Integrating learning and work: Using a critical reflective approach to enhance learning and teaching capacity

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The integration of learning and work presents many possibilities and challenges for educators in higher education. Core to these challenges is how to foster preparation for professional practice and particularly how to capture and assess the degree to which the WIL experience prepares students for their future lives and work. With the demand for work ready graduates increasing, the capacity to reflect on action so as to engage in the process of continuous learning is vital to equipping students for futures unknown. This paper seeks to contribute to knowledge of how fostering reflective practice enables the integration of learning and work. This paper presents a case study of a Work Integrated Learning curriculum intervention within the discipline of Project Management. The authors examine how an industry mentoring approach to WIL was developed and implemented, and focus on critically exploring students' reflections and learning outcomes. In doing so, the authors explore WIL from the teacher and student perspective, and seek to contribute to knowledge of how to foster WIL through reflective practice to support the development of Graduate Attributes which equip students for an ever changing workforce.

Keywords: work integrated learning, reflective practice, project management, graduate outcomes, work readiness

INTRODUCTION

In the last decade, increasing attention has been given to fostering Work Integrated Learning (WIL) in higher education. As Smith (2012) identifies, the increasing value placed on WIL reflects the widely accepted view that education as lifelong, is inextricably linked to preparation for professional practice. Smith (2012) identifies that ‘Work integrated learning’ is relatively new jargon that focuses attention on the integration of discipline learning and workplace practice or application (p. 248). This increased focus on the relationship between higher education and employment outcomes reflects the industry and government commitment to an outcomes focused approach to higher education. It is within this context that universities are challenged to not only create authentic links between learning and work, but to assess how outcomes can, as Boud & Falchikov (2006) advocate, “lay the foundation for a life time of learning” (p.400).

Implicit in the WIL experience is the expectation that universities will create learning experiences and foster learning outcomes which, as transferable, will prepare students for futures unknown (Bowden & Marton, 1998; Stephenson & Yorke, 1998) and the assumption that gaps between “the increasing diversity of universities as learning sites, and the divergence and multiplication of knowledges and disciplines within universities can be bridged” (Barrie & Prosser, 2004, p.3). As transcendent of the discipline domain, graduate attributes are assumed to be applicable to diverse contexts and settings (Barrie & Prosser, 2004; Boud, 2000), and, as defined through university mission statements, commonly encompass critical thinking, problem solving, communication skills, ethical practice and logical and independent thought (Bath, Smith, Stein & Swann, 2004). As the literature also identifies, students also have the expectation that universities will prepare them for employment, ensuring clear linkage between students study and their future aspirations (Peach & Gamble, 2011).

Conceptions of WIL draw on a number of learning theories and pedagogies, including experiential-based learning, immersive learning and transformative learning (Andresen, Boud, & Cohen, 1995; Kolb, 1984; Mezirow, 1997). As Smith (2012) identifies, WIL importantly creates the opportunity for universities to design, refine and teach curriculum that: is responsive to current and future needs, equips students with the knowledge and capability that goes beyond the acquisition of discipline knowledge, engages students actively with industry and community partners and enhances work readiness. As Mezirow (2006) notes, providing students with opportunities to examine and reflect on their beliefs fosters lifelong learning by enabling students to view themselves as active participants in their learning; as future agents for change within their profession. As Dewey’s (1938) model of reflective learning defines, reflection enables the construction of knowledge through active reflection on past and present experiences.
This paper seeks to contribute to knowledge of how fostering reflective practice enables the integration of learning and work. In particular, it explores how introducing industry mentors and fostering students’ critical self-reflection was found to foster students’ understandings of the Project Management profession, and their relationship to it. The authors present and analyse findings from a qualitative study which investigated the introduction of industry mentors and assessed self-reflection to enhance the integration of learning and work. This paper focuses on the initial 2012 pilot phase in which the course was introduced. Findings from the second pilot in 2013 will be reported and analysed in a future publication. This work-based learning course was taught to twenty eight third year Project Management undergraduates. The course design was a collaboration between the two authors. The first author works as an academic developer within the discipline of Project Management and the second author co-developed and taught the course in 2012.

REFLECTIVE PRACTICE APPROACH

The Project Management course was designed as WIL to enable students to make explicit links between the world of work and the discipline of Project Management, and to critically reflect on their learning. The curriculum design, assessment and teaching approach recognised and valued the use of life experiences for both students and industry mentors, and continued reflection on learning. Reflection has been identified as contributing to a range of learning outcomes which include enhanced learning and meta cognition (Smith, 2011). From the teacher’s perspective, the reflective practice approach enhanced learner engagement and the quality of learning outcomes. As Harvey, Baker, Boasnquet, Coulson, Semple & Warren (2012) argue, reflective practice plays a key role in the development of WIL. Importantly, the process of reflection fosters the integration of theory and practice and offers a mechanism through which an experience can be understood to in turn inform future practice. As Schon (1983) articulates, this meaning making relates to the process of doing, during reflection and after, reflection on action.

The authors acknowledge the transformative power of assessment. As the literature describes, assessment defines the very core of the curriculum (Ramsden, 1992) which includes defining what students regard as important and how they come to see themselves as both learner and graduate. The course and assessment design and teaching approach was intended to support students to reflect on learning and to integrate and apply this knowledge to inform their critical understandings of the Project Management profession. Engaging in reflective practice can importantly support students to utilise tacit knowledge and as Bringle & Hatcher (1999) note “confront ambiguity and critically examine existing beliefs” (p. 85). As the literature identifies, reflection contributes to learning through actual experience (Bringle & Hatcher, 1999; Ryan & Ryan, 2012).

The pedagogical approach adopted in this course sought to support students to develop a critical awareness of their own assumptions and of the values, principles and belief systems which underpin their chosen profession by engaging students in a critical dialogue with industry about their profession. This entailed students’ direct engagement with industry mentors, paralleled by a teacher-guided structured and supported approach to self-reflection. As Lave & Wegner (1991) identify, students need to be immersed in learning where they can observe, interact and respond to that particular context. The course design and teaching approach created learning experiences whereby students were exposed to diverse professional practice contexts, and in doing so, could observe and interact with, respond to, and ultimately reflect on, the different professional practice Project Management contexts each industry mentor represented. As Peach & Gamble (2011) note, “reflecting on how one’s values and beliefs intersect with those which define a profession provides a powerful learning experience and the opportunity whereby truly transformative learning can occur” (p. 179). The course design sought to enable students’ engagement through what Merzirow (1997) defines as “recognising frames of reference and using their imaginations to redefine problems from a different perspective” (p.10). The assessment design and delivery was supported by the detailing of explicit assessment criteria through rubrics.

The course design introduced a semi-structured approach to support reflective practice. Students’ reflections were scaffolded as they were supported to make links between theory and professional practice. The approach focused on professional and personal identity, with students viewed as co-creators of knowledge. Students’ critical reflections relate to discursive contexts, the professional practice contexts provided through discussions led by the industry mentors.
Constructivism, as defined by Biggs, (1996) underpinned the course design. First, students were supported to construct meaning through the process of engaging with industry mentors and reflection. Secondly, the intended learning outcomes were developed to encompass the development of students’ knowledge and skills and create learning experiences whereby students could apply their developed knowledge and skills to practise. The learning activities and assessment tasks were explicitly aligned with the intended learning outcomes, supported by formative assessment. The authors present and analyse students' reflections on professional practice and their perceptions about their profession and the degree to which they deepened their critical understandings of the practice of Project Management. The following Course Learning Outcomes were fostered and assessed:

- Identify how the nature of an industry sector determines the approach required for effective project management
- Critically reflect on and examine project management practice across diverse industry sectors

METHODS

Students were encouraged to choose an industry in which they were interested, with a view to possible employment upon graduation. Industry mentors who participated in the pilot represented a range of industries including construction, consulting, health, infrastructure/building, international development, mining, museums, rail, telecommunications and banking. Students were allocated an industry mentor and also attended nine lectures whereby industry-based practitioners gave an overview of their industry and the project management methods practiced in that industry. Following each lecture, students were required to reflect on their learning and the profession. Students were provided with prompts to guide these reflections, and support reflective practice rather than description. Criterion reference assessment was used through rubrics. The established criteria were (1) Demonstrated understanding of lecture content, and its application to professional practice; (2) Clear expression and articulation of thoughts and ideas. Ideas and perspectives are logically organised; and (3) Reflection on your own thoughts, beliefs and assumptions and how these can impact on your professional practice. Reflections were in written format and were submitted online.

The following results focus on the tenth and final reflection whereby students reflected on their learning over the entire semester. Students were encouraged to review their previous reflections in the development of their final reflection. Two questions provided by the teacher were considered by students: (1) What was the one key piece of information that has had the biggest impact on you?; and (2) How did the information presented to you during the semester alter your perception of project management?. Responses from 22 students were captured and analysed using thematic analysis.

RESULTS

The table below lists the themes which were identified through analysis of the students' journals. Ten themes were identified through thematic analysis, and are summarised in Table 1.

<table>
<thead>
<tr>
<th>Theme</th>
<th>Frequency</th>
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<tbody>
<tr>
<td>1. Applicability of project management skills and knowledge to multiple industries</td>
<td>7 (32%)</td>
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<tr>
<td>2. Raised awareness of other industries in which project management is practised has created new career aspirations and possibilities</td>
<td>4 (18%)</td>
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<td>3. The importance of having a mentor as a means of ongoing professional development</td>
<td>4 (18%)</td>
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<td>4. Anything is achievable through hard work</td>
<td>1 (4.5%)</td>
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<td>5. Requirement of organisations' to continually adapt to remain competitive</td>
<td>1 (4.5%)</td>
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<tr>
<td>6. Commonality of project based challenges across industries</td>
<td>1 (4.5%)</td>
</tr>
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<td>7. Requirement of project managers to have a degree in project management</td>
<td>1 (4.5%)</td>
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<td>8. Incorporating ethics into professional practice</td>
<td>1 (4.5%)</td>
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<td>9. Project manager must be proficient in contract management</td>
<td>1 (4.5%)</td>
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<td>10. Content knowledge and expertise in the industry in which the project manager is practising</td>
<td>1 (4.5%)</td>
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Students reflected on how their industry mentor-led sessions altered their perception of project management. Some students raised more than one theme therefore the total frequency equals more than 100. Seven themes were identified through thematic analysis, and are outlined in Table 2.

### TABLE 2. Altered perception of Project Management

<table>
<thead>
<tr>
<th>Theme</th>
<th>Frequency</th>
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<tr>
<td>1. Raised awareness of other industries in which project management is practised has created new career aspirations and possibilities</td>
<td>14 (64%)</td>
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<tr>
<td>2. Applicability of project management skills and knowledge to multiple industries</td>
<td>10 (45%)</td>
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<tr>
<td>3. Expanded understanding and clarity of the practice and role of a project manager</td>
<td>7 (32%)</td>
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<tr>
<td>4. While project management skills are generic, there are nuances between industries and this is demonstrated in specific skill sets and knowledge.</td>
<td>3 (14%)</td>
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<td>5. Application of project management skills to life</td>
<td>1 (4%)</td>
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<tr>
<td>6. Reassurance that the program is relevant to industry and will lead to graduate positions</td>
<td>1 (4%)</td>
</tr>
<tr>
<td>7. Requirement of project managers to have excellent communications skills</td>
<td>1 (4%)</td>
</tr>
</tbody>
</table>

### DISCUSSION AND CONCLUSIONS

The Project Management course was designed to enable students to engage actively with new ideas and knowledge shared by their industry mentors. Students were supported through their reflective journals to make sense of these new ideas according to what they already know or have experienced, and to theorise about this knowledge in relation to their own experiences and perspectives. Students analysed new concepts in relation to broader social, cultural and historical contexts. The teacher played a pivotal role in developing learning that included reflective practice. This evidences that students were successful in reflecting on professional practice and it is this process which supports the integration of learning and work.

The role of mentors was vital to ensuring student engagement with real life practice, which could be integrated with the disciplinary body of knowledge. Understanding and being exposed to the industry perspective of expectations and ethical standards supports work readiness. As Aggert & Busby (2011) identify, it is also important that students develop a clear understanding of careers, roles and professional settings and standards.

As the literature makes explicit, reflective practice creates the opportunity for students to integrate theory and practice, and to importantly make sense of their experiences (Higgins, 2011; Peach & Gamble, 2011; Smith, 2011). In this way, reflective practice enables students to think more critically and deeply about the skills and knowledge they have acquired by fostering students’ sense of professional identity. Critical reflection encourages students to be willing and able to question, explore and critique ways of behaving and thinking as they engage in workplace experiences (Higgins, 2011) and into the future. Consequently, the student is better able to understand and gain insights into his/her skills, competencies and knowledge. The use of critical reflection in cooperative education increases the chances of the learning being relevant and meaningful to the student.

Students’ engagement in reflection assisted them to make sense of themselves, their learning experience and supported preparation for future practice. Analysis of students’ perceptions:

- Evidence a developing professional identity
- Emphasise the importance of linkages between theory and practice, and of providing authentic learning experiences
- Illustrate that students conceptualised the profession of Project Management and the discipline in its broader industry context
- Affirm that students deepened their critical understandings of the complex nature of the profession and professional practice
- Contributes to transfer of learning from university to the workplace
- Fosters students’ career aspirations and goal setting
- Enhance employability and marketability
• Enhance understanding of what work in industry entails and the industry context- the nature of professional practice, industry needs and drivers, external market forces and impact

From the teacher perspective, the curriculum intervention resulted in enhanced student engagement as evidenced through student formal and informal feedback, including Course Experience Survey (CES) data. The CES is administered to support academic and teaching staff to obtain feedback about their courses and contribute to the improvement of student learning. Students were actively engaged in the process of reviewing and reflecting on their learning, and critical and reflective insights and perspectives were identified through the student journals. Students’ grades evidenced enhanced quality learning. Sixty-five percent of students received a credit grade or higher. This evidences that students were successful in reflecting on professional practice and it is this process which supports the integration of learning and work. The journals evidenced for the teacher, deepened understandings of students’ developmental learning, and the ways in which students integrated their learning and future professional practice.

Our findings will inform the future pilot of this WIL course, and have implications for teaching within the wider discipline of Project Management and the wider context of undergraduate education. Findings indicate that enhancing students’ capacity for self-reflection supported work readiness, as students engaged critically with the profession of Project Management through interactions with mentors. In doing so, the quality of learning and teaching was also enriched. Findings from the study reinforce the importance of reflective practice in preparing students for their future work.

REFERENCES


