Campus-based work-integrated learning: Opportunities for Health Education

Natalie Gamble  
Faculty of Health Sciences, Australian Catholic University  
Stephen Guinea  
Faculty of Health Sciences, Australian Catholic University  
Paula Williams  
Faculty of Health Sciences, Australian Catholic University

Work-integrated learning has long been a substantive component of undergraduate Health education, but in the current higher education environment, universities are under pressure to provide students with equivalent experiences using alternative learning and teaching paradigms. Increasing student enrolment numbers has seen greater competition for already limited practicum opportunities, and in some instances has seen universities reduce the number of hours of practicum that they are able to provide per student. Hence, the quality and the breadth of learning experiences students are exposed to can be impacted. Given the value and the outcomes that are attached to on-the-job learning, the repercussions for Health students can be significant.

To counter a potential reduction in the availability and duration of supervised placements, and to further boost the work-readiness of graduates from the Faculty of Health Sciences, Australian Catholic University has endeavoured to bring aspects of the workplace into the classroom, developing a number of pedagogies, experiences and exercises for students across a range of disciplines that foster the development of practical skills.

Through online surveys, staff and student focus groups, and formal unit evaluations, the effectiveness of some of these pedagogies has been appraised.

This paper outlines and evaluates data from some of these campus-based work-integrated learning pedagogies, including inquiry-based learning, simulated patients, and simulated experiential learning. It overviews pedagogies for the classroom, the laboratory, and outdoor settings used in disciplines including Nursing, Midwifery, Paramedicine, Physiotherapy, and Exercise Science. Strategies that encompass future approaches to campus-based work-integrated learning are also discussed, including the virtual clinical skills centre, and campus-based interdisciplinary clinics.

Keywords: simulation-based learning, inquiry-based learning, standardised patients, simulated patients

Background/Context

In response to the Australian Review of Higher Education (Bradley, Noonan, Nugent, & Scales, 2008), Australian universities have made efforts to boost student access and participation, resulting in increased student enrolments in most programs (Shah & Nair, 2011). The implications of this are far-reaching, and include an increasingly diverse student population (Daniel, Stoneman, & Greening, 2011), and a renewed emphasis on the student experience. For undergraduate Health programs, where work-integrated learning is a mandatory and significant component of student learning, there is increasing competition for already limited practicum opportunities (Bourgeois, Drayton, & Brown, 2011), meaning universities need to find alternatives to equip their students with hands-on skills and capabilities. Research also indicates that workplaces expect undergraduate students to actively participate in WIL experiences, and to bridge the theory-practice nexus during clinical placement (Lave & Wenger, 1991; Newton, Billett, Jolly, & Ockerby, 2011).

Health education relies on skill acquisition in practice to develop competencies, capabilities, and professional identity (Levett-Jones, Gersbach, Arthur, & Roche, 2011; Severinson & Sand, 2010), with medical education originating from the ‘apprenticeship model’ (Brooks, 2009), and nursing and paramedic education evolving from vocational programs (Russell, 1990; B. Williams, Onsman, & Brown, 2010). However, increasing student enrolments means there are fewer hours of practicum available per student, as clinical environments are unable to offer increasing placement opportunities to match student growth. Consequently, there is less opportunity for each student to develop professional competence in the field.

To ensure that graduates from Health programs are equipped with the same skills and abilities as their predecessors, universities are looking to alternate learning and teaching strategies in order to provide students with exposure to a range of experiences, and to provide quality student learning outcomes.
One option is on-campus work-integrated learning. The WIL Report (Patrick et al., 2008, p. v) defines work-integrated learning as ‘an umbrella term used for a range of approaches and strategies that integrate theory with the practice of work’, and Australian Catholic University (ACU) is working with a number of pedagogical approaches that bring the realities of the workplace into the classroom (see Flowers & Gamble, 2012; P. Williams, Wong, Webb, & Borbasi, 2011, for example). Employers expect that graduates will be work-ready (Precision Consultancy, 2007), and universities are obligated to provide students with experiences that prepare them for what they will encounter.

**Method**

This paper draws on a number of methodologies developed to evaluate diverse pedagogies designed to facilitate skill development in undergraduate Health students. The studies utilised interviews, online surveys, focus groups, and formal unit evaluations (see Table 1). It should be noted that at least one of the authors of the present paper was involved with each of the studies included – the paper presents the overall results of a range of studies conducted within the Faculty of Health Sciences at ACU.

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**Results/Discussion**

ACU has intentionally incorporated a number of campus-based work-integrated learning pedagogies to address a range of issues, including:

- Improved preparation of students prior to the commencement of practicum experiences (as distinct from replacing clinical practicum with simulation);
- The provision of exposure to increasingly diverse experiences, focusing on commonplace experiences in the workplace, with some attention to rare events; and
- Reduced practicum hours for students from a range of disciplines.

The effects of some of these pedagogies are discussed in detail below.

**Inquiry-based Learning**

Inquiry-based learning (IBL) involves students in activities that replicate the real world by encouraging them to draw on problem-solving skills and to solve health-related issues through a process of inquiry. It has been purposefully developed to facilitate the acquisition of critical thinking, teamwork, communication, and planning and organising skills. Inquiry-based learning is derived from problem-based learning pedagogies, and the two teaching approaches share some common features (Bebb & Pittam, 2004; Wozniak, Mahony, Everingham, Poulos, & Reid, 2005), with learners working together in groups to problem-solve a healthcare issue or scenario, with individual group members taking responsibility for the identification of issues and the collection of information. However, IBL differs in the sense that it begins with the presentation of a question, and not with a problem (Feletti, 1993). Additionally, IBL is more flexible, and can be used more readily in a variety of contexts (Wozniak, et al., 2005).

A recent survey of students enrolled in IBL units and their tutorial facilitators found that staff consistently rated themselves higher than students with respect to their group and inquiry facilitation skills, which may be
attributed to the ‘newness’ of this student-centred learning approach (Flowers & Gamble, 2012). Additionally, formal unit evaluations demonstrated that students could see the relevance of the IBL units, and that they enjoyed their learning experience.

**Experiential learning**

To capture the experience of workplace learning, the School of Physiotherapy at ACU has responded to anecdotal feedback from clinical partners to better prepare undergraduate physiotherapy students with generic skills required for the collection of client-related assessment data. Through careful curriculum design, undergraduate physiotherapy students experience the reality of making meaning of data retrieved from clients (simulated patients) and mock-case notes in real time. Through conscientious replication of the physical practice environment and of the ways in which clinicians use such practice environments, these students experience the realities of hands-on practice in a simulated clinic environment.

Students enrolled in the Bachelor of Paramedicine also have the opportunity to undertake experiential learning in the field, with an authentic search-and-retrieve experience staged in the wilderness. Students were called to the Diggers’ Trail in Wombat State Forest to rescue a staged mannequin from difficult terrain, and were required to use navigation tools to locate the mannequin. The scenario was derived from actual cases attended by Ambulance Victoria paramedics. The exercise was the first of its kind in paramedic education, with undergraduate students participating alongside staff from Ambulance Victoria, Victoria Police, the Australian Army and ACU. Ambulance Victoria reviewed the outcomes of the exercise and indicated support for the Digger’s Trail exercise. The wilderness medicine and navigation components were considered extremely valuable and an important extension of current paramedic education.

**Simulated patients**

Simulated patients are invaluable in bringing the workplace into the ACU Faculty of Health Sciences through role-play, paid actors and High Fidelity Silicone Mask Patient Simulation (HFSMPS). A simulated patient is defined by Chuchouse and McCaffrey (in press) as a person who takes on a role whether this is scripted or improvised, but is usually bound by the learning objectives of the designed simulation.

**Role play**

ACU’s School of Physiotherapy employs the technique of role-play to facilitate students’ learning to assess a person who has experienced stroke. Physiotherapy students acting in the simulated patient role receive a detailed script and relevant clinical documentation. Scripts are generic themes and behaviours rather than prescriptive statements to encourage a more natural progression of the assessment encounter.

A more integrated approach to the use of simulated patients involves prudent curriculum design incorporating learning objects, and simulated patients in the context of assessment of the person who has experienced stroke. Here, third year undergraduate physiotherapy students witness an expert physiotherapist performing a complete stroke assessment on a client via video, then participate in a 90-minute simulation-based assessment of a person who has experienced a stroke (where the client is a simulated patient) and the completion of a workbook specifically designed for this client’s profile. This learning experience culminates in a specific pre-clinical stroke assessment clinic visit where students employ their skills in comprehensive stroke assessment prior to commencing full clinical practicum.

**High-Fidelity Silicone Mask Patient Simulation (HFSMPS)**

In 2011, the School of Nursing, Midwifery and Paramedicine introduced High Fidelity Silicone Mask Patient Simulation (HFSMPS), a form of actor-based simulation which seeks to overcome the concern of participants seeing the actor rather than the patient by being able to “mask” the actor. Silicone patient simulation has been found to exhibit a high level of realism (Reid-Searl, Eaton, Vieth, & Happell, 2011) and when combined with effective scenario design and operator skill, enables the achievement of learning outcomes through a means not previously achievable at ACU.

**Standardised patients**

The School of Physiotherapy provides learners with real world experiences of health assessment by engaging with local community members in the form of standardised patients. Although considered a form of performance-based simulation, standardised patients differ from simulated patients insofar as standardised patients are members of the community who do not take on a role, play a part or act in any way as anyone but
themselves (Churchouse & McCafferty, in press). Undergraduate physiotherapy students are confronted with the challenges of clinical practice by being required to conduct a holistic assessment on a member of the community with real and existing co-morbidities. Authenticity is reinforced through actual patient documentation and completion of skill in a realistic time frame.

**Future Directions**

ACU is endeavouring to bring the realities of the workplace into the classroom using a range of simulated experiences that replicate the real world. The university is keen to provide students with opportunities to develop skills and capabilities in authentic learning environments, and for students to understand the relevance of those skills. Through campus-based work-integrated learning, it is anticipated that students will acquire some of the knowledge and capabilities traditionally associated with practicum, augmenting the practicum experience. This paper is not arguing for simulated learning to replace clinical hours – instead, through well-planned and carefully integrated simulated experiences, students will be better prepared for practicum, and will maximise their learning opportunities in the clinical environment.

Future directions for ACU include on-campus clinics, virtual clinical skills centres, and video-data overlay.

**References**


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