BLENDED LEARNING THROUGH ICT: NEW PERSPECTIVES FROM ON-CAMPUS AND DISTANCE STUDENTS

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Abstract

The concept of blended learning has begun to change the nature of all teaching and learning in higher education. Information and communication technologies have impacted by providing a means of access to digital resources and interactive communication for all courses and the blending of pedagogy and technology has produced a range of approaches to teaching and learning. This paper discusses the research literature and the writers' research, defining what they have concluded is teaching practices that use the concept of blended learning effectively. In investigating how ICT can add variation for student learning, they analyze this from two dominant modes of pedagogy, learning environment and pedagogy through both on-campus and distance education. In both modes, Students acknowledged the power and effectiveness of blended learning.

Keywords *: Blended learning, Distance education, On-campus education*

I. Introduction

Information and communication technologies (ICT) have impacted on all sectors of education by providing the means for electronic communication, both for individuals' and for groups, while also providing access to digital resource sharing. Such use of the online environment has become accepted as a medium for learning in higher education, initially by those teaching and learning through distance education, but now more pervasively by those teaching and learning in traditional on-campus environments. ICT use in distance education as a means of communicating with learners (who previously relied on more traditional and individual technologies such as telephone, fax and mail services) has changed the nature of the field by providing a medium for ongoing interactive social learning. However, even in distance education, blending modes of learning and teaching has been a common practice where this is possible. ICT use in on-campus education, where face-to-face communication and resource access are more

available, dominant and unproblematic, has meant that it issued in a variety of ways and its impact is more variable.

The term "**blended learning**" is being used to describe the combination of modes of learning and teaching made possible through the mediation of ICT. Such a term needs careful definition and study as there are many different combinations of media, learning designs and teaching strategies encompassed in the concept. The blending of pedagogy and technology has produced a number of approaches to teaching and learning not always consistent in their effectiveness and quality of learning. However, in both distance education and on-campus education, learners are seeking blended learning as a mode of choice and this paper will describe the learners' perspectives and reasons for this.

Writers will review the literature on blended learning and draw from writers' own research studies in both distance and on-campus learning environments, defining what writers have concluded are teaching practices that use the concept of blended learning effectively. With a focus on blended learning from the learners' perspectives, writers examine what is effective teaching for such a mode of learning.

II. Discussion

1. Concept of Blended Learning

Blended learning is a term now used in the literature to describe a wide variety of teaching and learning that generally involves ICT. Its use has been described in many contexts, for example, the corporate sector (Thorne 2003), distance education (Jelfs et al. 2004) and also for different kinds of learners, for example, in professional development (Bonk et al. 2002) and foundation degrees (Dron et al. 2004). Many of the reports in the literature have related to conventional university settings where traditional campus-based activities have been mixed with online learning, which might include **computer mediated communication (CMC)**. Aspden and Helm (2004) found that, for first year undergraduate students, the value of the virtual environment lay in promoting connectedness, for example, keeping up with the pace of the course, being better

prepared for class and having more opportunities to reflect and discuss topics away from class. Molesworth (2004) has reported on the introduction of online discussions in a traditional undergraduate marketing course and found a lack of participation, with students wanting more integration of CMC into the overall course. Based on their research with MBA students, Walker and Arnold (2004) have developed a student-centred pedagogical framework for blended learning. The literature indicates that there are challenges. For example, Ellis and Calco (2004) found that while undergraduate students understood the roles of face-to-face and online discussions, they could not connect either kinds of discussion to the goals of the course.

Distance education has always combined modes of learning where possible. Many courses integrated residential sessions and face-to-face meetings in study centers with whole group online asynchronous communication as well as synchronous sessions through such technologies as teleconferences (Keegan 1996, White 2005). Thus a blended mode of technology use has become more common over time. As the online environment has become more stable for most users, there has been an effort to establish communities of learners online, so the face-to-face component, always an expensive and less flexible medium for distance learners, has become less common in distance courses. However, with new internet facilitated audio and video technologies becoming more available, distance education courses are being designed to blend modes of interaction in many ways. A major theme in the literature is the varied way in which blended learning is described conceptually. This diversity is acknowledged by Whitelock and Jelfs (2003) in their editorial of a special journal issue on the subject and illustrated by wide ranging definitions and frameworks in the journal papers that follow. Osguthorpe and Graham (2003) also introduce a special journal issue defining the term and its direction in practice and state "the aim of those blended learning approaches is to find a harmonious balance between online access to knowledge and face to face human interaction". This blend may involve the mixing of online and face-to-face learning activities, students or instructors with a

number of goals including pedagogical richness, access to knowledge, social interaction and ease of course revision.

Most commonly, however, writers interpret blended learning as a combination of face to-face learning with technology based, and particularly internet based, learning (Kerres and De Witt, 2003). However, in a review of the literature on blended learning, Oliver and Trigwell (2005) have extended the notion of what is blended in identifying seven different blends. These were mixing:

- e-learning with traditional learning,
- online learning with face-to-face interaction,
- different types of media,
- different contexts such as work and study,
- different theories of learning,
- learning objectives such as those concerning skills as opposed to knowledge or
- pedagogic approaches such as distance and campus-based learning.

They regarded the field as "ill defined" and in their view, "almost anything can be seen as blended learning and consequently, use of the term does not help us understand what is being discussed". Often, the term was very general and reflected an aggregation of different circumstances, so there were no underlying principles from which to determine what may or may not be blended learning. They describe the diversity of definitions as lacking in an analysis of the learners' perspectives and they offer "variation theory" as a framework for research that shifts the perspective of the blend from the teacher to the variation in learning experiences of the learner and reconstructs the term blended learning. This was "based on the idea that for learning to occur, variation must be experienced by the learner. Without variation, there is no discernment, and without discernment, there is no learning...learning occurs when critical aspects of variation in the object of learning are discerned. Discernment is about the experience of difference". What is important is not variation per se but the impact of the contrast and comparison that occurs because of the variation. They argued that different teaching media

could be used to help students experience variation and that there was a role for blended approaches in creating this learning situation. Advantages can be gained by drawing on all possible ways of learning with variation theory providing a new conceptual framework to further investigate blended learning environments, particularly from a student perspective.

2. On-campus Education and Blended Learning

The case described was situated in an undergraduate course in the science faculty of a New Zealand university. In the course, a weekly 2-h face-to-face class introduced new topics and concepts, and this was followed by independent work which was based on online activities such as readings, quizzes, and case studies. The main online discussion activity was styled as a debate and was assessed. The debate was based on a moral dilemma and participation required reading, critical thinking and application of theoretical concepts. The participants included both New Zealand based students (locally termed Kiwi) and students from China (who were both international students and recent migrants) and the case has therefore been able to provide descriptions of learning from both points of view.

The results of the study illustrated an activity that produced high levels of student engagement and, at times, passionate and heated discussion. The dominant view of the students was that the online discussions helped them to learn and a significant aspect of this lay in their perceptions of the differences between the online and face-to-face discussion environments. In the text-based online environment, reading other messages prompted engagement with the course concepts, and the need for students to write to their peers in a public forum promoted deeper understanding:

Other enhancements were the record of the discussion and time to think, both of which improved the quality of the discussion. Unlike the classroom, there was the possibility for everyone to have their say, and for some Kiwi students the virtual environment meant that it was easier to take part in the discussion, to disagree with other students, and the opinions expressed were often more honest. For Chinese students, these features enabled them to talk far more with their peers

online than they did in the classroom, where the speed of conversation was often too fast and they were less confident:

While the Chinese students did not like the debate as a learning activity, there was better interaction with their peers in the online discussions and their asynchronous and text-based nature gave them time to read, think and express their ideas in English. Many Kiwi students could also describe the value of asynchronicity, which gave them time to think, and improved their understanding and the quality of the discussion in a way that was not available in face-to-face discussions.

The content analysis showed that students were always on task in the debate, and the interviews indicated that students regarded their participation as occurring in their own time and hence did not waste their time with off-task discussion. This was different from class, where students were there for a defined time, which they did not regard as their time and hence the temptation was to chat and go off task. There was also a strong sense of the online discussions as a learning space where it would be inappropriate to socialize.

The debate as an activity was engaging for the students and they responded to the challenge of taking a position, backing their argument up with evidence and responding to other postings (required). The controversial topic was motivational but not for the Chinese students.

The other effective aspect of the learning design was the way in which the online discussions were linked to the face-to-face class and course. While the teacher encouraged everyone to go on line and clarified the task and expectations, more important connections were made for the students when the teacher commented in class on the online discussions and introduced activities which were designed to develop the kinds of cognitive skills that the debate required. Through such actions, the students were able to connect the online discussions to their learning, and in the absence of overt teacher presence online.

The case illustrated the ways in which on-campus students go about learning in an online discussion when it is included within their course as a significant activity. The addition of the CMC medium meant that students had to

work in a different communication environment that was text based and virtual, with no visual or aural cues, but with time and place flexibility. This study shows that both Kiwi and Chinese students recognized these differences and responded to them in a way that enhanced their learning. However, this response was not entirely related to differences between the media per se, and the findings endorse the importance of the learning design. Here, the activity itself and its assessment were key factors. Also, the debate was well connected to the class activities in terms of both content and skills, and the teacher's regular attention to it in class legitimized this new approach to learning and its incorporation into the course.

What emerges from this case are the ways in which students view the blend as an effective part of their learning, with a clear recognition of the benefits of both ways of learning with online discussions as complementary to face-to-face discussions. Student perspectives of this blend of online and face-to-face discussions in class provide evidence of the operation and benefits for learning of variation in discussion media and an illustration of their effective use in a learning design.

3. Distance education and blended learning

The second study of a group involved postgraduate MBA students that consisted of 31 part-time students (21 male, 10 female) based in a diverse range of workplaces and geographical locations in three states of Australia. Their course in business economics within the MBA course at an Australian university was designed for students who were geographically distant from the university, so distance education was the dominant mode of learning. However, the course blended a range of learning activities, beginning the semester with a weekend residential of compressed classes supported by print readings and study guides, and with a central learning activity of online class discussion, with the greater online activity in a required small group discussion. The online system also provided email communication and access to digital resources, and small group interaction was required for assessment to complete group tasks throughout the

semester. The assessment tasks devised for the course established a purpose for collaborative group processes through the use of electronic group spaces.

The learning design was effective, as the small group online discussions, though run as student-facilitated interaction, were linked to the distance education print materials and readings and were structured and assessed. The teacher used the face-to-face residential component to define the course expectations, and encouraged the small group interaction through media of choice as the central course design. The face-to-face residential component and the traditional distance education materials complemented the online group interaction.

The teaching and learning that took place in the Business Economics unit within the MBA course satisfied criteria for an effective model of collaborative group learning devised for the online environment.

1. It involved heterogenous groups of peers mutually negotiating roles rather than acting in teacher-directed roles as in the cooperative learning model. The original group structure was devised as part of the MBA course but the role structure was decided autonomously within the group and adapted to changing group activities and individual capabilities.
2. The assessment tasks devised for the course established a purpose for collaborative group processes through the use of electronic group space. Students were assessed as a group by five fortnightly tutorial assignments submitted electronically as well as through a collaborative group case study.
3. Students were also individually assessed by an individual case study proposal, a multiple choice test and a final exam. If evaluated both individually and as a group, the students understand that they have a responsibility to the group to contribute and meet assessment requirements, but this also provides the assessor with a means of assuring that all students have learned from this process.
4. Students could gradually learn the language of the new knowledge area of business economics through the online discussions. Through the small group conferences, students coming from many workplaces and previous learning environments were acculturated to the learning community of economics.

In interviewing the students, it became obvious that they chose a blend of varied

learning environments and media where possible.

They were grouped into three groups in as close a geographical proximity as possible, although this proximity varied widely. One group, Group A, was able to meet periodically as a face-to-face group as well as being regular users of their group conferences. A subgroup of this group consisted of three students working in the same workplace who decided to work together and not via the electronic group conference, although they used the system for reading the whole group conference. Another group, Group C, consisted of students who were so widely scattered geographically that the electronic conference was their central communication, but they supplemented this with the use of phone or fax. The third group, Group B, chose to meet face-to-face as all group members worked in the central business district of a capital city. Though two-thirds of this group used the electronic system to read the whole group conferences, they did not share text and ideas through their small group conference.

There was a layer of communication outside the online discussion space that was very important to the group communication. Often the small-group conferences were used as a means of flagging other group communication, faxing, phoning or establishing group meetings. One group member described the group's layered communication process:

The whole data group represented the type of postgraduate student often studying in this distance mode, with an average age of 33 and jobs ranging from accountancy-related occupations to engineering positions, public servants, etc., who shared similar management responsibility or potential for such responsibility in their workplaces. This factor also meant that all students were based in workplaces that demanded full-time commitment, and one of the reasons many of them had chosen to study part-time and by distance mode was to attempt to balance these demands. Most students had easy access at work to fax machines and telephones for either local or distance calls. One student raised the aspect of distance influencing the choice of technology. Students who were further away and faced with more costly telephoning may be more likely to try using the online system. Sometimes, though, it was the purpose of the activity that dictated the

communication used, as with one student's need to "caucus" opinion in his group which he thought needed the one-to-one communication of the telephone.

However the students were aware of the limitations of these other technologies as well as the specific advantages of online communication of asynchronous shared text. The flexibility for managing the time of communication at their convenience, as well as the ability to share digitized text without having to retype it was both advantages that busy collaborating students appreciated.

The use of layers of communication with a central message base on the online conference and through a mixture of technologies for different purposes enabled effective and efficient communication in the groups and showed the students' need for blending media even when the dominant mode of learning is at a distance. A further small scale study of this course (Stacey et al. 2005) showed a similar pattern of choice of interaction, with students choosing a blend of media and communication modes for learning where this choice was possible. Though they were able to communicate in online discussions, once small groups were formed they used phone and email communication and face-to-face meetings at residential and workplace sites, mainly using the online space for sharing text as they collaborated to produce their assignments.

III. Conclusion

As predicted by Oliver and Trigwell (2005), when learners' perspectives were researched, they expressed an understanding of the benefits of both online and face-to-face interaction and chose, where possible, to blend these modes. Teaching effectively for blended learning, whether the dominant mode was distance or on-campus learning, required careful design and preparation, with expectations of student interaction online explained and designed to complement the dominant mode and required as part of assessed tasks. Dron (2004) strongly support the importance that "Blended learning inherently is about rethinking and redesigning the teaching and learning relationship." and our studies supported this concept.

A concern that is raised from these studies is that, increasingly, traditional distance education courses are offered only through the mediation of internet-based technologies with fewer structured face-to-face opportunities built into programs. Though the students learning on-campus will gain by the blended mode that provides them with variation in the experience of learning, students learning at a distance may have fewer opportunities for blended learning, especially as programs are taught globally. Developments in ICT with internet-based telephony and accessible forms of audiovisual synchronous communication are addressing these needs to some extent, but the role of teachers in designing for effective learning within these models is becoming even more important. As with the careful complementary blending of on-campus and online learning, they will need teaching strategies that acknowledge the importance of explicitly establishing social presence and a sense of community among distance education students as the impact of development in ICT affects learners at a distance.

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