Involving Faculty Digital Reluctants in a Blended Learning Approach – Facebook, Blackboard and Clickers

Dr Simone Smala
The School of Education
The University of Queensland, Australia
s.smala@uq.edu.au

Dr Chris Campbell
The School of Education
The University of Queensland, Australia
chris.campbell@uq.edu.au

Dr Sue Monk
The School of Education
The University of Queensland, Australia
s.monk@uq.edu.au

Abstract: This paper presents a research project in a teacher education course for first year university students that focused on a blended learning approach. Guest presenters of weekly lectures were asked to consider a variety of digital learning support tools, including clickers, Blackboard and Facebook, in their pedagogical decisions. The focus of this paper is the presentation and analysis of data collected from teaching staff involved. The paper concludes that guest presenters want to retain a sense of control of the pedagogical impact they are planning for their students; for this purpose, the paper offers a set of recommendations to improve access and use of digital tools in university teacher education courses.

Introduction

One of the major issues of the transition from traditional teaching methods to hybrid methods is the focus on faculty members' continued control over their students' learning experiences. This paper presents a research project in a teacher education core introductory course for first year tertiary students that focussed on faculty members' experiences with a blended learning approach in the course delivery. The University of Queensland is a large tertiary institution in Brisbane, Australia, and is amongst the top 100 universities worldwide. First year teacher education courses usually have an enrolment of 180-250 students, and the course in question, Introduction to Education, is compulsory. The focus of the research was the experiences of the teaching Faculty involved as lead academic or guest presenters to deliver the lectures. The course regularly uses a number of guest presenters from the education faculty, but also from outside specialist education material providers.

All guests involved were asked to consider a variety of electronic learning support tools, including clickers, Blackboard and Facebook, in their pedagogical decisions when preparing their lectures and other student engagements. Amongst the eight participating guests were tenured faculty, casual staff, advanced PhD students, librarians and providers of specialized educational materials. The focus of this paper is the presentation and analysis of interview data collected from teaching staff involved, observations in lectures, and a document analysis of Blackboard and Facebook use of the teaching staff and students. Social media is the most recent addition to the blended learning repertoire, and the research team were particularly interested in the synchronous and asynchronous communication decisions the lecture presenters might have made across traditional face-to-face and new online methods. The initial motivation for the research project included the aim to steer more teaching staff towards using digital learning support tools and to analyze reflections particularly of staff members with no or little experience with tools like clickers, Blackboard or Facebook. While these tools are now widely available at tertiary institutions, the uptake is still relatively reluctant, in particularly concerning the use of clickers and Facebook or other social media.

Therefore, in this paper the research team included a focus on issues of resistance and reluctance to using new online or student response systems. The paper postulates that such reluctance might be rooted in concerns about relinquishing control over pedagogical decisions, amongst other factors. This paper will present selected contemporary research on faculty staff members and the transition to digital teaching approaches, with specific attention to Facebook, Blackboard and clickers. After presenting and discussing the interview and observation data, the paper offers responses and recommendations about possibilities for faculty 'digital reluctants' to remain in control of pedagogical decisions when using a blended learning approach with adequate technical and motivational support.

Blended Learning

Blended learning in higher education is commonly understood to embrace the traditional values of face-to-face teaching with an integration of best practices in online learning (Garrison & Vaughan, 2011). One of the major issues that this approach needs to consider is redesigning spaces for learning and teaching, by taking into account physical, virtual, formal, informal, blended, flexible, and time sensitive factors that influence the learning processes (Keppell, Souter, & Riddle, 2012). Sometimes also referred to as hybrid learning, this learning approach focuses on an integrated learning experience for students, as presented here in this paper. Due to the availability of learning management systems such as Blackboard and Moodle in most tertiary education settings in the Western world, blended learning approaches have become ubiquitous in the last decade, and have been expanded to include social media networks and its immediate communication facilities in the last 6-8 years.

Blended learning is therefore now characterized by possibilities of asynchronous and synchronous communication in an online environment as well as a face-to face environment (Garrison, 2011). While most research now looks at issues of creating learner-friendly environments in either hybrid or blended learning (Le & Le, 2012), 'instructor acceptance' has also been a focus of blended learning research (Grosz, 2012; Lu, Zhao, & Jiang, 2012). Grosz, for example found that, not surprisingly, faculty were more willing to redesign their classes for a blended learning approach when they perceived this approach to be superior to traditional instruction. According to Grosz, extensive voluntary training opportunities can support this positive outlook (Grosz, 2012). The author's findings reflect earlier research on the emergence of different roles in blended learning, particularly those of learning technologists or instructional designers as compared to academics actively using the tools in their courses and/or researching a blended approach through the lens of educational theories (Conole, White, & Oliver, 2007). To quote Dziuban et al.: " It is an irony of the academy that few faculty members have ever studied learning theories, pedagogy, instructional strategies, curriculum development, assessment strategies or curricular applications of instructional technology" (Dziuban, Hartman, Juge, Moskal, & Sorg, 2006, p. 198).

While the faculty involved in this study had the advantage of being education academics or personnel well versed in the parameters of educational theories, they were first and foremost teaching staff for whom online modes of teaching and student response systems were not as familiar as traditional face-to face teaching modes. The potential "loss of control over the teaching experience for their students" (Kelly, 2007, p. 33) seems to be a major concern for faculty asked to engage in another blended approach, and it is this sense of control that is at the center of successful involvement of faculty digital reluctants.

Facebook and Blackboard

Latest statistics in October 2012 indicate that Facebook was the top ranked social networking site (SNS) in the world with an estimated 1 billion monthly active users, and 552 million daily active users on average (Facebook newsroom statistics, 2012). Increasingly, the use of social networks in higher education has become a research focus (Liu, Kalk, Kinney, & Orr, 2010), although professional applications and active Faculty use of Facebook as a teaching tool are still a new phenomenon (Bridges, 2009). Drawing on literature engaging with the use of social networking sites (SNS) as educational tools (e.g. Sarsar & Harmon, 2011; Smala, 2012; Williams & Chinn, 2009), this paper contributes to the insights about Facebook use as part of an arsenal of blended learning tools.

While privacy concerns, as well as issues of self-disclosure and identity management are often mentioned in the relevant literature (cf. Harris, 2008; Wankel, 2009), the research team decided to focus on the following aspects of Facebook use amongst faculty teaching in education programs (adapted from the following sources: Selwyn, 2007; Wankel, 2009):

- Facebook as an additional avenue to connect to diverse cohorts of students and to 'speak' to students through a less hierarchical medium than an official learning management system.
- Faculty and students developing solidarity in the class as a whole.
- Faculty teaching in the course posting threaded discussions on course-related material and activities, creating interactivity with students.

The focus of this study was particularly on indications that the informal culture positively affected the relationship between lecturer and students, a phenomenon recognized by Pollara and Zhu (2011). Improved online communications for the mobile or distant learning aspects of a course (Brady, Holcomb, & Smith, 2010) also played a role in the decision to include Facebook as a communication avenue, as checking Facebook updates on smartphones is a widespread practice amongst students.

Research findings indicate that Blackboard use is predominantly connected to the benefits of increased communication/collaboration/community through online instruction (Anderson, 2003). However, uptake of Blackboard as a universal tool to support course delivery at our research site, the School of Education at The University of Queensland, was only established two years ago, and faculty are presently encouraged to familiarize themselves with all the facilities included in Blackboard. Not surprisingly, another Australian study into the use of Blackboard amongst teacher education faculty comes to the conclusion that "staff identified the interactive features of Blackboard as having the potential to enhance the learning experience but commented frequently on the time consuming nature of working with features such as wikis, blogs and AV chat" (Heirdsfield, Walker, Tambyah, & Beutel, 2011, pp. 9-10). The study presented here contributes to an understanding of Blackboard as part of a broader blended learning approach that might assign different roles to different media which are in use at the same time.

Clickers

There is now quite a body of literature that surrounds the implementation and use of clickers in different types of higher education contexts (For example: Barnett, 2006; Caldwell, 2007; Hall, Collier, Thomas, & Hilgers, 2005; Koenig, 2010; Milner-Bolotin, Antimirova, & Petrov, 2010; Strasser, 2010). Other studies suggest that pedagogy is important when using clickers with teaching (See: Beatty & Gerace, 2009; Hoekstra & Mollborn, 2012; Milner-Bolotin et al., 2010). In an early study it was reported that one of the positives about students using the clickers is that they like receiving feedback on how well they actually understand the material they are learning. Students also reported enjoying the interactivity in class (Barnett, 2006).

In a study of first year physics students, researchers defined clicker effectiveness as "student perception of how much clicker pedagogy helped them stay engaged in class, understand the material, get continuous formative feedback on their progress, clarify difficult concepts, and reflect on their own learning" (Milner-Bolotin et al., 2010, p. 16). Caldwell (2007) suggests that clickers offer a flexibility in using them for learning as they can be used effectively in both lectures and tutorials and can be used with many different styles of questions. However, there appear to be some negatives with using clickers in teaching and that can be student resistance to their potentially increased accountability and some of the challenges presented to academics who use them (Hoekstra & Mollborn, 2012).

One study presents positive results in using clickers in teaching, although the teachers had to make significant changes to actual teaching to see these results (Kolikant, Drane, & Calkins, 2010). This study used clickers in undergraduate math and science classrooms in the USA and results suggest that the use of clickers does not occur instantaneously in the classroom but is a gradual one where the instructors needed to overcome various challenges. However, the study suggests that the use of clickers "may act as a powerful catalyst to transform them, moving them from teacher-centered conceptions and approaches to teaching to student-centered conceptions and approaches" (Kolikant et al., 2010, p. 134).

Methodology

This paper presents the results of a case study based at University in Queensland, Australia. There were 180 undergraduate students were enrolled in a first-year education course, which runs for 13 weeks each semester and comprises a two-hour lecture and a one-hour tutorial. This is a mandatory course for students enrolled in a Bachelor of Education program or wishing to complete program requirements towards a teaching degree. Due to the nature of the diverse content (e.g. gender issues, race and ethnicity, social class debates) guest presenters are regularly invited to conduct individual weekly lectures. The aim of this research project was to generate informative data about the blended learning approach while involving a number of teaching staff in a large introductory university course in teacher education. The data collection procedures for this paper included the following methods:

- Pre- and after lecture surveys for eight academics involved in teaching the course - Survey respondents (SR) 1-8
- Interviews with seven academics – Interview respondents (IR) 1-7
- (Self-) observations of lead academic – Lead academic self observations (SO)
- Students data elicited from online survey – Student respondent data (SRD, 54 respondents)

As a way of fostering student participation in a blended learning approach, the course included a range of technologies which students used during lectures and between classes. These technologies included the use of learner response systems in lectures - ActivExpressions (clickers) and the ActivEngage software program which students downloaded to their laptops at the beginning of the course. Students then had the choice of using the student response system on their laptops or make use of 60 handheld clickers which were connected to the same response system. Due to varying attendance rates in lectures, there was usually a 90-100% access rate to a student response medium.

Outside of lectures, Blackboard and Facebook were also used as ways to maintain regular interaction between the students and the lead academic. Data were drawn from the questions sets prepared by the lead academic and guest presenters, an online student survey presented towards the end of the course, and reflective writing entries based on self-observations kept by the lead academic. In addition, the data draw on interviews with the guest presenters about their use of technologies for this course. The perspective presented in this paper results from a consideration of how teaching staff respond to the use of a blended learning approach, in particular if they are only involved in the course delivery in a guest function.

The paper builds on Phase One of a smaller project (Campbell & Monk, 2012) in which clickers were used with a small group of 20 students in one tutorial group. Initial findings demonstrated that both students and teaching staff quickly became confident in their use of the clickers, but more significantly they began to find unanticipated uses for the learner response system.

Blackboard has been used over several years as a tool to support student learning in the course, however in this study, its role as an effective teaching and learning support was reviewed by comparing how it was used in relation to the other technologies introduced for the course, a dedicated Facebook group and clickers in the lectures. Participation in both the Blackboard site and the Facebook page were monitored for frequency of use and type of participation by both Faculty staff and students

Guest presenters were invited to contribute to data gathering. Firstly, they were asked to prepare questions for students before their presentation. These questions were then uploaded to slides in PowerPoint by the IT academic (involved as a support person in this project). The guest presenters were informed that they could use a variety of question types, such as yes/no, true/false, Likert scale, multiple choice and open-ended questions. The presenters were supported in using the technologies both when preparing the lecture and while presenting in class. They were also advised that Blackboard and Facebook were being used as online teaching and learning support tools. In addition, they were asked to complete an online questionnaire, before and after their presentation, regarding their previous experiences using these technologies and how this experience aligned with their pedagogical approach. In some cases, depending on their responses, this was followed up with a more detailed interview to elicit information about the ways in which they reflected on their pedagogical decisions. Finally, data were also collected via observation notes by the lead academic during guest presentations.

In the following section, the findings in relation to clicker use, Blackboard and Facebook are presented. The paper then finishes in a conclusion concerning the effects of blended learning on faculty staff's sense of control over their pedagogical decisions.

Results and Discussion

Responses to using the range of technologies differed across the guest presenters in this study. Initially all guest presenters agreed to participate in the trial and most were enthusiastic about new opportunities to investigate and enhance interactions with their students. However, no one except the lead academic, the regular presenter for the course, opted to access Facebook or Blackboard. In the interviews and the observations, it became clear that one obstacle to embracing all aspects of blended learning offered in this course were simple issues with hardware and familiarity. The clicker technology was new to all guests and still in its infancy as a university tool, so several of the guests had to stand by and wait until an IT support person had solved a hardware problem setting it all up. This sense of not being in control was extended to the Blackboard and Facebook use; both media would have required the guest presenter to be invited to join or to ask for an invitation. One guest said: "*I didn't think I had access to the Blackboard page to be honest*" (IR 1), indicating that 'ownership' of Blackboard pages is still very much seen as the exclusive domain of the lead academic.

However, it was established that most guests had no reservations about utilizing Blackboard beyond their face-to-face guest presentation to engage with students, other than technical issues of not having ready access to the course site, and a vague sense of intrusion into somebody else's online space. Several of the guest presenters offered to upload their lecture notes themselves, once access to the Blackboard course site was given. The ones who asked the lead academic to upload the lectures notes for them cited mainly time constraints as reasons, not an unwillingness to use Blackboard. Blackboard is a widely used tool, and faculty and other university staff frequently enroll each other into their respective courses to share information, or give access to support staff like librarians.

Facebook, however, was still viewed as a largely unknown entity. General inexperience with using Facebook as a teaching tool impacted considerably on guest presenters' decisions about getting involved in this side of the blended learning approach. There was a marked reluctance to embrace Facebook as a potential site for student engagement, potentially because Facebook was the least familiar medium to all guests. Not all guest presenters had a private Facebook site at the time of the interviews, and several mentioned that they nominally had a page, but hardly ever used it. The following quote from one of the interviewed guest presenters exemplifies the concerns expressed in other interviews as well:

> *I guess I have reservations about social media broadly speaking, and with it the bringing together of an academic space and conversation with social media. I worry I guess about some of the engagements that you might have using social media and the confusion from the students. Because it seems as though the students have certain sorts of ideas of what social media is there for and how we engage with it, and what they've learnt may not fit in with the requirements, expectations and demands of an academic way of communicating and engaging. And I worry about that fit. I certainly would not want to be responsible for managing that sort of space. I love the idea of having an online space to have an academic conversation with learners and to give them that but, Facebook is just so familiar [to them as private social medium], and I would be concerned about problems coming into it.* (IR 2)

The guest academic identifies two areas of concern they had with using Facebook. Firstly, Facebook is seen as a non-academic context in which non-academic practices are the norm. The concern is about the 'fit' between the non-academic practices that are usually fore-grounded in Facebook, and the types of 'conversations', requirements and expectations that an academic Facebook group might demand. Secondly, there is a concern about 'managing' such a space, revealing insecurities about roles and relationships between academics and students in an otherwise very informal social space, and the 'confusions' students (and probably academics) might have about private and academic conventions. However, the blended approach as such is supported, by saying that they "love the idea of having an online space to have an academic conversation with learners", just not on Facebook.

Interestingly, there are indications that both support and challenge this view. One of the authors of this paper and the lead academic in the course that was the setting for our project, found in an earlier pilot research project on the use of Facebook that students did indeed use a much more 'familiar', even 'flippant' voice when communicating with the lead academic on Facebook (2012). Discussion entries in comment threads on Facebook were considerably shorter than discussion entries on Blackboard discussions, but students indicated that they found the shorter entries on Facebook (which might indicate a less 'academic' engagement) more accessible and were more likely to take part in the discussions. The other online space used, Blackboard, did not really yield academic conversations with learners either, mainly because students did not access Blackboard on a regular basis. The conclusion made in this earlier study was therefore that Facebook pages had three advantages over other blended learning media, such as Blackboard – the frequency of student access, the immediacy of content and news distribution, and the engagement of a larger number of students. The new insights from the present research project now provide a deeper understanding of the concerns faculty teaching staff might have about harnessing practices and conventions on Facebook so that their pedagogical intensions are met.

Despite a pre-lecture meeting and IT assistance in preparing their PowerPoint slides with the questions they would be using for their lecture, there was still some apprehension about using the clickers. As one of the guest presenters responded in their pre-lecture survey "*To be honest, I am concerned it will interrupt the flow*" (SR 2). Nevertheless, the process of preparing questions for use with the clickers did cause the participating guests to imagine what benefits might follow. Some examples for this position were found in the pre-lecture surveys:

> *I am hoping that the types of questions and presentation of answers will engage those present in ways that oral Q & A's do not generally result in.* (SR 1)

> *The types of questions will invite the students to respond based on their assumptions/beliefs/familiarity with the materials, however there are many myths and misunderstandings that I hope will provoke the students the reflect on their own knowledge and understanding.* (SR 2)

These answers clarify that guest presenters first and foremost wanted to use the clickers as a strategy to arrive at pedagogical intentions they had established independently of the blended learning approach. However, the after-lecture interviews revealed that earlier apprehensions about the flow and the potential technical issues were consolidated after the use of the clickers with a broader perspective on their potential advantages:

> *It's the privacy of the clickers and being able to stop and think and commit to 'oh, OK, what might I think is the difference?' and then looking on the screen, that's a really different pedagogical space with a 100, 200 sort of people.* (IR 2)

Clickers are here seen as a pedagogical tool in the blended learning arsenal that actually enables an engagement with large numbers of students during a face-to-face synchronous communication period. The quote even suggests a type of private conversation moment, enabled by the clickers, that helps students commit to thinking the concepts or questions through personally, instead of feeling just part of a mass of people being lectured at.

Conclusion

In a blended learning approach with guest lecturers, including digital reluctants, control is a central issue. This study found that guests want to retain a sense of control of the pedagogical impact they are planning for their students. While certain obstacles to this sense of control were identified, e.g. "fussing around" with hardware problems and insecurities about the types of questions the clickers system would support, the avenues that can counteract any loss of control in a blended learning situation involving guest presenters were also established. For future projects that involve a number of Faculty staff working together in a course that uses a blended learning approach, the following preparatory steps are recommended. These include:

- Access to the Blackboard page established by the course coordinator for all guest lecturers prior to the first meeting, and suggestions that guests can upload their own lecture notes and communicate with students by using the 'announcements' section;
- Offer to include the guests in the dedicated course Facebook group for more informal solidarity building in the course cohort;

- Include an information section in the dedicated Facebook group that suggests practices for academic engagement and inform both students and guest academic about the section;
- Smooth operations of the technical side of the clickers system, and a sense that everything is 'set up' before the guest starts their lecture;
- A list of possible types of clicker questions with some examples (for example multiple choice, Yes/No, Open-ended) and a short overview of advantages and disadvantages of each clicker question type.

Implementing these recommendations will provide guests, including those more reluctant to engage with a blended digital approach, to re-establish a sense of control over their pedagogical decisions. For the future, hopefully other guest presenters in Introduction to Education are encouraged to use a blended learning approach that can support the normalization of digital tools such as Blackboard and clickers and the constructive use of Facebook as a course social engagement tool.

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