

# Meeting learners needs: A blended learning approach in designing appropriate course resources

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*Flexible learning has long been associated with distance learning. It is also becoming increasingly associated with on-campus learning (Palaskas & Muldoon, 2003). This paper explores the practical implications of flexible learning and examines the appropriateness of a blended approach to learning and teaching. The context of this study was Charles Sturt University, one of the largest distance education providers in Australia; it also has a significant on-campus cohort. The Bachelor of Social Science (Emergency Management) course is situated within the School of Public Health. The introductory subject for this course was developed on CD-ROM to make use of multimedia and online materials pertaining to emergency management, increase interaction with the subject by distance learners, and provide industry relevance via the use of a professional portfolio that promotes reflective practice. The subject development also needed to incorporate scaffolding for first year on-campus students. The authors sought to develop a model for this and future subjects that was able to meet the needs of a variety of learners with differing levels of experience in study and professional practice. Past and present students were asked to evaluate the subject using a number of instruments. The data gained from these evaluations formed the basis for focus group discussions lead by independent facilitators who gathered qualitative data. This paper seeks to extend the existing body of knowledge concerning the implications of blended learning approaches for meeting the needs of divergent groups of learners.*

## Introduction

This investigation sought to establish whether resources developed for emergency management distance students, who are typically mature age professionals, were appropriate for on-campus paramedic students, who are characteristically high-school leavers in their first year of university study with little professional experience or discipline knowledge. This study explores flexible learning and the appropriateness of a blended approach to learning and teaching in relation to one on-campus student cohort of an introductory subject in the emergency management course.

## Study background

The Bachelor of Social Science, Emergency Management, is a degree program developed for distance students who are emergency service professionals generally already employed within the field, who are requiring qualifications. The program was developed specifically for distance mode within the School of Public Health, Charles Sturt University (CSU). Charles Sturt University is one of the largest distance education providers in Australia and also has a significant on-campus cohort.

The subject had been developed as flexibly delivered learning resources on CD-ROM to make use of multimedia and online materials pertaining to emergency management, increase interaction with the subject and other students by distance learners, and provide industry relevance via the use of a professional portfolio that promotes reflective practice. Most sectors

of Australian higher education have embraced some form of flexible delivery and, according to Freeman and Capper (1999, p.12), most Australian universities have flexible learning, or 'flexible delivery', among their strategic initiatives. This term includes the notion of independence and self-directedness in learning (Smith, 2001, p.105). This mode of delivery works well in a country with vast geographical distance, and varying time zones. It also suits the field of emergency services that characteristically has shiftwork, rosters and 24 hour standby.

The initial subject within the Emergency Management program, *Introduction to Emergency Management* (EMG100) is now a requirement of the Bachelor of Clinical Practice (Paramedic) at CSU. The paramedic students are on-campus first year students. These on-campus students are typically high school leavers in their first semester of university study, with little or no experience in emergency services or university study. There has been some research into the changing needs of on-campus students, including how much time they spend on-campus, and what effect part time work has on student's engagement in higher education. According to Krause (2005) first year students tend to spend significantly less time on average on-campus than they did ten years ago and they are typically employed for 10-15 hours per week. In the report *The First Year Experience in Australian Universities: Findings from a decade of national studies*, Krause et al (2005) note that students' engagement with learning and the learning community is now internationally recognised as a prominent indicator of the nature and quality of the first year student experience. Krause et al (2005) also stated that has been some research that has identified a link between apparent disengagement and the increased numbers of hours students devote to paid work off-campus, which in turn potentially draw students away from campus-based learning communities.

Armatas et al (2003) highlight the many factors placing pressures on universities to change their teaching practices to enhance the quality and efficiency of teaching and learning

These pressures include public funding, diversity of student cohorts accelerated uptake of information and communication technologies, the need for students to develop employability skills, and the need for more flexible student centred study arrangements. (p.142)

In response to these pressures, the teaching of this course had undergone changes over recent years. In the most recent development the content delivery was changed to a flexible approach and the on-campus Paramedic students were provided with the resources developed for distance education. The resources comprised of an EMG100 self-paced Study Guide CD-ROM, an Emergency Management Course Resources CD-ROM, and a printed readings booklet. In addition, the on-campus students were also provided the option of attending a two-hour tutorial each week. The tutorial was designed to supplement the self-paced Study Guide and to assist students achieve the intended learning outcomes of the subject by providing:

- practical examples to stimulate students interest and aid in integrating topic material into assignments;
- opportunities for interaction and discussion to aid in thinking critically about the subject, and,
- practical assistance with study skills relating directly to assessment tasks and university study skills.

Students were encouraged to attend the tutorial on a self-selection basis, according to their own judgement of the need for support. The intention of the coordinators in this subject was to provide students with choice and an opportunity to develop autonomy in their personal study regime. The rationale for this was based on the notions of student centred flexible learning and by the adoption of a blended learning approach. Collis and Moonen state:

Flexibility can involve options in course resources, in types of learning activities, in media to support learning, and many other possibilities. (2002, p.218)

Race (1998, p.168) similarly defines student-centred flexible learning as the place where 'learners have some control of the time, place, pace and processes of their study'.

Blended learning is an approach which combines different methods of teaching, for example traditional classroom based teaching with self-paced web or computer based instruction. In this particular instance the study focuses on the on-campus cohort, and blended learning refers to the combination of face-to-face instruction, in the form of weekly two hour tutorials, with the self-

paced Study Guide CD-ROM. Table 1 illustrates that the learning environment consisted of printed materials, electronic resources, discussion forums, and supplementary tutorials for the on-campus students.

Printed Material	Electronic Resources	Computer Mediated Communication	Face to face Teaching
Subject Outline (also available online) Readings Booklet	Study Guide CD-ROM Course Resources CD-ROM	Forum for discussions and announcements. (separate forums for distance and on-campus cohorts)	Supplementary weekly 2 hour tutorial (On-campus students only)

**Table 1** Elements of the EMG100 learning environment

## Methodology

Data pertaining to the appropriateness of this approach to teaching on-campus students was collected from two surveys and one focus group. The surveys were initiated by the School of Public Health, CSU, to provide feedback regarding the appropriateness of a blended learning approach for the 49 on-campus first year Bachelor of Clinical Practice (Paramedic) students who make up approximately one third of the 148 students enrolled in EMG100.

The first instrument, a single-page survey, was administered on five occasions. It consisted of six questions, three of which were closed-ended and three of which were open-ended. The surveys were administered to first year on-campus students in week 2, week 3, week 10, week 11 and week 13 and were completed at the conclusion of the tutorial. The survey asked about the quality of Study Guide resources, aspects of the tutorials and how much of each week's topic had been completed.

The second instrument, a single-page survey, was administered to on-campus first year students in week 9 only. This survey form differed from the weekly survey to account for the five-week mid semester break that had preceded this tutorial. The survey asked how students had worked without tutorials over the preceding five weeks and the number of weekly topics that had been completed to that date. There was no change in format in relation to the topics and tasks to be undertaken during the five-week non-tutorial period.

At the conclusion of the subject, students were involved in a focus group, facilitated by members of Centre for Teaching and Learning (CELT), which allowed students to make comments about the course in an unstructured fashion.

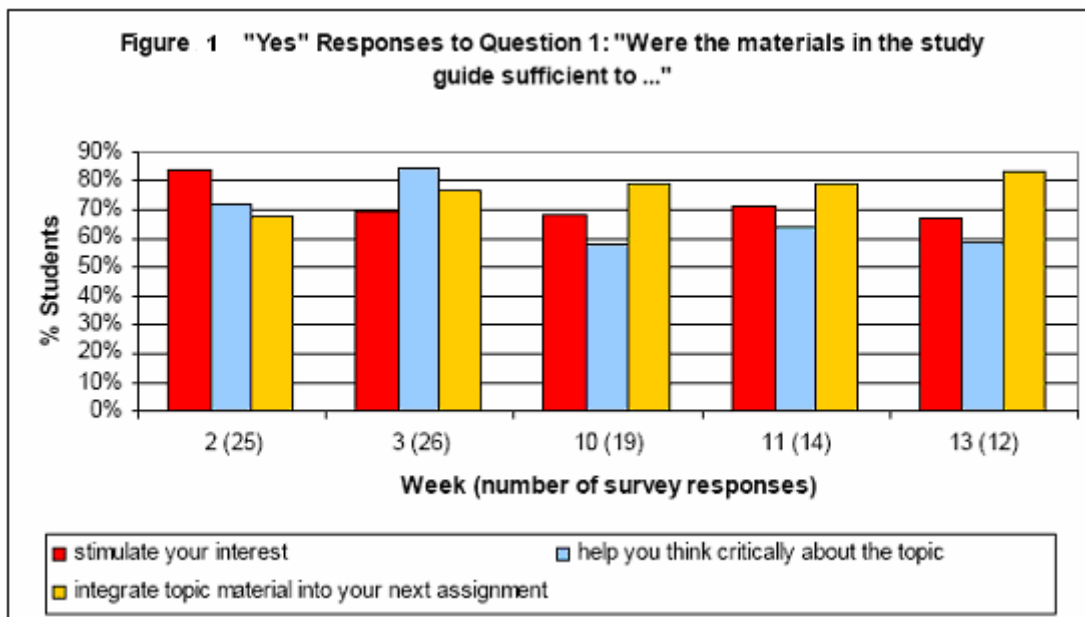
## Summary of results and findings

The following results and findings relate to the three instruments administered to the first year on-campus students. Two major themes were identified and the results of the surveys and focus group findings are reported in relation to these themes: the structure of the subject and the resources, and how this structure helped the students achieve the intended learning outcomes; and the relationship between this subject and the professions, and how this subject structure helps to scaffold students with no professional experience.

### Subject structure and the resources

The first theme relates to the appropriateness of a blended learning approach for on-campus students and whether this helped them to achieve the intended learning outcomes.

First year students demonstrated high approval for the self-paced Study Guide materials and tutorials. As shown in figure 1, which shows responses from the first instrument, when asked whether the study guide materials were sufficient to 'stimulate your interest, help you think critically about the topic and integrate topic material into your assignment', the majority of students answered 'yes' to all three criteria. These are three indicators that the Study Guide resource helps students to achieve the intended learning outcomes.



The majority of students surveyed provided positive feedback relating to the self-paced nature of the Study Guide. They also provided positive feedback on the structure of the subject, and agreed with the use of a two hour tutorial to support the self-paced Study Guide. The majority preferred that the tutorial remain voluntary.

Figure 2 shows that students demonstrated high approval for the voluntary tutorials. Overall, the majority of students each week agreed that the tutorial had provided a practical illustration and an opportunity for questions and discussion.

Students demonstrated approval of the scaffolding the tutorial provided in relation to general study skills. This perhaps reflects the high percentage of students for whom EMG100 is one of their first university subjects and shows that this subject does help to meet learner's needs in this regard.

The surveyed students generally supported retaining the current structure of the subject, comprised of a self-paced Study Guide and a voluntary two-hour tutorial, although a small minority of students would prefer the tutorial to be compulsory.

Student numbers steadily declined throughout the semester, perhaps reflecting increased self-reliance in their ability to follow the self-paced Study Guide. This is a subjective consideration of the data possibly indicating that students who were already self-directed learners were the ones most likely to choose to withdraw from the voluntary tutorials. This could form the basis of further study.

### **The relationship between this subject and the professional field**

The second theme provided information on how students see their own need for a deeper understanding of the profession, and to how well this approach is meeting that need. This cohort of students had little or no experience in either the paramedic or emergency management professions. The voluntary tutorials were envisaged as a way of introducing this experience.

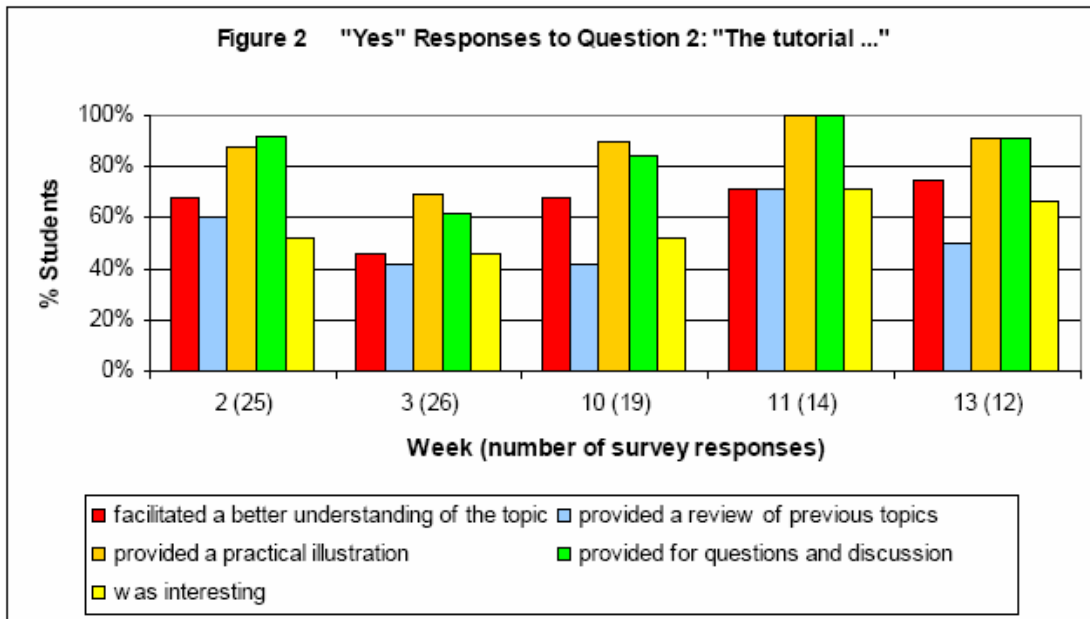


Figure 2 shows that, overall, the statements agreed to by most students each week were that the tutorial provided a practical illustration, for example, a video, picture or case study, and the tutorial provided an opportunity for questions and discussion.

Students surveyed demonstrated approval of the videos utilised within the tutorials and regularly cited these as the aspect of the tutorial that most helped with learning. These provided students with real life scenario's and thus some exposure to the professional field. Students also expressed a desire for more linkage with the professional field. They requested access to the distance education forum so they could interact with those currently engaged in emergency management. They also suggested that more guest speakers from the various professions, for example the ambulance services or the SES, would be useful inclusions in the tutorial. Students would also like to see more real life scenarios, particularly from the paramedic perspective, and see a greater relation between the subject and the other subjects in the paramedic degree. In response to these findings it is envisaged that the next cohort will experience greater interaction with emergency service professionals in a variety of ways.

## Discussion

At CSU on-campus subjects are typically structured as face-to-face lectures and tutorials. This study aimed to understand from the perspective of student needs, the appropriateness of a blended learning approach where the essential component was the self-paced Study Guide and the support was in the form of a voluntary face-to-face tutorial. The study found that it is appropriate to use resources developed for distance in on-campus settings if the target cohort needs are considered. On-campus students benefit from the flexibility of the self-paced materials, and benefit and appreciate the support given via face-to-face sessions.

Although CSU has an impressive support structure in place for distance students, the efficacy of providing distance materials to on-campus students is an ongoing debate, and indeed provided the motivation for this study. The concerns for and against the flexible delivery of distance materials to on-campus students range from the cost of materials and production, the appropriateness of distance materials for school leavers, and efficiency issues for academics teaching in both modes. Tulloch et al. state that:

In a balanced blended learning environment all media forms are present and on- and off-campus students can benefit from exposure to and choice between a diversity of supporting methods and technologies, providing flexibility for varying styles of learning, available study times, cultural differences and academic levels. (2005, p.7)

In relation to the 'balanced blended mode', this study highlights the need to supplement the educational experience of recent high school leavers who typically lack professional experience, through the use of visiting professionals and the interaction with industry experienced distance students and academic staff. The current move away from the didactic approach of the lecture towards a more flexible and blended approach is supported by this study.

The move toward flexibility in delivery is evident at CSU in that staff and students are encouraged to make choices around working with print, audio-visual, kinaesthetic, and artefact material within the traditional learning environment as well as the e-environment. Reid (2003) states that learning and teaching should be flexible in the sense that 'pedagogical decisions should remain a matter of judgement for the academic' (p.5). Academics should choose the approach that best suits their subject and the circumstances in which they teach.

## Conclusion

This paper explored the practical implications of flexible learning and examined the appropriateness of a blended approach to learning and teaching in relation to one on-campus subject. The findings indicate a blended approach *is* appropriate for first year on-campus students, and we envisage that this approach may be applicable in other contexts where student needs include flexibility of time, place and pace, and the need for support in the development of self-directed learning skills.

Ten years ago Stedman(1995) was heralding that 'innovative methods of teaching and learning would be essential for any university that wished to position itself as a leader in the next century' (Peacock & Middleton, 1999). One of these innovations is blended learning. This paper has demonstrated that blended learning has been readily adopted by the on-campus students in this study. The next investigation would be to determine whether this flexible approach leads to enhanced educational effectiveness.

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