



ELSEVIER

Short Communication

Need a Simulation Technician? Try Your University's Engineering Internship Program

Michelle A. Kelly, PhD^{a,*}, Carolyn Hayes, BHSc^b,
Adrian Abdipranoto, BEng Dip Eng Prac (1st class hon)^c

^aAssociate Professor, Director: Community of Practice, School of Nursing, Midwifery and Paramedicine, Curtin University, Perth, Australia

^bManager, Simulation and Laboratories, Faculty of Health, University of Technology Sydney, Ultimo, New South Wales, Australia

^cSenior Simulation Technician, Faculty of Health, University of Technology Sydney, Ultimo, New South Wales, Australia

KEYWORDS

simulation technician;
engineering students;
engineering internship;
nursing

Abstract: Supporting the initiation and uptake of simulation-based learning in university or hospital settings requires strategising for human as well as equipment resources. If activities require use of highly technical simulation and audiovisual equipment, faculty may be reticent to engage with the learning strategies that rely on managing “complex” equipment. Sourcing technical support can be an expensive component of simulation business plans. An alternate source of technical support can be realised from undergraduate engineering students. Insights are shared about the initiation and current status of a symbiotic partnership between two university faculties to meet respective needs for workplace experience and simulation technical support.

Cite this article:

Kelly, M. A., Hayes, C., & Abdipranoto, A. (2017, June). Need a simulation technician? try your university's engineering internship program. *Clinical Simulation in Nursing*, 13(6), 245-248. <http://dx.doi.org/10.1016/j.ecns.2017.02.005>.

© 2017 International Nursing Association for Clinical Simulation and Learning. Published by Elsevier Inc. All rights reserved.

Building a program of simulation involves a multitude of considerations including adequate technical support for managing the audiovisual (AV) systems and high-fidelity equipment. Sourcing simulation technicians (SimTechs) can be challenging and expensive component of a business plan. Convincing management of the need for simulation technical support may not yield positive outcomes after the expense of fitting out facilities and purchasing equipment.

However, as Seropian, Brown, Gavilanes, and Driggers (2004a, 2004b) outlined in their early writings, appropriate support and staff development are essential investments for successful simulation initiatives. An alternate and perhaps more “affordable” option in sourcing technical support, which offers mutual benefit, was realised from serendipitous conversations between staff from two Faculties (Health and Engineering) at one Australian university.

Engineering students at the University of Technology Sydney are required to complete two internships during their combined Bachelor of Engineering/Diploma in Engineering Practice degree. The comprehensive program has

No funding or conflict of interest has been reported.

* Corresponding author: Michelle.Kelly@curtin.edu.au (M. A. Kelly).

eight major areas of study. The main study areas that aligned with health care simulation were the Mechanical and Mechatronics, Mechanical, or Computer Systems fields of practice. In 2009, the Faculty of Health joined the Engineering Industry Partnership Program to trial employ-

ment of students in their senior internship as a SimTech. This article outlines a successful strategy used at one Australian university over the last eight years, which has contributed to significant uptake of simulation based education across nursing and midwifery curricula and yielded tangible benefits for each faculty partner.

Key Points

- Partnerships with engineering internship programs can provide an affordable option when sourcing technical support for simulation.
- Simulation technicians facilitate rapid integration of new technology into existing and renewed infrastructures.
- Senior engineering students are offered the opportunity to undertake project work and contribute to research and publications.

programming, AV recording and management, and understanding robotics, desirable skills beyond the expected are sought. The ability of candidates to interact and communicate in nontechnical terms with faculty, laboratory staff, and other students was considered key to the success of the new role. Additional elements such as volunteer work and interest in music or languages became a secondary focus indicating potential applicants' ability to engage in other contexts. As senior engineering students approach the required capstone component at the end of their course, the possibility to undertake project work during this internship is also highlighted in the recruitment process. Following initial short listing, usually three to four applicants are interviewed by the director and laboratory manager for simulation and in subsequent semesters also the incumbent SimTech.

Support and Governance

Guidance, development, and oversight of the SimTech role was predominantly provided by the director for simulation (line manager) with input from the laboratory manager and faculty business manager. A role description evolved over time, based on the selection criteria and growing needs of the Faculty of Health whilst being mindful of the requirements for the engineering internship. Regular informal

meetings, initially between the director and SimTech, assisted with further defining the role expectations and to provide feedback and direction for the SimTech.

In order to support initial professional development of the undergraduate engineers, arrangements were made to network with a SimTech from a partner Simulation Centre at a nearby tertiary hospital. The hospital SimTech, who has a biomedical engineering background, provides additional support or guidance when required throughout the internships. This connection also served to strengthen existing relationships between the university- and hospital-based simulation centres resulting in a technical publication (reference withheld for blind peer review).

A handover process was initiated which has matured over time. Initially, a one-week handover between the incoming and outgoing SimTechs was agreed between management, staff, and the engineering students. In addition, the SimTechs developed a handover document that has evolved over the years to ensure that the growing responsibilities between the SimTechs, faculty staff, university departments, and external partners was clearly articulated.

As subsequent SimTechs filled the role, a community has formed through the use of social media (Facebook). Members of this private community can offer quick responses to queries from current interns based on the specific corporate knowledge accrued by prior interns. Comprehensive documentation specific to the numerous technical aspects of the role has been written to support the evolving corporate knowledge, and duplicate documentation is accessible through the closed portal. In addition, participation in ongoing research and other projects has afforded the SimTechs opportunities to contribute to further publications (coauthorship of this article, [Chen et al., 2016](#); [Kelly et al., 2012](#); [Power et al., 2016](#)).

In order to maintain a level of continuity in communications, a generic SimTech e-mail was set up for internal and external contacts. Processes were put in place to manage and prioritise workload in that initial requests for technical support were to be communicated through the director of simulation. The SimTechs are given opportunity to attend one relevant conference during their six-month internship, which consolidates their understanding of the wider health care simulation community activities and offers perspective regarding the university's own simulation initiatives. Links with health care simulation businesses have also strengthened over the period of the program.

In 2015, an additional full-time senior technician position was created in light of the faculty's growth, maturation, and range of simulation-based education offerings. This permanent position offered sustainability of developed knowledge, a pathway for the graduate engineers and a higher level of support for the continuing internship program. Professional development of the senior technician occurs through a higher level of participation in research and publication opportunities and agreed training programs

Download English Version:

<https://daneshyari.com/en/article/5567507>

Download Persian Version:

<https://daneshyari.com/article/5567507>

[Daneshyari.com](https://daneshyari.com)