PLEASE DO NOT REMOVE THIS PAGE

Developing students' employability in work placements

Margaret Jollands [a], Wageeh Boles[b] and J. Fiona Peterson[a]
RMIT University[a], Queensland University of Technology[b]
Corresponding Author Email: Margaret.jollands@rmit.edu.au

Abstract

SESSION C1: Integration of theory and practice in the learning and teaching process

CONTEXT Employer feedback consistently reports gaps in graduate professional capabilities. Developing graduates' work readiness is a goal of growing importance in the tertiary sector. Institutions are embedding curriculum and co- and extra-curricular activities to better develop student employability capabilities. While work placements are widely viewed as the best way to develop employability, employability learning activities in the curriculum can augment experiential learning.

PURPOSE The aim of this study was to explore the question

> *What preparation can develop student communication, networking and reflection skills before undertaking an engineering work placement?*

APPROACH A number of frameworks were used to guide development of new curriculum for employability. Eyler's reflective practice framework was used to enhance learning from experience, and an affordance model framework was used to scaffold learning, to prioritize learning during workshops to higher order skill development. A cultural values framework was used to guide learning about workplace culture.

RESULTS A workshop was developed for students looking for a placement that focuses on the application, networking and interviewing. A second workshop was developed for students who had already sourced a placement that focuses on key workplace learning opportunities: meetings, networking and reflection on experience.

CONCLUSIONS Well designed workshops can be an effective way to enhance student learning. Evaluation of outcomes and impact of the teaching innovation in employability lag interventions by several years, so longitudinal studies need to be carried out for a full evaluation.

KEYWORDS Work readiness, work placement, reflective practice.

Introduction

Many higher education institutions nationally and internationally have a strong focus on developing graduates' work readiness. The UK tertiary sector has made employability a key priority for the decade: "Embedding employability into the core of higher education will continue to be a key priority of Government, universities and colleges, and employers" (HEFCE, 2011, p5). The UK's Higher Education Academy (HEA) has responded by developing a framework to assist institutions develop employability in their graduates, through a process of building local ownership and implementing local solutions (Tibby and Cole, 2014), which has been used in 37 UK HE institutions to date. A key stage of the framework is to identify the right balance of curriculum, co-curricular activity, or extra-curricular activities for the institution. RMIT University's strategic plans focus on developing employability capabilities in all students prior to graduation through curriculum and co-curricular activities.

There is broad consensus that the extra-curricular activity work experience in the discipline field is the best way to develop graduates' employability (Orrell, 2011), although outcomes from work placements can be highly variable (Smith, Ferns, Russell and Cretchley, 2014) and demand exceeds supply (AWPA, 2013). A twelve-week engineering work placement is recommended by Engineers Australia (EA) as the gold standard for development of work ready capabilities, but EA now emphasize that it is not compulsory. They recognize that there are insufficient placements, as well as a variety of effective pathways to developing engineering competencies (I.Wood 2017, pers.comm., 20 Sept 2017). This supports the current HE focus on curricular and co-curricular activities to complement or substitute extra-curricular work experience.

The RMIT School of Engineering was formed from three former discipline engineering schools in 2016. In each former school development of students' employability skills relied heavily on a twelve-week engineering work placement. A new School wide elective course was designed in 2017 to replace each former schools' core work placement courses. The opportunity was taken to introduce scaffolding and capability development into the new elective course, to enhance student learning while on placement.

Eyler's reflection map framework was used to design the experiential learning WIL module. Eyler's framework systematically fosters individual reflection before, during and after a work placement. Self reflection is moderated through the lens of peer and supervisor interactions (Eyler, 2001). Pre- and post-placement workshops are run and during the placement students reflect, network with their peers, and correspond regularly with a university supervisor.

The concept of learning affordances was used to extend Eyler's framework to scaffold learning for employability. Affordance theory emphasizes the relational nature of use of materials, tools and technology in instructional design (Gibson, 1979; Evans et al., 2017). It focuses attention on increasing sophistication of capability level, from functional through perceived to contextual (Best, 2009). An affordances framework can be used to devise scaffolded learning activities to challenge perceptions of students and contrast contextual nuances (Fray, Pond and Peterson, 2017). Best's study of digital technology users defined three levels of affordance that are used in this study – functional, perceived and contextual (Best, 2009). Best also defined a maintenance affordance. However, significant advances of reliability in digital devices makes this much less of an everyday issue, hence this category may now be considered obsolete.

Hofstede's cultural values framework was used to incorporate socio-cultural learning for employability. The framework situates cross-cultural communication in terms of dimensions of individualism-collectivism, power-distance, uncertainty avoidance, masculinity-femininity, and long- versus short-term orientation (Hofstede, 1986). Organizational culture is seen through the lens of organizational practices distinguished by focus on process vs results; people vs. task; parochial vs. professional; open vs closed system; loose vs. tight control; procedures vs. market-driven (Hofstede, 1998). A deeper understanding of influence of societal culture as well as company culture on organizational practices will enhance graduate success in the workplace in an increasingly globalized economy. A practical application of Hofstede's framework is for students to undertake an ethnography of communication in situated learning. While participating in a company meeting, the student observes the behaviour of members of the company, to become "acquainted with the tasks, vocabulary, and organizing principles of the community", enabling their more rapid enculturation (Zhu and Bargiela-Chiappini, 2013, p.384). The observation task also contrasts their expert knowledge of their own culture (emic) with their novice knowledge of the company's culture (etic), facilitating their awareness of the need to adjust their own behaviour (Zhu and Bargiela-Chiappini, 2013).

This paper reports on design of WIL module workshops. The student's learning outcomes on placement are dependent on many aspects, such as project design and supervision quality as well as their personal knowledge, skills and attributes. While each student has his or her individual strengths and weaknesses, employer feedback continues to indicate gaps in graduate professional skills and emotional intelligence (Jollands, Clarke, Grando et al., 2015). The capabilities foci of training for students looking for work, or about to go on placement, are communication, networking, and interview and reflection capabilities. This paper outlines the theoretical basis for the curriculum design and identifies the evaluation approach that will be reported in future publications.

Curriculum Design

The WIL module workshop described in this paper was designed using a reflection map framework (Eyler, 2001) and learning was scaffolded using an affordance model (Best, 2009). Socio-cultural communication capabilities were developed using ethnographic observation using a cultural values framework (Zhu and Bargiela-Chiappini, 2013). The workshop aims to build students' knowledge, understanding, skills and confidence in communication, networking and reflective practice.

Eyler (2002 p.517) described the link between learning and community placements as

> programs which thoroughly integrate service and academic learning through continuous reflection promote development of the knowledge, skills, and cognitive capacities necessary for students to deal effectively with the complex social issues that challenge citizens.

Students undertaking work placements learn more from their placements if they reflect on their experience during their placement. Reflective practice is noted as a key capability in many professions. In engineering, many studies have reported on the benefits of reflective practice in design (Buccarelli, 1984; Blockley, 1999). In the health sector its contribution is described as "to learn effectively from one's experience is critical in developing and maintaining competence across a practice lifetime" (Mann, Gordon and McLeod, 2009, p.596). In teacher training, reflective practice has long been recognised as beneficial for teachers' learning (Roberts, 2009). However, little has been written about reflective practice for STEM discipline placements. The authors posit reflective practice will also enhance engineering undergraduates' workplace learning, which in turn will enhance their employability.

The concept of learning affordances used to scaffold the employability curriculum was based on Best's framework where

- Functional affordance is the experience of being able to use materials, tools or technology to accomplish a task.

- Perceived affordance is the experience of being able to get materials, tools or technology to do what the student wants.

- Contextual affordance is the experience of being able to integrate materials, tools and technology comfortably and profitably within the student's life.

Hofstede's cultural values framework was used to develop learning activities around cross-cultural communication (Hofstede, 1986) and organizational culture (Hofstede, 1998). The framework was used to construct an analytical rubric for students to record observations of work place meetings. Corporate and industrial workplaces in the 21st century are increasingly described as 'global' (Mohanty and Dash, 2016). We argue that a deeper understanding of influence of societal culture as well as company culture on organizational practices will enhance graduate success in a more globalized workplace.

The design of assessments will foster development of both employability attitudes and skills. This will be achieved through reflection on behaviour, as attitudes cannot be directly measured. Although they influence behaviour, "attitudes cannot be directly observed; they must be inferred through a person's various actions or pronouncements" (Willits, Theodori and Luloff, 2016, p.128).

The WIL module evaluation framework and validity of study results will be described in a future publication.

WIL Module participants and workshop description

The three-hour Workshop 1 described in Table 1 is a core module for 3rd year students who have had no engineering work experience. It is scheduled in Week 7 of a 12-week semester. Its aim is to enhance the students' ability to find summer vacation engineering work. Its focus is on careers and job hunting skills. It uses the affordance model to scaffold capability development.

The functional affordance level (F) is supported by activities completed by the students before the workshop. Participants must undertake research prior to the workshop and bring with them a current job advertisement, a current cover letter and resume, a near-future networking event, and a set of interview questions.

The workshop focuses on the perceived (P) and contextual (C) affordance level for each capability. Small group discussion or work in pairs is used to draw on students' prior knowledge of the perceived affordance level, and short presentations cover the contextual affordance level.

Table 1: Workshop 1 Looking for a placement

Capability	Affordance scaffold for learning outcomes
Communication	F Write a generic cover letter and CV
	P Articulate strengths using STAR (for cover letter, CV)
	C Write a cover letter targeted at a specific company
Networking	F Identify networking opportunities, top 5 companies
	P Prepare to engage at networking event (career objective)
	C Target events where your top 5 companies are likely to attend
Interview	F Be able to answer a range of standard interview questions
	P Be confident to dress right, and answer a range of behavioural

	questions
	C Elaborate on strengths relevant to the role with a variety of STAR examples

Learning is integrated through self-reflection activities, when students draft elements of their career plan using a plan template. Reporting back to the whole group is used to share ideas from the self-reflection. Adults hone their reflective capabilities most effectively through collaboration and sharing with others (Gray, 2007; Helyer, 2015).

The four-hour Workshop 2 described in Table 2 is a core module for BEng students who have been successful in sourcing engineering work placements for the summer. The course learning outcomes map onto the Engineers Australia Stage 1 competencies (Engineers Australia, 2017). The students enrol in the 12 CP course then participate in the preparation workshop prior to starting their placement. Multiple offerings are scheduled to cater for the approximately 500 students who start their placements at different points over the summer. On-line interactive video materials are available for those who are unable to attend.

Table 2: Workshop 2 Preparation for a placement

Capability	Affordance scaffold for learning outcomes
Communication	F Communicate with appropriate language and tone and relevant contributions in workplace meetings
	P Perceive cultural differences in communication – such as international cultural dimensions and interorganisational cultural dimensions
	C Adapt your communication style to fit with organisational culture
Networking	F Identify valuable intra-organisational networking opportunities
	P Engage effectively with colleagues at networking event
	C Target key intra-organisational events, develop an engaging elevator pitch
Reflection	F Reflect on own behaviour in dealing with a workplace issue
	P Perceive processes, relationships, organizational structures, practices, and any larger social, political and ethical issues that contributed to the issue
	C. Identified feasible strategies for you to bring about a better outcome in this specific context

The same approach to workshop pre-work and activities is taken as for Workshop 1. Each student is required to bring the cover letter and resume that they used to gain their current position, a list of network opportunities they might attend during their placement, and a reflection on their own role in a group work issue.

The workshop then focuses on the perceived and contextual affordance level for each capability. Students work in pairs, drawing on their prior knowledge, to articulate the perceived affordance level of communication capabilities. Working in pairs may also reveal to the students the benefits of peer-to-peer mentoring. Short presentations cover the contextual affordance level. Learning outcomes are again integrated through self-reflection activities. Students start to prepare for the assessments they will complete during the placement using a workshop work book. Reporting back to the whole group is used to share ideas from the self-reflection.

Assessment during the placement will focus on communication, networking and reflection capabilities. For communication, each student will observe behaviour in a company meeting. They will reflect on their own values (emic), and contrast this with the company's culture

(etic), facilitating their awareness of the need to adjust their own behaviour to fit in (Zhu and Bargiela-Chiappini, 2013). For networking, each student will attend a company or external networking event. They will research the event, plan an approach and reflect on the outcomes. For reflection, each student will describe a current issue, the contribution of co-workers and organisational structure to the issue, and identify strategies that might bring about a better outcome in future.

Further Work

The teaching innovation will be evaluated using a mixed methods approach after the first workshop sessions scheduled for November 2017.

Students' self-reported capability level will be measured pre- and post-workshop by survey. Their perceptions of their capability level will be explored through focus groups.

Quantitative data will also be collected. Data on how many students are successful finding a work placement will be collected in 2018 as well as data on employment outcomes for the same cohort in 2020. A positive trend in the employment rates for this cohort compared to national trends would suggest the workshops are beneficial. There are a number of confounding factors that will also need to be taken into account, such as, the change from compulsory to elective work experience.

A continuing issue for innovations in employability capability development is the very long lag in data availability: the current 3rd year cohort will graduate in 2018, and the Graduate Outcomes Survey employment outcome data will be available only in mid 2020. Alternative methods of collecting employment outcomes sooner may be utilized, such as interrogation of LinkedIn profiles of alumni. LinkedIn profiles are also a rich source of data, as in addition to employment status, the employment sector can be ascertained.

Conclusions

Employer feedback consistently reports gaps in graduate professional capabilities. Developing graduates' work readiness is a goal of growing importance in the tertiary sector. Institutions are embedding their own distinct blend of curriculum and co- and extracurricular activities. While work placements are widely viewed as the best way to develop employability, embedding employability teaching and learning in the curriculum can augment experiential learning. Various frameworks can be used to guide development of new curriculum for employability. Reflective practice is a key to enhanced learning from experience, while the affordance framework allows scaffolding of learning in a systematic way, so workshop time can be prioritized to higher order capability development. A cultural values framework is useful to guide learning about company culture and its impact on communication. Well designed workshops can be an effective way to enhance student learning. A workshop before students apply for work focuses on job seeking skills. A workshop before students start their placement focuses on key workplace learning opportunities: meetings, networking and reflection on experience. Evaluation of outcomes and impact of the teaching innovation will be carried out over the next three years and reported in future publications.

References

Australian Workforce and Productivity Agency. (2013). Future focus: 2013 National Workforce Development Strategy, AWPA. Retrieved Dec 13, 2014, from <http://www.awpa.gov.au/ourwork/Workforce%20development/national-workforce-development-strategy/Pages/default.aspx>.

Best, K. (2009). INVALID COMMAND: Affordances, ICTs and user control. *Information, Communication & Society*, 12(7), 1015-1040.

Engineers Australia (2017). Stage 1 Competency Standard: Professional Engineer. Retrieved Sept 26, 2017, from: https://www.engineersaustralia.org.au/resource-centre/resource/stage-1-competency-standard-professional-engineer

Eyler, J. (2001). Creating your reflection map. *New directions for higher education*, *2001*(114), 35-43.

Eyler, J. (2002). Reflection: Linking service and learning—Linking students and communities. *Journal of Social Issues*, *58*(3), 517-534.

Fray, P., Pond, P., & Peterson, J. F. (2017). Digital work practices: Matching learning strategies to future employment. In Proceedings of the Australia and New Zealand Communication Association (ANZCA) Conference, "Communication Worlds: Access, Voice, Diversity, Engagement", The University of Sydney, July 4-7.

Gray, D. E. (2007). Facilitating management learning: Developing critical reflection through reflective tools. *Management Learning*, *38*(5), 495-517.

HEFCE (2011) Opportunity, choice and excellence in higher education. Bristol: HEFCE. Retrieved Sept 26, 2017, from: http://www.hefce.ac.uk/media/hefce/content/about/How,we,operate/Corporate,planning/Strategy,statement/HEFCEstrategystatement.pdf

Helyer, R. (2015). Learning through reflection: the critical role of reflection in work-based learning (WBL). *Journal of Work-Applied Management*, *7*(1), 15-27.

Hofstede, G. (1986). Cultural differences in teaching and learning. *International Journal of Intercultural Relations*, *10*(3), 301-320.

Hofstede, G. (1998). Attitudes, values and organizational culture: Disentangling the concepts. *Organization studies*, *19*(3), 477-493.

Jollands, M., Clarke, B., Grando, D., Hamilton, M., Smith, J., Xenos, S., Carbone, A., Burton, L., Brodie, M., & Pocknee, C. (2015). *Developing graduate employability through partnerships with industry and professional associations.* Strawberry Hills: Australian Government Office for Learning and Teaching.

Mann, K., Gordon, J., & MacLeod, A. (2009). Reflection and reflective practice in health professions education: a systematic review. *Advances in health sciences education*, *14*, 595–621.

Mohanty, A., & Dash, D. (2016). Engineering Education in India: Preparation of Professional Engineering Educators. *Journal of Human Resource and Sustainability Studies, 10*(5), 92-101.

Roberts, A. (2009). Encouraging reflective practice in periods of professional workplace experience: the development of a conceptual model. *Reflective Practice, 10*(5),633-644.

Willits, F. K., Theodori, G. L., & Luloff, A. E. (2016). Another look at Likert Scales. *Journal of Rural Social Sciences. 31*(3), 126-139.

Zhu, Y., & Bargiela-Chiappini, F. (2013). Balancing emic and etic: Situated learning and ethnography of communication in cross-cultural management education. *Academy of Management Learning & Education, 12*(3), 380-395.

Acknowledgements