GUIDELINES FOR CONDUCTING A POST-GRADUATE MODULE WITHIN A BLENDED SYNCHRONOUS LEARNING ENVIRONMENT, FACILITATOR AND STUDENT PERSPECTIVES

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ABSTRACT

Technology facilitated teaching and learning can now influence the way both lecturers and students collaborate. The problem is that many of these interventions are conducted in a non-systematic ad-hoc way. There are concerns that merely adopting a traditional lecturing approach to a technology based environment provides little if any advantage to the education processes resulting in no manifest difference.
During 2013 and 2014, an attempt was made to offer a virtual collaboration (VC) module blending a traditional face-to-face approach with a blended teaching approach by adding a synchronous virtual classroom environment. The VC module had previously been offered to Information System honours students in a traditional face-to-face environment only. An action research methodology was deemed the most appropriate and in the first year, a conservative, phased approach was adopted to mitigate risk to both students as well as the lecturer concerned. After attempting a traditional lecturing style within the virtual environment, it was quickly realized that a facilitative role is necessary to achieve the potential of a virtual classroom. During the first year, data was collected from students as well as a virtual participant. The lecturer maintained a detailed log of experiences as well. During the second year, major process changes reflected the lessons learned from year one. This also resulted in six (6) guidelines believed to be appropriate for conducting a post-graduate module within a blended synchronous learning environment. The most significant contribution, however, is believed to be in the realization of what a virtual classroom environment means to an extended learning community and the value of providing a collaborative learning environment and encouraging students to engage with external stakeholders.

KEYWORDS

Blended learning, virtual collaboration, extended learning communities, community of enquiry

1. INTRODUCTION

Technology pervades most universities with high speed data line connectivity providing both wired and wireless computer access and internet connectivity. It is not surprising then that tertiary institutions have been exploring ways to leverage information and communication technologies (ICTs) in support of teaching, learning and administration (Draper and Brown 2004; Corlett , Sharples , Bull and Chan, 2005; Oliver, 2006). From an education perspective, ICTs are already influencing and indeed disrupting the traditional business as usual approach to course delivery (Stensaker, Maaseen, Borgan, Oftebro and Karseth, 2007).

During 2011, a new two-week elective module titled Virtual Collaboration (VC) was offered to Information Systems honours students at a South African University. The intention was to expose students to virtual collaboration under three banners, eLearning, Social Networking and Virtual Business. The idea was to provide students with a theoretical and a rigorous practical perspective on virtual collaboration by taking both a business as well as an educational perspective. The module was well received by students and after experimenting with virtual classroom technology as part of the 2011 and 2012 VC module, it was decided that during 2013 and 2014, an attempt would be made to adapt and re-design the VC for a blended synchronous environment supported by the blackboard collaborate virtual classroom environment. The open source course management system (CMS) Moodle had been used at the outset of the module in 2011 and was continued during 2013 and 2014. To cater for technical uncertainties including bandwidth concerns, the

2013 module combined a conservative equal measure of traditional classroom contact with virtual classroom contact. Based on lessons learned during 2013, the 2014 module was almost entirely conducted within the blackboard collaborate environment.

Lecturer and student experiences and perceptions captured during the two years, have resulted in several guidelines which are suggested for adapting an existing face-to-face module for delivering a post-graduate module within a blended synchronous learning environment.

2. BLENDED LEANING

Blended Learning (BL), the focus of this paper, is about blending traditional classroom instruction with online learning activities using both asynchronous communication as well as real-time synchronous communication modes (Lin and Overbaugh, 2009). Blended learning may include any combination of learning delivery methods which normally include face-to-face instruction with asynchronous and or synchronous computer technologies (So and Brush, 2007). An essential component of most online learning systems including blended learning systems is a software application for the administration, documentation, tracking, reporting and delivery of electronic educational technology, called a Learning Management System (LMS) (Ellis and Ryann, 2009). As suggested, the open source Moodle LMS was used during this research and played an important anchoring role in both asynchronous and synchronous delivery.

Much research has been undertaken to demonstrate "achievement gains of technology-facilitated learning over conventional methods of teaching" with limited regard for understanding how and why the gains might have been realised (Herrington, McKenney, Reeves, and Oliver, 2007). There are concerns that merely adopting a traditional lecturing approach to a technology based environment provides little if any advantage to the education processes rendering "no significant difference" resulting in a "pseudoscience" (Reeves, 2011 in Teras and Herrington, 2014).

An area considered important in the context of blended learning is understanding the student, the extended learning community and the engagement that takes place between all stakeholders. The Community of Inquiry (CoI) framework (Figure 1) which was created by Garrison and Vaughan (2008) is intended to guide the practice and research of online learning.
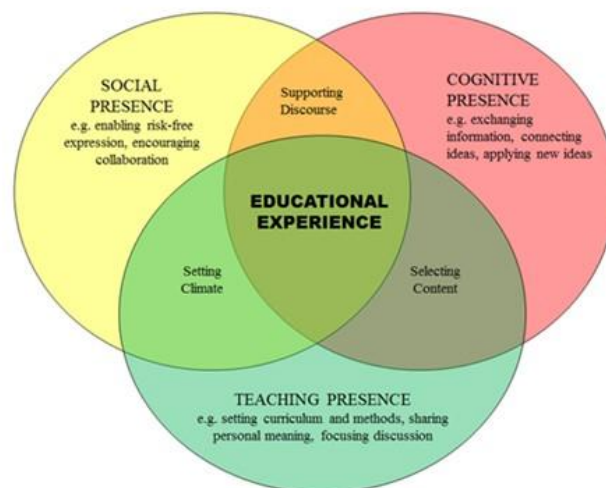

Figure 1. Community of Inquiry Framework (Garrison and Vaughan, 2008)

The CoI framework covers two critical areas in higher education, community and inquiry. Garrison and Vaughan (2008) suggest that reflection and discourse play a critical role in a "meaningful education experience". They argue that successful blended learning design must incorporate the careful integration of online learning and face-to-face learning "for better reflection and discourse" and also that blended learning design must revisit and rethink "the learning and teaching to optimize student engagement" (Garrison and Vaughan, 2008 in Chew et al., 2008). In essence, the CoI framework has as its foundation Dewey's

constructivist paradigm arguing that educational inquiry is not about memorizing nor attempting to reach final answers, but rather about a practical process to investigate problems and issues. They argue that ideally "knowledge is shaped and constructed through social interaction and collaboration". While Garrison and Vaughan (2008) promote the use of research into technologies to enhance the educational experience, their major focus is on learning supported by and taking into account, Social Presence, Cognitive Presence and Teaching Presence (Chew et al., 2008).

Through what may be described as a fairly naïve and immersive approach to the research, the researcher discovered that Social Presence, Cognitive Presence and Teaching Presence were core to the success of the blended learning intervention. By involving industry experts, students were able to meet with and debate various theoretical issues pertaining to the selected topics in support of the outcomes of the module. Providing the appropriate learning outcomes and affording students the opportunity to research and debate various issues not only amongst themselves but within a virtual environment consisting of remotely based academics and industry professionals, was illuminating.

An additional component believed to be equally important in informing a successful blended learning approach, is focusing specifically on the student. DeTure (2004) suggests that cognitive style and self-efficacy needs to be understood in order to predict student success in online education. Cognitive style refers to the "cognitive, affective, and physiological traits that serve as relatively stable indicators of how learners perceive, interact with and respond to the learning environment" (Keef, 1998). Self-efficacy refers to a student's confidence and ability to complete tasks or research goals (DeTure, 2004).

Student generational theory can provide some useful insights into understanding cognitive style and self-efficacy. Generation Y, enter higher education with "very different learning backgrounds, experiences, preferences, attitudes and skill sets" and respond best within an experiential learning environment with the dominant pedagogy being hands on and interactive assignments and in class activities, "team-work" and "collaborative presentations". Also, the level of connectedness is critical to this generation who display a lot of technical savvy, and partake in high levels of virtual collaboration and embrace entertainment and excitement. (Shih and Allen, 2007).

3. METHOD

An action research method was chosen in which the lecturer initiated a practical, reflective as well as iterative approach to the blended learning module intervention. Parsons and Brown (2002) suggest that in order to be an effective educator a lecturer should be an "active participant" in the teaching and learning process, This includes active participation in the classroom, observing, analyzing and interpreting information. Baskerville (1999), Derntl and Motschnig-Pitrik (2004) concur with this view suggesting that action research is increasingly accepted as an appropriate methodology for introducing new media into innovative teaching. They argue that pioneering teachers are likely to introduce new media into teaching and learning as a combination of practical research and deliberate reflective processes. This was certainly the approach taken with regards this research.

3.1 Additional Research Context

During the first two years, 2011 and 2012, the VC module was offered as a traditional face-to-face module only. Students were organized into three teams and these consisted of an eLearning team, a social networking team and a virtual business team. Team topics were arranged around specific module outcomes. The lecturer provided scene-setter lectures at the start of each new section and students were required to research and prepare presentations intended to address their specific outcomes. Classwork assessment included; individual topic presentations (style and content), team text book contributions and technology intervention presentations. Detailed assessment criteria were provided for each component. Students were required to sit a final case based exam during the formal University examination period. A Moodle based CMS was used for all module related material including detailed assessment rubrics.

3.2 Introducing a Virtual Classroom in 2013

Twenty one (21) IS honours students selected the VC module at the start of 2013. As usual, IS honours students were provided with personally assigned workstations and in addition, a webcam with headset. The University has a division known as the Centre for Higher Education Research, Teaching and Learning (CHERTL) which is a central service provided to all faculty. CHERTL lease a 50 user Blackboard Collaborate license which faculty can then access. CHERTL provided initial Blackboard Collaborate support. Excitingly, an eLearning expert based in a different province agreed to participate virtually in the module.

Besides some minor pedagogic revisions, the VC module retained a similar structure to the face-to-face module delivered during 2012. The significant change being to conduct at least 50% of the module online with the introduction of the synchronous virtual classroom.

The module was launched in a lecture venue. The module outcomes, assessment strategy and blended learning strategy were explained in detail. Students were also introduced to the module CMS implemented via Moodle. This was followed by Blackboard Collaborate familiarity training. From then on, lectures ran as either traditional or virtual depending on the pre-planned module schedule.

3.3 Data Collection

Students were tasked to email the lecturer their perceptions of the virtual classroom experience after each session. Students had the opportunity to relate their experience as both module participant and a content presenter. The eLearning expert who participated in the module agreed to provide feedback as well. The lecturer also kept a personal detailed log of all experiences and impressions as the module progressed.

As student data were received, a content analysis was conducted extracting certain themes that emerged throughout the two weeks. These included: the need for additional time to get used to extended functionality within the virtual environment, the need to introduce greater engagement in order to maintain student involvement and interaction, the need to compensate for the lack of visual cues and feedback.

3.4 Lessons Learned in 2013

- Less than ideal bandwidth is a major impediment and may result in compromised video and audio quality from time to time, impacting some of the core functionality within the virtual classroom.
- Lack of familiarity within the Blackboard environment resulted in sometimes muddled usage of the tool and limited usage of some features included in the tool.
- On occasion it took upwards of 20 minutes to get everyone into the virtual classroom. It is essential that all participants start the process at least 25 minutes prior to the scheduled start time.
- The lecturer MUST facilitate the process. This is a key observation and requires very deliberate planning prior to the launch of a particular course or module. Attempting to a traditional face-to-face lecture is not appropriate in a virtual classroom and results in a boring experience for all concerned.
- The millennials involved in the course were excited about exposure to a virtual learning environment, especially given the opportunity to prepare short presentations as part of their group contribution to the module.
- A guest lecturer provided a highly valuable eLearning perspective.

3.5 Revisiting the VC module in 2014

The 2013 VC module received encouraging reviews and the decision was taken to offer it again in 2014 Twenty-four (24) students registered. In planning the 2014 VC module, it was decided to try and attract several guest lecturers and to use the virtual classroom for most planned contact time. The willingness by industry professionals and external academics to give of their time was overwhelming.

The three (3) main focus areas were narrowed to two (2), eLearning and Virtual Business. Social networking was incorporated in both these topics. As before, students would each deliver and facilitate their module content by way of 15 minute virtual lectures. Two case studies served as an addition to the 2014 VC module. One case study was designed for the eLearning group and the other for the Virtual Business group.

The University's Moodle based CMS was again selected for hosting all module material. The module was again, launched with a face to face session in a lecture venue, this time incorporating lessons from 2013. Changes included:

- Etiquette and politeness within the virtual classroom environment.
- In preparing material, it is essential to include and require interaction from your participants. Questions must be asked. Quizzes must be administered. Ideally break out rooms should be invoked.
- Develop your best "radio voice" as it will make a big difference. You need to sound enthusiastic especially when you have limited visual feedback. Web cams are supported in the Collaborate environment but are usually left off to preserve bandwidth.
- Students were informed that they would need to complete a short daily questionnaire on Moodle indicating their experiences of what they liked and disliked about the module.

Again, a familiarization session was conducted. The session was a lot more structured and involved participants actually trying out functionality themselves. Some guest lecturers participated or at least observed the training as well. The session was better structured and created a sense of anticipation. I personally found the blackboard collaborate session a valuable refresher.

3.6 Lessons Learned in 2014

- The University had switched to a high speed network providing far greater local bandwidth. This made a difference to the overall virtual classroom experience.
- A detailed face-to-face module launch lecture is vital for setting expectations and specifying required conduct.
- A more structured and thorough virtual classroom familiarisation experience for students resulted in less confusion within the environment.
- By adopting a far greater facilitative role, the lecturer provided much improved structure to the module. This also resulted in far greater use of features of the system.
- By far the most encouraging change in 2014 was the sense of learning community that formed between students, the module lecturer / facilitator and the numerous guest lecturers. Not only were guests happy to provide a themed guest lecture, but a few of them expressed interest in participating in other guest as well as student presentations. Students seemed to "raised their game" accordingly.

As a result of the experiences gained during the two (2) years, the following section proposes guidelines for implementing a virtual classroom environment within a post-graduate module.

4. GUIDELINES FOR IMPLEMENTING A VIRTUAL CLASSROOM ENVIRONMENT AS PART OF A BLENDED LEARNING APPROACH TO A POST-GRADUATE MODULE

Given the 2013 and 2014 experiences of adapting and delivering a traditional face-to-face honours module within a virtual learning environment, the following guidelines are proposed:

4.1 Module Planning

It is critical to plan well ahead of time to ensure that you have determined learning outcomes, assessment strategy both formative and summative, blended learning strategy and finally a strategy for creating an extended learning community.

4.1.1 Comments

While planning is critical to the success of any University module, a blended learning environment offers so many creative opportunities for engaging with all stakeholders in a variety of different ways. Without the appropriate planning, so much will be lost.

4.2 The use of a Leaning Management System such as Moodle is Essential

It is invaluable to use a CMS as a central repository for all course content.

4.2.1 Comments

Given the blended nature of a module delivered using a virtual classroom environment, all stakeholders but especially remotely located contributors will depend heavily on a "central" repository for uploading and downloading module content, presentations, scheduling information etc.

4.3 Module Launch

It is critical to plan and deliver a well-planned high impact module launch including module outcomes.

4.3.1 Comments

Based on experience, a blended learning environment is a very different learning environment for students. They need to understand what is expected of them in terms of interaction and how to communicate for greatest impact and clarity. The launch discussion should include blended learning etiquette such as how to behave online when perhaps the technology responds in a strange way and how to behave as an ambassador for the Department / University given that guest lecturers and even remote participants may be part of such a program, possibly even internationally.

4.4 Virtual Classroom Training

It is imperative to conduct at least one (1) highly structured initial training session introducing participants to the virtual collaboration environment. This should include guests if at all possible. The training must include the vital role of facilitation. Presenters of sessions must understand that the environment demands a facilitative approach.

4.4.1 Comments

There was a real sense of excitement amongst the millennial students involved in this research who were keen and excited to experience the virtual classroom. In some respects, it is possible to do more in a blended learning environment than in a traditional classroom. It is essential that training emphasizes the need for presenters and facilitators to explore the rich features of the technology and to make the most of the environment.

4.5 Inclusion of Guests / Lecturers

Using a virtual classroom opens many valuable opportunities in terms of attracting guest contributors and even remotely located students. Ultimately this can lead to an extended learning community which is extremely difficult to achieve in a traditional lecture venue based module, especially at a remotely located university, as said.

4.5.1 Comments

Experts were willing to provide guest lectures and to contribute and interact online with students and with other experts in the virtual classroom environment. Not only has this extended the reach to outside expertise, but it has also created an extended learning environment. During the 2014 module, an unexpected benefit was that some of the guest lecturers expressed a keenness in attending sessions presented by other guests and

even student presentations. It was fascinating to witness the effect this had on students who were quite happy to enter a debate and to discuss various topics. Many of the students rose to the occasion and discussed and debated topics.

4.6 Feedback

It is essential that you monitor student and guest lecturer experiences to improve the process.

4.6.1 Comments

During the Virtual Collaboration module, communicating with all stakeholders in an attempt to gauge what was working and also what needed improving was invaluable. Quite often really good ideas / suggestions / insights can arise from simply chatting to students and guest lecturers.

5. CONCLUSION

After two years of successfully conducting a Virtual Collaboration module with Information Systems honours students using a traditional face-to-face contact approach, it was deemed appropriate to experiment within a virtual classroom environment, in essence creating a meta-model in which to explore the theoretical and practical application of virtual communication focusing on eLearning and Virtual Business.

Initially a conservative approach was taken to protect students in the event that the technology did not live up to its potential. Besides some minor challenges, the technology worked reasonably well and the decision was taken to extend the use of the virtual classroom during the second year of the virtual intervention. By carefully documenting all stakeholder experiences, learning some core facilitation lessons and immersing himself in the research process, the lecturer was able to reflect on and refine the adoption processes, producing six (6) guidelines for implementing a Virtual Classroom environment as part of a blended learning approach to a post-graduate module.

The most significant and least expected benefit was, however, the value and contribution made by expanding the learning community to include remotely located experts and academics who engaged willingly with the students and likewise who were engaged by the students participating in the VC module, resulting in an extended and enthusiastic virtual learning community.

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