Returning the Favour: Using Insights from Online Learning to Enhance On-Campus Courses

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Abstract: Online learning environments enriched distance education by increasing opportunities for interaction of learners with peers and teachers. Simultaneously they have enabled educational design to move beyond resource-based approaches by supporting varied pedagogical approaches borrowed from on-campus classrooms. Now, as on-campus students mix significant family and work commitments with education, the experience of online learning in distance education is being transferred into on-campus courses to create blended learning experiences that afford learners both greater flexibility and richer learning opportunities than are possible in traditional on-campus forms. This paper reviews interaction in blended environments and describes how on-campus courses integrate online elements to transform learning experiences.

Introduction

Regardless of the theory invoked, interaction is believed to be critical to the learning process (Ertmer & Newby, 1993) and can be viewed as falling into three broad types: interaction with content, interaction with instructors, and interaction among peers (Moore, 1989). The balance among these types of interaction can be varied to produce different course designs (Albion & Ertmer, 2004).

Compared to face-to-face education, traditional print-based distance education has provided limited opportunity for interaction of learner with instructors and peers and has relied more upon interaction of learner with content in the form of packaged materials. It has been described as an evolving series of generations (Taylor, 1995) in which the production and delivery of content has been the apparent focus of many of the tools. Because the early generations of distance education sought to overcome the isolation of learners, developing and delivering comprehensive course packages was a sound solution to the problem of connecting learners with content.

The third and fourth generations of distance education enhanced the opportunities for interaction of learners with instructors and peers through the use of technologies such as audio or video conferencing, and computer mediated communication (CMC) respectively (Taylor, 1995). Viewed from this perspective, online education is a form of distance education characterised by connectivity. In the view of some, learning theory is evolving from behaviourism through constructivism to connectivism (Siemens, 2005). Such a theory, in which knowledge may be seen as existing as much in the human and technical networks as in any individual, provides a basis for arguing that online learning represents a paradigm shift from earlier forms of distance education (Downes, 2005).

Connectivity, implying both physical connection and social interaction is critical to any online learning system. Although the technology is often most visible and the focus of attention, it is the connections among people, whether direct or mediated by the network, that drive online learning systems. In social constructivist terms the network provides the means to construct shared understanding. In connectivist terms, the learning can be viewed as occurring in the network, as developing a form of collective intelligence.

Institutions coming to online learning from a tradition of distance education naturally saw it first from an efficiency perspective, as a means of delivering content. In contrast, institutions coming from the opposite direction, face-to-

face education, looked at online learning as an opportunity to promote the effectiveness of learning. They were more likely to emphasise interaction rather than content (McLendon & Albion, 2000) and to seek ways in which patterns of activity known to support learning in classrooms could be expressed in online learning environments. Because "good teaching is good teaching" (Ragan, 1999), it is not surprising that techniques known to work in face-to-face classrooms have been adapted for use in online learning environments.

At the same time as teaching practices have been being transferred from face-to-face classrooms to online environments, the relative independence from time and place that has marked distance, and later online, education has come to be valued by on-campus students who are increasingly likely to be mixing significant work and family responsibilities with study. This realization and in fact student expectation that learning can occur 'any time, any place, any path, any pace' (NASBE 2001) has led to faculty members creating blended rather than single mode courses.

Blended Learning

Elliot Masie quoted in Clarke (2003) defines blended learning as "the use of two or more distinct methods of training". Some people may also call it flexible or hybrid delivery. Blended learning is not a new concept, however the infusion of ICTs, and web based technologies in particular, into face-to-face learning is a relatively new concept.

It is this convergence of asynchronous online and face-to-face that Graham Spanier, president of Pennsylvania State University, calls "the single-greatest unrecognized trend in higher education today" (Young, 2002). This type of learning requires teachers to consider the best way to utilize the benefits of both the face-to-face and online learning environments. It is at this intersection that we find a dynamic and very different and transformative learning environment.

The Oxford Online Dictionary (2005) defines *blend* as "to combine to form a harmonious whole". This harmonious combination demands that blended learning is not simply layering the online environment on top of face-to-face learning, but capitalizing on the advantages of both environments and creating learning opportunities where both modes are an essential part of the learning process. Prendergast (2004) suggests that we can enhance teaching and learning by exploiting the "need for socialisation to aid learning through blending face-to-face experiences with synchronous online tools, asynchronous online methods … in an appropriate mix" (p. 2).

Asynchronous online learning environments are usually characterised by: text based communication; reasoned and reflective responses; a permanent or semi-permanent record of communication and explicit dialogue. In contrast, the face-to-face environment is generally distinguished by: verbal exchange of ideas; fast paced and spontaneous responses; feedback from physical cues e.g. non verbal communication; generation of on the spot enthusiasm from a spark and comments that are 'off the lip' (Garrison & Kanuka, 2004; Meyer, 2003; Vaughan & Garrison, 2005). Unlike previous distance education models, which promoted independence, blended and online learning environments provide the capacity for both independent and interactive learning. Garrison and Kanuka (2004) suggest that "learners can be independent of space and time – yet together".

The extended time available for reflection through asynchronous discussion in blended learning provides the additional opportunities for learners to move from being knowledge consumers to knowledge creators. This switch in roles for the learners supports them in developing life long learning attributes such as being a complex thinker; a creative person; an active investigator and an effective communicator (Queensland School Curriculum Council, 2000, p. 4).

Garrison, Anderson and Archer (2000) have argued that it is "the reflective and explicit nature of the written word that encourages discipline and rigor in our thinking and communicating". Hudson (2002), quoted in Garrison and Kanuka (2004, p. 53), proposes "that the very basis of thinking is rooted in dialogue, drawing on a socially constructed context to endow ideas with meaning". The blended environment enables dialogue in both verbal and written form, giving additional opportunities for students to make personal meaning. This rigour, arising from written communication and dialogue, is indicative of the types of outcomes we want in a tertiary environment. The mixture of considered and spontaneous responses shared in a blended environment provides learners with the

opportunity to develop high level thinking and communication skills in addition to a deeper understanding of the concepts which form part of the course.

Interaction

Fowler and Mayes (1999) advocate that education should be "moving the emphasis of learning away from *what* we learn to *who* we learn from" (p. 7). This has significant impact on the motivation to learn, course design, the tools and pedagogy required to enable this to occur. They also indicate that "engagement and construction are both about doing and discovering" (Fowler & Mayes, 1999, p. 5).

The Oxford Online Dictionary (2005) defines *interact* as "act so as to have a reciprocal effect or influence of persons or things on each other". The dynamic relationships in blended courses create an environment that enables participants to build on their previous knowledge in collaboration with others while they are each continually undergoing change due to the interaction. This means that, when participants are learning from each other, the overall learning gain is more than if students were to learn independently; that is, the whole is greater than the sum of the parts. This collective intelligence is one of the reasons that interaction or connectivity is a key characteristic of learning environments and why blended learning, with its richer variety of opportunities for interaction, offers particular benefits.

We should remember that positioning content online and promoting online interaction does not guarantee either effective interaction or learning. Within the online environment (and the face-to-face environment) students may be lurking rather than contributing; the communication or interaction could be disjointed or merely a proliferation of surface comments or shared experiences that do not require critical or creative thinking. For effective learning there is a requirement that the interaction be connected or interwoven with the theoretical concepts on which the course is focused.

When learning is predicated upon transactions between various participants and those transactions are mediated, then creating, sustaining and managing interaction are critical aspects of online teaching and learning activity. This activity begins with design. It takes considerable ingenuity to design learning tasks in which interaction is not only important to the task, but is essential to successful completion (Thorpe, 2002). Also, sustaining mediated interactions over a period of time challenges participants' ability to create engaging online personal presence, manage multiple interactive tasks, maintain focus in goal-directed activity and manage the emergent nature of much the dynamic content and communication within online learning programs.

Communicating well in writing is a complex skill. In online learning environments, disembodied communication challenges all online participants to develop new communication skills. Online teachers have had to work hard on the development of the *technology of conversation* (Romiszowski, 1997) to cultivate online social presence and maximize the effectiveness of their activity when all interactions are mediated. It also requires knowledge of how to create cognitive and teaching presence (Garrison et al., 2000).

Successful blended learning environments require students and teachers to be involved in quality interaction resulting from critical thinking and reflection. This requires teachers to re-think how they design and deliver their courses. Among the most challenging parts of the redesign are decisions about which elements should continue to remain in the face-to-face mode and which elements can be effectively dealt with online.

Examples of blended learning

In order to illustrate how blended learning environments can be constructed by integrating online elements into face-to-face courses, the following section describes two courses which have taken different approaches to creating successful blended learning environments.

Example 1

This example describes the use of web-based materials and computer mediated communication to support and enhance learning in the context of a face-to-face course offered across two campuses.

The context is a required in the final year of the Bachelor of Education (Primary). It has been offered each year since 2002 with enrolments of around 130 in on the major campus and 30 at a satellite campus, which is 4 hours distant by road. Students at both sites are familiar with the WebCT Vista environment used as the primary Learning Management System but typically have not made extensive use of the discussion facilities in previous courses.

The course deals with the broad Technology Key Learning Area (KLA) (design and technology) rather than Information and Communication Technology (ICT) but has been designed with a clear intention to model integration of ICT. No printed materials, other than 2 or 3 one page handouts for use in tutorials, are produced for the course. All schedules, assessment information and other materials are distributed through WebCT. Lectures given on the main campus are recorded for use at the satellite campus using the locally developed iPLOD system, which records and presents audio from the lecture synchronized with PowerPoint slides in a web interface. A tutor provides local support to students at the satellite campus. Tutorial groups on both campuses meet weekly and discussion areas in WebCT are used to facilitate communication between class meetings. Depending upon the activity, these discussions may be confined to individual tutorial classes or extended across more than one class.

One major sequence of activity that uses a mix of face-to-face and online elements is built around a WebQuest (Dodge, 1997). During tutorial classes in the second week students are introduced to a WebQuest that deals with appropriate technology and assigned one of four defined roles. Their homework for the week is to access the WebQuest and use the process and resources identified there to develop a short position paper on the issue from the perspective of their assigned role. Classes in the third week begin by having students work in role groups to discuss their position papers and then present a combined view from that perspective to their class. After the students have had opportunity to see the issue from multiple perspectives, the class is assigned to the affirmative or negative team for a debate to be held in the fifth week lecture and one student is selected to speak in the debate. Although just one student will speak in the debate, all class members are expected to assist in the speaker's preparation and in the development of team strategy. This process is undertaken in WebCT discussion areas commencing that week and continuing to the debate. Separate areas are established for affirmative and negative teams and within those there are topic areas for each speaker position and overall strategy. Allocation of a small component of course assessment for contribution to the debate preparation encourages active participation by students in the online discussions. Use of the online format saves class time and affords students opportunity to seek out resources to support their positions as they discuss the issues.

A second substantial use of the online environment occurs in the major assignment, which includes the development by each tutorial class of curriculum resources that are shared with all students in the course across both campuses. Class time during this latter part of the course is given over to work on the materials development activity but much of the work needs to be undertaken and coordinated outside of class time. Discussion areas are created for each class and are used by students to exchange ideas and files as they manage the relatively complex process of creating and publishing quality assured materials. The availability of an online space in which to work lends flexibility to a process in which 25 or so students with a variety of other commitments need to work together on a common project.

Both of the activities described here could be managed in a face-to-face class without the use of online discussion. In both cases the use of online discussion adds flexibility in time and place of access for students who increasingly have family and work commitments that add to the difficulties of scheduling extra meetings for group projects. In both cases the quality of the work produced by students benefits because the asynchronous communication provides time for research and reflection that might not be available in class or in scheduled meetings. Moreover, the online process maintains a record of discussions that is accessible to participants, other students in the relevant groups and to faculty members teaching in the course. In the latter case, it would be effectively impossible for a faculty member to monitor the multiple small group meetings that would be required to accomplish the equivalent work but it is a relatively simple task to skim online discussions and provide guidance and support where it appears to be required. The use of online elements in a blended environment need not supplant face-to-face processes but it can add to the quality of both process and outcomes, producing more effective learning experiences for students.

Example 2

This example describes how a face-to-face Secondary pre-service teacher education course used an online triad mentorship (+1) to provide access to discipline specific curriculum and pedagogical knowledge.

Faculties of education have been criticised by their students and the field as being "ineffective in preparing teachers for their work, unresponsive to new demands, and being remote from practice," (Darling-Hammond, 2000, p. 166). This course was exploring new ways for pre-service teachers gain expert pedagogical content knowledge, increased curriculum awareness and increased opportunities to link theory and practice. In particular the mentorship aimed to provide them with a safe environment to deeply probe and question their new experiences.

The online asynchronous environment was used to support teaching and learning in lectures, tutorials and field experience in addition to providing pre-service teachers with opportunities to develop professional identity through the online mentoring.

The mentees within the triad were third year pre-service secondary teachers and the mentors consisted of final year pre-service secondary teachers, in-service teachers, and, where possible, a faculty member (+1) with appropriate subject matter expertise. During the semester the mentee and mentor roles were sometimes swapped between participants.

Participation in the online mentoring was compulsory for the mentees and their contributions formed part of the assessment for the course. This response obligation was aimed at ensuring quality participation from all of the pre-service teachers. The students were aware that significant participation was required in terms of the depth and breadth of their contributions rather than the quantity of their contributions.

The mentor activity commenced with a face-to-face meeting where the triad mentorship was explained and roles were explored. The mentors were given an indication of the concepts that would be investigated during the face-to-face sessions. This assisted with linking between the two modes so as to provide the pre-service teachers with additional opportunities to link theory and practice early in their program. The online activity commenced with introductory messages from the mentors and mentees. During the semester the content of the dialogue was driven primarily by the mentees.

The triad mentor groups were clustered according to teaching areas. There were specific discussion areas for each discipline and the mentees were required to join 2 discipline groups. After sending their initial message, mentees were required to send a number of follow-up postings. These included questions; responses to other mentees or mentors; comments on what they had seen during their field experiences; critical analysis of what they had experienced; comments about what they had observed or read; reflections about matters that concerned, inspired, bothered, or puzzled them; and discussions about events which tended to confirm their preliminary ideas about teaching or caused them to re-examine their prior understandings of learning the teaching. The expectation was that they might use the triad as a means of making sense of the complexities involved in the teaching profession. Mentors assisted with provision of information and examples, offered encouragement, modelling, questioning to share experiences, stimulated questions, provided feedback to the pre-service teachers as they communicated their application and refinement of knowledge and theory, provided emotional support and took on the task of role model for the early pre-service teachers.

"When students engage in social interaction and discourse about real world teaching and learning settings, they are exposed to the strategies and skills of peers and mentors that should help them internalize new strategies and skills" (Bonk *et al*., 2002, p. 211). Engaging pre-service teachers in mentoring triads situates their learning in the context of practice and supports a form of cognitive apprenticeship (Brown *et al*., 1989) as they work through their experiences. These pre-service teachers had the opportunity to participate in ongoing dialogue with experts both face-to-face (at field experience and in face-to-face classes) and through the online mentoring. This dialogue provided opportunities for the experts to confront, negotiate and explore issues while getting to know the student and while the students came to know themselves in a different way. The dynamic relationships and roles within the mentorship indicated that both mentors and mentees benefited from the online conversations. The professional interaction ensured continued development of curriculum and pedagogical knowledge, professional identity and professional networks for all participants.

In summary the uses of blended learning within this course involve the following face-to-face elements: content delivery; exploration of self and content; and interaction: student to content, student to student and student to teacher. The online elements involved the provision of content material and other resources; and interaction: student to content, student to student, student to teacher, student to mentors, teacher to mentor.

Conclusion

Blended learning involves combining the strengths of both face-to-face and online learning environments to create a unique educational experience. The two examples exemplify how the online environment paired with face-to-face can be used to make available an extended range of interaction and space for knowledge building and sharing.

Successful blended environments necessitate teachers redesigning their courses rather building on top of their original courses. Significant scaffolding and facilitating are required of the teacher. Effective blended learning and teaching environments enable and expect pre-service teachers to participate in learning as an individual and as part of a collaborative learning team as a means of constructing knowledge. The quality of the interaction is important, rather than the quantity of interaction or the mode of interaction, face-to-face or online. Dynamic learning outcomes result from access to learning opportunities through multiple pathways where spontaneous exchanges, characteristic of face-to-face encounters, and more reasoned reflective comments, typical of asynchronous CMC, are both valued.

As experience with blended learning spreads and its benefits for both cost containment and quality improvement (Heterick & Twigg, 2003) become more widely apparent there will be increasing reliance on blended learning environments in twenty-first century education.

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