarks and clarifies role	2.	To cope with stressful situations, I require	Guidance from others all the time Considerable guidance from others Some guidance from others A little guidance from others No guidance from others at all
	3.	To plan, generate and execute a range of strategies in the [placement] role, I need	☐ Guidance from others all the time ☐ Considerable guidance from others ☐ Some guidance from others ☐ A little guidance from others ☐ No guidance from others at all
	4.	To identify new opportunities and ideas I need	☐ Guidance from others all the time ☐ Considerable guidance from others ☐ Some guidance from others ☐ A little guidance from others ☐ No guidance from others at all
B. Technology & Resource Use	5.	I am able to locate, select and use appropriate resources for the allocated tasks with	☐Guidance from others all the time ☐Considerable guidance from others ☐Some guidance from others ☐A little guidance from others ☐No guidance from others at all
Student applies skills, knowledge, technology, tools etc. to find and generate information/data	6.	I am able to appropriately and safely operate equipment (OH&S) with	Guidance from others all the time Considerable guidance from others Some guidance from others A little guidance from others No guidance from others at all
imormation/data	7.	To interpret the requirements of others and to adapt as required, I need	Guidance from others all the time Considerable guidance from others Some guidance from others A little guidance from others No guidance from others at all
	8.	I am able to analyse information from resources and draw conclusions with	Guidance from others all the time Considerable guidance from others Some guidance from others A little guidance from others No guidance from others at all
C. Learning & Reflecting	9.	To understand the desired outcomes from my role, I require	☐ Guidance from others all the time ☐ Considerable guidance from others ☐ Some guidance from others ☐ A little guidance from others ☐ No guidance from others at all
Student critically evaluates their role and reflects on lifelong learning skills and career management	10.	To accept new ideas and adapt them to my work, I need	Guidance from others all the time Considerable guidance from others Some guidance from others A little guidance from others No guidance from others at all
	11.	To reflect on skills & knowledge [Theory] and to apply them to the work environment [Practice], I require	☐ Guidance from others all the time ☐ Considerable guidance from others ☐ Some guidance from others ☐ A little guidance from others ☐ No guidance from others at all
	12.	I am able to use learned material in new and existing situations with	☐ Guidance from others all the time ☐ Considerable guidance from others ☐ Some guidance from others ☐ A little guidance from others ☐ No guidance from others at all

D. Planning & Managing	13. To establish personal goals and work progressively towards achieving them, I need	☐Guidance from others all the time ☐Considerable guidance from others ☐Some guidance from others ☐A little guidance from others ☐No guidance from others at all
Student organises and manages self while being perceptive to managing the needs of others	14. To prioritise tasks and manage time effectively, I require	☐Guidance from others all the time ☐Considerable guidance from others ☐Some guidance from others ☐A little guidance from others ☐No guidance from others at all
	15. To make decisions with confidence, I need	Guidance from others all the time Considerable guidance from others Some guidance from others A little guidance from others No guidance from others at all
	16. To engage in reflective practice, I need	Guidance from others all the time Considerable guidance from others Some guidance from others A little guidance from others No guidance from others at all
E. Problem Solving & Critical Thinking	17. I am able to identify problems clearly with	Guidance from others all the time Considerable guidance from others Some guidance from others A little guidance from others No guidance from others at all
Student synthesises and analyses information to create solutions	18. To work collaboratively with team members, I require	☐ Guidance from others all the time ☐ Considerable guidance from others ☐ Some guidance from others ☐ A little guidance from others ☐ No guidance from others at all
	19. I am able to make reasoned judgments and informed decisions with	☐ Guidance from others all the time ☐ Considerable guidance from others ☐ Some guidance from others ☐ A little guidance from others ☐ No guidance from others at all
	20. To produce appropriate solutions based on information available, I need	☐ Guidance from others all the time ☐ Considerable guidance from others ☐ Some guidance from others ☐ A little guidance from others ☐ No guidance from others at all
F. Communication & Teamwork	21. I am able to express ideas clearly through written and spoken communication with	☐Guidance from others all the time ☐Considerable guidance from others ☐Some guidance from others ☐A little guidance from others ☐No guidance from others at all
Student communicates and ensures action, accounting for cultural, ethical, social/team	22. In respecting cultural differences and other's point of view, I need	☐ Guidance from others all the time ☐ Considerable guidance from others ☐ Some guidance from others ☐ A little guidance from others ☐ No guidance from others at all
issues	23. To listen and negotiate successfully with others, I need	☐Guidance from others all the time ☐Considerable guidance from others ☐Some guidance from others ☐A little guidance from others ☐No guidance from others at all
	24. To follow professional, ethical conduct in the workplace, I require	☐ Guidance from others all the time ☐ Considerable guidance from others ☐ Some guidance from others ☐ A little guidance from others ☐ No guidance from others at all