The impact on course design of a changing learner population

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Introduction

The move by educational institutions to provide online course delivery has enabled them to reach a more diverse student population and one that otherwise would not have the opportunity to participate in tertiary study. As a result, faculties and individual lecturers are translating traditional teaching approaches into course materials that can be delivered using information and communications technologies.

This paper presents a case study of the development of a skills-based course designed to be entirely online without supplementary face-to-face practical instruction. It traces the challenges inherent in what has become an on-going course design process catering for a changing and diverse student population.

Background

When the University of Southern Queensland (USQ) decided to offer an online Graduate Certificate program in Open and Distance Learning (ODL) it chose to include two half-unit courses in the design, development and delivery of audio and video-based learning materials. The courses focus on the educational use of audio and video media, and on the media production process. The co-developers of these online courses have a background in education, educational technology and instructional design, with extensive experience in the design and production of media materials to support teaching programs in both the further education and training and tertiary environments.

The course developers had traditionally taught similar courses to a cohort of on-campus students where teaching took place in a studio setting equipped with semi-professional quality equipment. A regular teaching timetable provided a structure for keeping students on track, providing frequent contact between lecturer and students and enabling the lecturer to head off problems that would affect individual students. Technical support was available to ensure equipment was accessible for students and in good repair. The assessment criteria, for the theoretical and practical aspects of the course, were based on the knowledge that students had similar outcome expectations and had access to the same information and support facilities.

The challenge

The course developers were faced with several challenges. It was expected that students for whom the online courses were designed would have varying educational backgrounds, would be predominately employed as industry trainers or would come from a variety of education sectors, and could be located anywhere in the world where they had access to the Internet. The purpose of the courses was to teach participants how to use media in open and distance learning programs.

It was a requirement of the Program Management Committee that all course content, including selected readings that would normally be printed and posted in a print-based distance education package, was to be available to students through the Internet. It was expected that email messages would to be used as part of the teaching/learning process; however, they were not considered appropriate for the delivery of course content.

Based on their expertise and experience, the course developers considered practical hands-on involvement in the media design and production process led to a greater appreciation of how the attributes of the medium could support learning. Therefore, it was considered necessary to maintain the practical aspects of the original on-campus course. A major challenge was to design the online course in such a way that the educational objectives could be met regardless of the location of, or facilities available to, students (McAlpine and Richardson 2000).

Online course design for the Graduate Certificate

Brown, Collins and Duguid (1989) advocate situated learning as the best way for learners to experience the environment in which practitioners work, in both a technical and cultural sense. They perceive situated learning as a bridge between the academic world and the 'real' world. In a distance education context, Walkington, Pemberton and Eastwell (1994) suggest that situated learning could be applied in the student's own working environment because students are often employed on a full or part-time basis, while studying part-time. Knowing the target audience for the Graduate Certificate Program was trainers and educators, the course developers decided situated learning would move the focus of production activities away from the need for providing a specific standard of equipment to the reality of what the student had available.

By using the student's authentic environment, opportunity would exist for providing important attributes for student problem solving as identified by Young (1993:45). These include:
- ill-structured complex problems,
- an opportunity for the detection of relevant versus irrelevant information,
- active/generative engagement in finding and defining problems as well as in solving them,
- involvement of the student's beliefs and values, and
- an opportunity to engage in collaborative interpersonal activities.

It was, therefore, considered that situated learning would enable students to develop meaningful practical skills in the application of media in an authentic environment.

Meaningful activities

The approach to learning that is encouraged by the materials is an important aspect of the development of online course materials. Martin (1995) and Ecklund (1995) refer to deep learning as an important goal as an outcome of the course materials. Boulton-Lewis (1995, 144) describes the deep approach as one "in which the student *intends* to understand the material, to relate parts to a whole, to integrate it with existing knowledge, and to apply it in real world situations". Martin (1995) argues that a hypermedia environment, combined with the use of email and discussion groups, will bring about deep learning outcomes.

Communication

There is general agreement about the educational value of discussion groups within the online environment. Alexander (1995) and Martin (1995) point to the Biggs and Moore (1993) proposition that deep learning requires, in addition to a well-structured knowledge domain, learner activities that involve interaction with others, both peer group discussions and 'scaffolded' discussion that includes the lecturer. Including discussion groups in the course design makes possible some of the activities Laurillard (1993) identifies as being important learning activities such as, group problem-solving tasks in a form of collaborative learning, making use of feedback and reflecting on learning goals. The discussion group is seen as a way of extending and enhancing the individual learning experience in a way that is likely to lead to deeper learning.

In keeping with this recommendation at specific points in the course materials, students are prompted to post their findings or any queries to the discussion group and respond to each other's postings. Students can access the discussion group at any time, with 2-3 mouse clicks, so this resource is always there for discussion and follow-up.

Scholarly foundation for practical activities

Influenced by Young's (1993) criteria, the course is presented to students as a coherent, structured information base and series of activities to be carried out on an authentic task. The first module presents a theoretical overview for the use of media in education. It discusses a range of theoretical positions with regard to education, curriculum and course design, instructional design considerations, and a debate about the links between media characteristics and the learning process. Its purpose is to establish a scholarly climate and help the students focus on the educational or training nature of the practical tasks they are asked to carry out.

Students undertake an analysis of their own teaching/training situation and identify a project where the use of an audio or video-based resource will help meet an educational need. They have to justify their decision by drawing on theoretical arguments from their reading and identifying practical considerations from their work environment. This project is carried through to a script and a recording (recording for the video course is not required), which are also submitted for assessment along with a report that includes a suggested evaluation plan. Students use whatever production capability exists in their environment. This means that some students work alone, and others have production facilities and crew for support. It is not the quality of the recording that is assessed, but how the project has been conceived and realised from the standpoint of educational use of the medium in the student's own environment. These activities fit Young's (1993) criteria for an authentic task.

Student profile

The major course design issues discussed above came about as a result of a change from providing for a typical on-campus cohort of students to catering for an unknown and diverse cohort of students studying part-time and online. It was anticipated that industry trainers would be the first group to access the online courses. This was based on the knowledge that trainers in industry were faced with finding ways to deliver training in more cost effective ways with less time off-the-job for trainees. It was also suggested that industry trainers prefer to undertake short-term courses that provide skills and knowledge that have an immediate application. With this in mind, the audio and video courses were offered as part of a suite of skills-based courses from which students from the training sector could select according to their particular need.

During the first five semester offerings of the courses (S3-1997 to S1-1999), the student population comprised approximately sixty-three percent teachers from the vocational and further education sector and only twenty-six percent from the industry-training sector. The remaining eleven percent was instructional designers working in universities. Apart from a smattering of international students, in the Solomon Islands, Malaysia, Brazil, the USA and Trinidad, the student cohort reflected the moves in Australian tertiary education towards offering more flexible student-centred programs and the need for staff of these institutions to develop the knowledge and skills for designing and delivering open and distance study.

Feedback from students indicated the courses were meeting their needs and, interestingly, only a few students enrolled in both the audio and video courses. Overall there was a coherent student cohort satisfied with the predominately practical-based approach of the two half-unit courses.

The course in transition

During this period, there had been an increased demand for Masters level qualifications in the field of Open and Distance Learning (ODL) by the international education community, and it was realised that many of the courses developed for the Graduate Certificate were suitable with some adaptations, for inclusion in Masters programs. The audio and video in ODL courses contained sufficient theoretical content for them to be included in a Masters program; however, the assessment criteria had to be adjusted to require a higher standard of scholarly analysis and writing and applied to all students enrolled in the course.

A changing student profile

Over the next two semesters (S2 and S3 1999) the student population changed, becoming more evenly representative of the vocational and further education sector, the university sector, and independent or government multimedia developers enrolled in a Graduate Diploma program in Professional Communications from another Faculty of USQ. The number of industry trainers dropped and a small number from the school sector appeared. In S3 international student numbers increased to approximately half the enrolments and were located in Hong Kong, Korea, United Arab Emirates, Switzerland, New Zealand and Vanuatu.

The use of the discussion group increased and the change in the cohort of students from industry training to higher education was reflected in the range and type of discussion that took place. Whereas initially the students focused on producing their media in a traditional analogue format, with this new cohort of students the focus began to change to digital and online formats across all sectors. This saw an increase in the use of the discussion group for peer assistance with technical/digital aspects of production.

During this period, students were enrolling simultaneously in both the audio and video courses resulting in a degree of overlap of effort on the part of the student. The theoretical overview module was essentially the same and the assessment for both half courses followed a similar design.

Response to the changing student profile

The author redesigned the course merging the two half courses into one, *Audio and Video in Open and Distance Learning*. The bulk of the content and the overall strategies remained the same because student feedback had indicated the approach was effective and relevant. Reference material was reviewed and updated and the assessment was restructured from two to three assignments. By combining the courses, it was easier to convey the more subtle differences between the characteristics and applications of each medium. Two distinct projects could be identified and the theoretical justification for media selection could be more precise. The first assignment was submitted earlier in the semester, thereby providing more timely feedback to assist the students with developing their projects. The equipment review and script treatments for both media formed the next assignment due halfway through the semester. The final assignment was changed in response to growing student requests to take their video projects to a finished product. Because more students had access to video recording and digital editing equipment, the assignment gave them the choice of producing either a video or audio product and focusing the production report and evaluation plan on that product.

With the literature continuing to support the value of discussion groups (Sherry 1998, Smith 1999), a number of forums were set up to cater for various topics such as educational application issues, reference and resource sharing, and production issues.

An increasingly unpredictable student profile

Four offerings of the new course (S2-2000 to S2-2001) confirmed that a different student profile emerged each semester. The Education Masters programs and the Graduate Diploma in Professional Communication became the major pathways into the course. Overall, students were predominantly from the university sector and IT/multimedia industry. Industry trainers, accounting for about fifteen percent of enrolments, were being outstripped by the school sector. International students continued to account for nearly half the enrolments while the number of different countries represented increased. The combination of these factors, in any semester, was totally unpredictable and led to an increased and lively exchange on the discussion forums.

Unfortunately, during this period, a restructuring of the university academic calendar shortened the semesters and this seemed to impact on the time students were willing to spend contributing to the discussion forums. Although the *hours-on-task* for courses had not been altered, students also had difficulty meeting assignment submission deadlines.

During the transitionary phase, student cohorts changed on a regular basis and, despite constant adaptation to the course, meeting the needs of this diverse body was problematic.

Towards an exclusively Masters course

The change to a new university administration system provided the opportunity to review and rename the course *Audio and Video Applications in Education*. This reflected the multiplicity of educational uses and product outcomes the students were bringing to the course. To help keep the students on track, the assessment was broken up into its smaller elements with submission occurring at approximately fortnightly intervals. To relieve the pressure of assessment some items became *hurdles only*. To encourage students to visit the discussion group, selected items were to be submitted through a discussion forum, and the number of discussion forums was also pruned to prevent forum overload.

A new student profile

Maybe it was the appearance of the word *education* in the course title that brought back students from vocational and further education and industry training, eclipsing students from the university sector. Enrolments from the school sector also increased during the past two semesters (S1 and S2-2002) while candidates from the IT and multimedia industry disappeared as did students from the Graduate Diploma in Professional Communication. The international students out-numbered Australia-based students two to one and were spread around the world.

The change to the assessment structure has been short lived. It succeeded in keeping students focused on timelines, but it also drove them to concentrate on assessment to the exclusion of interacting and sharing with each other through the discussion group.

Not surprisingly, the current semester enrolments (S1-2003) have changed again with half from the school sector, a very small representation from industry training and the rest evenly matched between the university and the vocational and further education sectors. All students have enrolled through the Masters program.

Conclusion

The paper has described the three phases in the evolution of this course. It began as two practical-based half-unit courses aimed at a coherent vocational education and industry training group, then went through a transitionary phase catering for a multiplicity of student profiles before emerging once more as one course directed towards a coherent group of traditional Masters students.

What has become apparent in this description, perhaps not surprisingly, is the complexity in course design when student expectations are so diverse.

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