PREHOSPITAL CARE

The internationalisation of prehospital education: a merging of ideologies between Australia and the USA

B Williams, J Upchurch

Emerg Med J 2006;23:573–577. doi: 10.1136/emj.2005.030866

The aim of this project was to promote internationalisation of prehospital education collaboratively between students and teachers from EMS Education and Training, Montana, USA, and Monash University Centre for Ambulance and Paramedic Studies (MUCAPS), Victoria, Australia. The project required students and teachers to engage in a series of face to face lectures, which was reinforced through distance education strategies, such as online learning. The overall project aim was to establish an objective and descriptive view of the internationalisation of prehospital and community based emergency health education using e-learning as the educational approach. A cross sectional survey design using paper based evaluation was adopted in this project. Results revealed a positive student reaction, with flexible pedagogical processes broadening student learning and facilitating an international dimension otherwise not achievable. Given the current state of globalisation, internationalisation has the capacity to improve educational standards, quality, student interactions and specific learning outcomes in prehospital education.

- effectiveness of the teaching strategies,
- the impact on learning outcomes of students,
- students and staff satisfaction of the programme,
- costs/benefits within our respective curricula, and
- social and cultural exchange between the countries.

A literature review was undertaken by the authors using several databases: Medline, OVID, EMBASE, and the Cochrane Library. The following MeSH subject headings were used in the search: ambulance paramedic, EMS, EMT, education, international education exchange, internationality, internationalisation, paramedic, prehospital, and out-of-hospital.

The literature obtained through the databases centred on medicine, nursing, veterinary science, and non traditional medicine therapies. No literature on prehospital internationalisation was found.

This study comprised the introduction of a blended learning environment, which gave both the authors and the students the opportunity to participate in a pioneering attempt at internationalising prehospital education. In many ways this was a chance to examine some of the questions and criticisms centred at the e-learning concepts and to “test the waters” across cyber space. It is important to assess what benefits (or perhaps identify limitations), if any, existed for online education between two prehospital education providers in Australia and USA. This was also an opportunity to embrace the Monash University’s teaching and learning objectives, which include internationalisation as one of its defining themes.²

Informal discussions between educational colleagues in the USA soon developed into more formal negotiations. It was decided to undertake a project entitled “Internationalising Prehospital Education”, which utilised case based learning (CBL) as the guiding teaching methodology between EMS Education and Training students and MUCAPS second year undergraduate students enrolled in the Bachelor of Emergency Health-Paramedic (BEH-P) degree.

The two participating educational bodies are summarised below.

Informed by global trends and events, prehospital care and community based emergency healthcare workers are now increasingly being asked to reflect upon international situations and diverse cultural contexts. This project was an attempt at internationalising prehospital education between EMS Education and Training and Monash University Centre for Ambulance and Paramedic Studies (MUCAPS). By endeavouring to blend theories, research, clinical practice, and cultural diversity across two comparable emergency healthcare programmes in the USA and Australia, this project has attempted to internationalise prehospital education.

What is internationalisation? It is defined as:

“...the process of integrating an international dimension into the teaching/training, research, and service functions of a university or college or technical institute”.¹

In order to explore an approach to internationalisation, the objectives of the teaching and learning included:

See end of article for authors’ affiliations

Correspondence to:
Brett Williams, Lecturer,
Monash University, Centre
for Ambulance and
Paramedic Studies,
Melbourne, Australia;
brett.williams@med.monash.edu.au

Accepted for publication
26 March 2006

Abbreviations: BEH-P, Bachelor of Emergency Health-Paramedic; CBL, case based learning; MUCAPS, Monash University Centre for Ambulance and Paramedic Studies

EMS education and training

EMS Education and Training has been in operation since 1988 providing advanced level training to emergency medical technicians in Montana. A blended teaching approach is used to combine computer aided instruction with face to face instruction. The training programme is approved by the State of Montana. Instructors had always been volunteers until 2 years ago when non-profit status was obtained as EMS Education and Training. This support has allowed compensation to some instructors instead of depending totally on the kindness of volunteers. Graduates from the programme now practice in many rural/frontier areas in Montana, USA, which often provides the only available advanced field care.

Monash University Centre for Ambulance and Paramedic Studies

MUCAPS provides undergraduate and postgraduate courses to students currently working in or planning employment in ambulance service and community based emergency health settings. Students participating in this project are currently enrolled in the second year of a BEH-P degree. MUCAPS is a centre within the Faculty of Medicine, Nursing and Health Sciences, which comprises academic, technical, and administrative staff offering ambulance and paramedic studies. Other courses offered by the Faculty include Behavioural Neuroscience, Biomedical Science, Medicine, Nursing, Nutrition and Dietetics, Psychology, Radiology and Medical Imaging, and Social Work.

Educational framework: using WebCT

The learning management system used by Monash University is currently WebCT (Vista-version 3). It is congruent with one of the graduate attributes required by all Monash University graduates: the ability and confidence to apply information technology skills throughout their education.² Clinical cases were used during each week of the clinical units to develop student self discovery and group learning dynamics. Throughout the semester students were separated into four small e-tutorial groups moderated and facilitated by

the teaching staff in both countries. The membership of the e-tutorial groups remained unaltered during the semester.

Background theoretical information was provided independently by individual teaching staff in respective countries. Local student groups only received their own lecture material. The rationale was twofold: first, protection of intellectual property and second, to develop greater capacity to consider theory from multiple perspectives rather than a single domestic view. The same process was applied to the e-tutorial groups for the US students as the Australian students. US students were provided with their own "international students" section within WebCT on the discussion board area (fig 1). Initially, it was intended that the US students would be separated from the three domestic e-tutorial groups; however, it soon became apparent that more interactive and active learning could be achieved when international students brainstormed amongst themselves as well as with Australian students.

Integration of small tutorial e-groups

The formation of tutorial groups particularly constructed in the e-learning environment is supported by the social constructivist theory by Vygotsky, who claimed that much of our intellectual development has direct correlation to the social interactions and group dynamics of such learning environments. The "theory gives great weight to a group's common perspectives and solutions to problems as they are arrived at through debate, argument, negotiation, discussion, compromise, and dialectic".³

Tutorial groups were divided into four separate teams: "A", "B", "C", and "international students", who had separate areas within WebCT during each week. Each group consisted of between 9 and 14 students in each e-tutorial. Scheduled face to face lectures were presented on Mondays and Tuesdays, with time allocated to discuss the forthcoming case for the week. It was expected that the tutorial groups meet both face to face and on line in WebCT. They were encouraged to use the chat room facilities in much the same way as they would discuss face to face in the library. Figures 2 and 3 highlight each tutorial group during their

Figure 1 Example of the international student's section within WebCT

brainstorming sessions and provides an example of continuous threads during these brainstorming sessions. From week to week each group was assigned a different student group leader whose function was not only to actively participate in the weekly discussion, but to write up the groups' thoughts and questions into the "final submissions" section. This section was separate from the tutorial "brainstorming" area, and all four tutorial groups are allowed to view other groups' views and opinions, with the goal of stimulating further rigorous discussions and debates.

METHOD

Between February and June 2005, a purposive sample of second year undergraduate BEH-P ($n = 40$) and Montana USA ($n = 23$) students were included in a cross sectional survey to assess students' attitudes and perceptions to teaching and learning in an international context. No formal ethics approval was sought as the survey was part of the standard teaching and learning evaluation series. Informed consent was provided by the participants.

RESULTS

The following themes were identified and analysed for thematic analysis as described by Bender and Ewbank⁴ by two independent experienced qualitative researchers, and the results compared between data sets. This method of data analysis triangulation has been shown to improve the validity of qualitative data.⁵ The following themes are supported by quotes that are taken directly from responses by the BEH-P and Montana students.

Several questions centred on the perceived benefits and added clinical perspectives were presented to both sets of student groups specifying the broad themes of what benefits they had experienced and whether the project had added any extra perspectives to clinical as well as non clinical matters such as cultural diversity or professionalism issues. The following remarks have been taken from both Montana and BEH-P students identifying what areas of the project suited their learning thoughts and experiences:

"It's really interesting to get an idea of the approach overseas. It made the tutorials more fun" (BEH-P student (14))

"It was great to see the alternate treatment plans of the international students and different approach to problems" (BEH-P student (21))

"I learned a lot from the different perspectives, and noticed on several topics that we [Montana students] would all tend to hit on the same aspects, and the Australian students would tend to see different aspects and would stress those. It really broadened the perspective!" (Montana student (2))

"Interesting to see different approaches and systems and to compare. Makes you think about why we do things the way we do" (Montana student (8))

"Yes, it has added ideas, varied suggestions, and developed different teaching strategies, therefore different views" (Montana student (2))

"It has very much helped with the cultural awareness and the awareness of issues surrounding treatments" (BEH-P student (16))

Of particular note, both groups of students ($n = 49$; 77%) were surprised that the clinical presentations and clinical management were very similar between both countries. No negative comments were made about cultural diversity or sensitivity. Granted cultural diversity for the purpose of this group was between Australia and USA, this project did not have the breadth to explore cultural diversity from other perspectives. Students generally felt the project assisted in their personal cultural diversity development ($n = 52$; 82%) and increased their awareness of surrounding cultural treatment and management issues ($n = 44$; 69%).

DISCUSSION

Online education is rapidly becoming a major mode of delivery for education providers. This has been driven by changing demographics of the student groups, the diversity of learners, the financial constraints provided by supporting

Discussion Title	Messages	Available	options ?
☐ Main Discussion Board	7 Messages	Yes	
☐ Discussion re "Chloe's story"	10 Messages	Yes	
☐ Week 1 Group A - Brainstorming	24 Messages	Yes	
☐ Week 1 Group B - Brainstorming	22 Messages	Yes	
☐ Week 1 Group C - Brainstorming	21 Messages	Yes	
☐ Week 1 - Final Submissions	10 Messages	Yes	
☐ Week 2 Group A - Brainstorming	25 Messages	Yes	
☐ Week 2 Group B - Brainstorming	22 Messages	Yes	
☐ Week 2 Group C - Brainstorming	12 Messages	Yes	
☐ Week 2 - Final Submissions	31 Messages	Yes	
☐ Week 3 Group A - Brainstorming	30 Messages	Yes	
☐ Week 3 Group B - Brainstorming	20 Messages	Yes	
☐ Week 3 Group C - Brainstorming	26 Messages	Yes	
☐ Week 3 - Final Submissions	18 Messages	Yes	
☐ Week 4 Group A - Brainstorming	10 Messages	Yes	
☐ Week 4 Group B - Brainstorming	14 Messages	Yes	
☐ Week 4 Group C - Brainstorming	9 Messages	Yes	
☐ Week 4 - Final Submission	3 Messages	Yes	

Figure 2 Identification of "brainstorming" section within WebCT.

Figure 3 Example of threaded discussions in "brainstorming" session.

bodies, and the work surroundings of teaching staff. The growing notion that we live in a period determined by global processes is upon us as is the ideology of e-learning. Having the scope, the authors were confident the internationalisation of prehospital education would not only create greater academic standards and quality but also develop a richer source of student and teacher interaction otherwise not able to be achieved. Other facets that add to the knowledge base include:

- teachers with experiences and viewpoints from different parts of the world working together in institutions promoting discovery and knowledge;
- identifying key issues, trends, and areas of growth;
- providing information on the practices and priorities of internationalisation at the institutional level;
- multiculturalism;

Box 1 Advantages of internationalising higher education

International and intercultural understanding
 Promotion and profile of institution
 Diversity source of faculty and students
 Regional issues and integration
 International student recruitment
 Diversity income generation
 Mobility and exchanges for students and teachers
 Teaching and research collaboration
 Academic standards and quality
 Research projects
 Cooperation and development assistance
 Curriculum development^{1 7}

- opportunities for students from around the world to study together and to partake in common educational endeavours, and
- accelerating exchange of educational ideas, practices, and policies.

The term internationalisation of higher education is frequently used today not only within higher education providers but also governments and international organisations. Internationalisation includes specific policies and programmes undertaken by governments, universities, and individual departments.⁶ Commonly, the term is used in a number of different senses and often is not defined in any precise way. Box 1 shows the broad positives of internationalising higher education.

The emergence of global education exhibits itself in the form of a variety of multinational education initiatives, such as "twinning" programmes between institutions.⁷ The different kinds of cross border education ventures include many that use the Internet and other distance education means to deliver their programmes. Distance education is rapidly growing both within this country and internationally. Information technology is beginning to shape teaching and learning and is affecting the management of academic institutions. The project had two educational processes: face to face teaching/learning and online teaching/learning (synchronous and asynchronous communication). A student centred learning approach was embraced using CBL as the guiding educational paradigm between both providers.

Upon reflection, the international learning process provided the potential to extend the content of the learning beyond systems issues to the examination of actual clinical similarities and differences between both countries in both clinical practice, service structure, and delivery. It also allowed us to assess the use of both traditional teaching and online learning technologies. In addition we were able to make some tentative steps along the path of internationalising prehospital and community based teaching and learning.

Limitations of study

Limitations of the information gathered from this project include a small sample size, potential author bias, and not acknowledging any real cultural or linguistic diversity. The project did not have the capacity to explore other educational considerations—for example, learning difficulties, adverse student relationships, and/or dysfunctional tutorial groups. This project has allowed the capacity for further exploratory studies and will permit investigators to comment on the process of internationalising prehospital education. Such examination in the future would incorporate a research plan involving control groups and thus would require the prospective definition of sample size and power calculation.

No significant barriers should be expected given previous teleconferencing experiences, similar curricula, and online teaching and learning philosophies. One consideration is the different time zones. However, no conflict of interest is foreseen at this time.

Further research opportunities

The benefits of this project are that it has been structured to inform future decisions on both the value of future international learning strategies within our respective curricula, and the feasibility of undertaking specific research investigations into internationalising prehospital learning conducted with due rigour. A comparison of student educational backgrounds would be an important question for future research; similarly as would a comparison between students from English and non-English speaking backgrounds. Other specific research questions could surround the relationship and functionality between international tutorial groups and the direct study success in the setting of teaching and learning environments such as CBL.

CONCLUSION

The overall project aim was to establish an objective and descriptive view of the internationalisation of prehospital and community based emergency health education using

e-learning as the educational approach. The use of both traditional teaching and online learning technologies produced positive student feedback and encouraged the internationalisation of prehospital curriculum. Using a flexible pedagogical approach, this allowed students the learning scope and international dimensions otherwise unable to be achieved previously.

ACKNOWLEDGEMENTS

The authors would like to acknowledge the efforts of Associate Professor Frank Archer (Director MUCAPS) and Mr Stephen Burgess (Lecturer MUCAPS) in the development of this paper.

Authors' affiliations

B Williams, Monash University, Centre for Ambulance and Paramedic Studies, Melbourne Australia

J Upchurch, EMS Training and Education, Montana, USA

Funding: none.

Competing interests: none declared.

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