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# **EDUCATION**

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A survey of undergraduate health science students' views on interprofessional education and the use of educational technology: Preliminary analyses and findings

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### **Abstract**

We report the preliminary findings of a project that sought the views of first year undergraduate health science students about interprofessional education (IPE) and how they perceived the interaction between different "professions" in the health care context. Students were also asked about the use of wireless keypads in undergraduate classroom learning environments and whether it suited their learning approaches. The aim of this study was to ascertain undergraduate health science student views on IPE and educational technology during the first year of their undergraduate course. The study used a pre-test post-test methodology investigating IPE perspectives and attitudes towards educational technology (wireless keypads). This paper will report on the initial pre-test results.

### Introduction

Students enrolled in university level health science programs are increasingly diverse in their background, ability, world view, technology use expertise, and life experience. It is therefore critical that health science university educators and clinical fieldwork supervisors develop innovative, engaging, timely, and strategic approaches to teaching and educating these students. As patient management and health care services become more multifaceted and multidisciplinary, effective teamwork between allied health professionals is essential to ensure high quality client care and cost effective service provision. It is recognised that the

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ability to respond to future health care needs is directly linked to the manner in which the next generation of health professionals are educated and socialized.<sup>1</sup>

There is increasing evidence that interprofessional education (IPE) promotes positive outcomes in health science student education and team building skills. In IPE, different health care disciplines come together to learn from and about each other in order to provide better quality health care.<sup>2</sup> Furthermore, the notion of IPE has been suggested to provide positive benefits including: compatible stereotypes, professional individuality, collaborative attitudes, improved client care, and improvement in respect and communication between professions.<sup>3,4</sup> IPE activities can take several forms and the use of technology can promote positive IPE outcomes. The purpose of this article is to report the findings of study investigating IPE perspectives and attitudes towards educational technology (wireless keypads).

### **Background**

Wireless keypads (colloquially known as wireless response systems, or electronic voting systems) are an interactive teaching and learning tools now commonly used in primary and secondary schools, technical colleges, and universities. The wireless keypads use radio-frequency transmitters and receivers that collect student responses and software capable of embedding into Microsoft PowerPoint<sup>5</sup> (Figure 1).



Figure 1. Wireless Keypad

In the Faculty of Medicine, Nursing and Health Sciences at Monash University, several different health science programs are offered. The use of Keypad technology was trialed with students from a number of these health care disciplines. The wireless keypads were strategically used during Semester 1, 2007 in weeks 2, 5, 6 and 13. The project involved students from the following disciplines: paramedics, nursing, midwifery, physiotherapy, occupational therapy, health science and social work. During the weeks when keypads were used, strategic questions were integrated into lecture slides, thereby allowing students from all disciplines to answer anonymously. Results were linked to health care professional groups. In other words, it allowed students to see results that were potentially based upon specific health care backgrounds. This situation was facilitated by teaching staff and led to further discussion, interaction, and discourse in subsequent lectures and tutorials.

### **Evaluation**

A cross-sectional survey methodology was used to ascertain the student views on IPE and educational technology. The self-report questionnaire used a 5-point Likert-Scale (1 being strongly disagree and 5 being strongly agree) that asked students to rate their attitudes of IPE and interdisciplinary healthcare, whether learning using IPE principles were considered advantageous, and if educational technology facilitated their learning opportunities. Additional data about each participant, consisting of their age group, course, and year of study being undertaken and whether the students had previously studied health science at a tertiary level was also collected. Approval for the study was granted by the Monash University

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Standing Committee on Ethics in Research Involving Humans. Participation in the study was voluntary. Inclusion criteria included being enrolled in a health science program at Monash University, and consenting to take part in the study. Surveys were distributed to 240 first students enrolled in paramedics, nursing, midwifery physiotherapy, occupational therapy, and health science/social work.

### **Outcomes**

The return rate for week one was 88% (n=210). The majority of students, n=157 (74%), were < 20 years of age, 169 (80%) were females and, 41 (20%) were males. Most students were enrolled in physiotherapy, n=57 (27%), followed by occupational therapy, n=52 (24%) and health science/social work, n=43, (20%). Over half of the students (57%) entered the undergraduate course directly from high school, with n=148 (70%) having not previously studied at university level.

Questions related to IPE yielded positive results. Almost 90% of students either agreed or strongly agreed that IPE should be part of the course education and training. Fifty-five percent of the first year students either agreed or strongly agreed that they have a good understanding of the roles and responsibilities of other healthcare professionals. Similarly, students also felt strongly that IPE would be advantageous to their education and training with (95%) either agreeing or strongly agreeing with this statement. Given that the students are enrolled in the first year of their professional education, this understanding is expected to evolve and become refined when they complete fieldwork education placements and gain proficient skills. Questions relating to educational technology also produced encouraging findings. Eighty-five percent of students felt educational technology offered them better ways of learning new material. Almost 9 out of 10 students (87%) felt using educational technology would be helpful to their individual learning needs.

Table 1. Descriptive results from week 1

	Mean	SD	CI
Interprofessional education should be part of	4.24/5	0.732	4.14-4.34
every health professional's education and training			
I have a good understanding of the roles and	3.50/5	0.778	3.39-3.61
responsibilities of other healthcare professionals			
Working with students from other healthcare	4.46/5	0.634	4.37-4.54
professions is advantageous to my development			
as a healthcare professional			
Using educational technology offers me better	4.10/5	0.745	3.99-4.20
ways of learning new material.			
Using technology is helpful to my learning	4.14/5	0.755	4.04-4.24

### What next?

Whilst these results are preliminary, they provide encouraging findings about student perceptions and satisfaction levels of IPE and the use of educational technology in teaching and education environments. Future investigation of additional data obtained during Semester 1, week 13 will be examined and whether educational technology such as wireless keypads can improve interprofessional learning experiences. Students, whilst first year undergraduates nevertheless strongly endorsed the use and integration of IPE and educational technology principles in their health-orientated education programs.

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