Blended learning: student experiences

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The purpose of this study was to evaluate student experiences with Blended Learning (BL) with the focus on development and delivery across Schools at EIT. At the end of the teaching period students were asked to complete a survey containing 28 closed questions and three open ended questions. Students were mostly satisfied with the process of being exposed to BL, and made useful suggestions to the institution and its tutors on how to improve their learning experiences. It is generally accepted that BL allows for meaningful learning, but it is important to keep in mind that tutors should set learning activities that comply with the level of learning that is required by the student. This was identified by students as an area that tutors mostly got right. Some tutors did however need to improve their skills in using technology effectively.

Keywords: blended, student experience, flexible, teaching, learning, technology

Introduction

Educational institutions are increasingly using blended delivery strategies to deliver course content to diverse and dispersed student cohorts. The reason for this happening is that it creates a "potential to provide flexible access to content and instruction at any time, from any place and cost-effectiveness for institutions of higher education" (Castle & McGuire, 2010, p.36). It is no different at the Eastern Institute of Technology (EIT), where a Blended Learning (BL) Project was launched in 2011. The project included five bachelor degree programmes: Nursing, Business, Computing, Social Sciences and Māori Studies.

EIT's Flexible Delivery Guidelines (AG175, n.d.) state that BL is a flexible delivery classification where *both* face-to-face delivery modes and either web supported and/or web-enhanced and/or web-based are incorporated. The Flexible Delivery Guidelines would include the use of Video Conference (VC) equipment and teaching strategies. BL maximises the benefits of traditional teaching methods and online delivery. There are however difficulties and risks to take heed of in learning and teaching. Benson, Anderson and Ooms (2011, p.143) identified "insufficient support, lack of time and resources for course development, risks associated with availability of technology and the necessity of acquiring new teaching and technology skills" as problems when developing learning modules.

This study evaluated student experiences with BL, as defined by the scope of the BL Project. The survey was offered to two cohorts of first year students to capture their experiences of semester one and two, as they were the only cohorts at that stage who were enrolled in BL courses. Students were requested to complete the survey at the end of each semester. The quantitative data was generated from 28 closed ended questions. Seventy seven students (17%) participated in the survey but not all respondents responded to all the questions. This is a very low response rate and by no means representative of all the Baccalaureate first year students, but we received feedback on BL and we got some idea of students' experiences. Qualitative data was coded and discussed according to the three open-ended questions. The questions asked were:

1. Was your decision to enrol in your course(s) influenced by the fact that it was offered in a Blended Learning mode?
2. What advice would you give to a lecturer/teacher about to teach a Blended Learning course?
3. What do you think the Institution needs to do (or keep doing) to make Blended Learning successful for students?

Literature review

BL has been defined in many different ways. Jeffrey, Milne, Suddaby, and Higgins (2012) say "at its simplest, blended learning is the *integration* of classroom face-to-face learning experiences with online learning

experiences" (p.4). Pearcy (2009) calls it a "learning solution that contains a mix of formats, media, and experiences, including informational and instructional elements, synchronous and asynchronous learning, self-paced and instructor-led learning" (p.4-5). Fleck (2012) however provides an extremely creative description for BL that makes it obvious that there are as many opinions about BL as there are researchers/educationalists writing about it. Fleck says:

> The term "blended learning" usually refers to a mix of conventional face-to-face elements combined with on-line elements. However, this is at too general a level for in depth analysis, while the term "blend" perhaps suggests too homogeneous a mix: in practice the mix is more "lumpy", more a chunky fruit salad than a blended smoothie (2012, p.399).

Cabero, Llorente and Puentes (2010) explain that "blended learning is a formative action in which online and attending training are combined" (2010, p. 150). They make use of a schematic representation by Mason and Rennie (2006, p. 14) to explain what BL entails. Figure 1 shows different learning approaches as a systematic formative modality, indicating the technological contributions that each one generates.

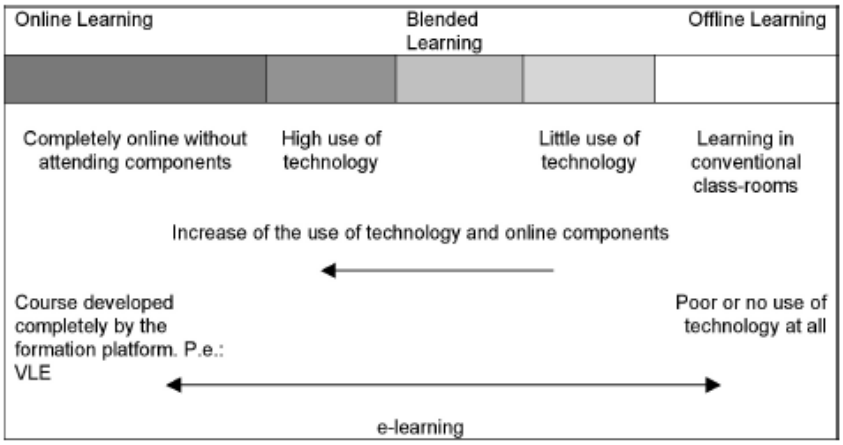

Figure 1: Schematic description of B-Learning by Mason and Rennie (2006, p.14) as cited in Cabero, et al. (2010, p.150).

According to Jackson, Jones & Rodriquez (2010), one aspect lecturers find challenging in particular is the shift from *conveyor of information* to *mentor, coordinator, and facilitator of learning* in the online environment. The lecturer is now defined by the needs of the learners. Further challenges include; monitoring interactions between students, guiding discussions, and providing interactive online learning activities. Lecturers are now facilitators while students become more independent in their learning activities.

Considering the varied opinions of what BL is, it is understandable that students in the same course/programme will have different expectations and experiences as well (Castel, & McGuire, 2010). In their *Report on Distance and Flexible Education Capability Assessment of the Institute*, Moore, Neal and Marshall (2008) stated "No institution has yet to demonstrate a model of applying e-learning that is guaranteed to meet the needs of all of its students, staff and wider stakeholders" (p.4). It is anticipated that this study will provide some clarity on the students' experiences on specific issues that may pertain to this statement made by Moore et al in their report.

Kehrwald, Rawlins, and Simpson (2011) report on students who participated in a study who had very different experiences of BL in the same program. The students: were divided on their experiences with online learning; had clear differences in terms of whether they felt comfortable studying online; had mixed views of the value of blended learning; and had different experiences as to the quality of their programmes.

Alley and Jansak (2001) have identified 10 keys to quality online learning. The authors suggested that online courses will be high quality when they are student-centred and when: knowledge is constructed; students are able to take responsibility for their own learning; students motivation is strong and they want to learn; reflection is required which allows for higher order thinking; accommodate individual student learning styles when planning activities; an element of action and experience is planned for to enhance the online environment, active learning augments the Web site learning environment; learning activities are both cooperative and collaborative; inaccurate previous knowledge foundations are identified and corrected; students are able to revisit and expand on previous learning; learning is organised for the student in a more comprehensible manner (pp.6-17).

According to Hsu and Hsieh (2011) students may master content in a BL course in a more meaningful manner to reach their course outcomes as BL expedites metacognitive development. They feel that online courses enhance learning because it provides an interactive and rich learning environment. However, the same can be said about face to face teaching environments.

Research design and method / findings

The research was a predominantly quantitative method design using an online survey to obtain mainly quantitative information. The survey used 28 closed and three open-ended questions. Questions used logic settings to control the release of questions. This means that a participant who indicated their school as, for example, the School of Computing was directed to answer a question about which computing courses they took. It also avoided exposing participants to questions that were not relevant to them (based upon their previous answers). The survey completed by students in the first semester was not changed for the students who commenced their studies in the second semester.

The study findings are seen as trustworthy as the view points of the participants were considered and interpreted (Holloway & Wheeler, 2002). Confirmability was achieved by applying/comparing findings from literature to the data. The transferability of the findings of this study depends on the person who wants to use it in future research (Graneheim & Lundman, 2004).

Analysis and discussion

The number of respondents in the second semester was smaller than the first semester. A total of 42 students responded in the first semester and 34 in the second semester. As part of the ethical consent process, participants were informed that participation was voluntary and they were provided with an explanation of the purpose of the work and what it would be used for. Every attempt has been made to ensure individuals would not be identifiable in reports or publications. Survey Monkey® was utilised to create the online survey.

Quantitative data

Most of the quantitative data in this study information relates to student responses in specific Schools and therefore useful for the staff at the Institution and not necessarily meant to be captured in this paper. Quantitative data relevant for this paper are provided in table format by using the numbers of student responses and enhanced by percentages. Respondents came from a variety of age groups and indicated that most students were aged between 18 and 25 years (36%) and the least (14%) between 46 and 55.

Table 1: Responses by Age Group (N=77)

Age group	Semester 1	Semester 2	Total
18-25	17	11	28 (36%)
26-35	8	9	17 (22%)
36-45	13	7	20 (26%)
46-55	5	6	11 (14%)
No response	1	0	1 (2%)

Most students (40%) were from the School of Education and Social Sciences (Table 3). They were enrolled in courses on NZQA levels five, six and seven. The students from the School of Nursing decided not to participate in the survey in the second semester, as they also had to complete another survey related to BL as part of a research project done in their School. That is acceptable as students should not be ‘over-surveyed’.

Table 2: Responses by School (N=77)

School	Semester 1	Semester 2	Total
Business	16	9	25 (32%)
Education and Social Sciences	12	18	30 (40%)
Nursing (total 2 semesters 150 students)	11	0	11 (14%)
Māori Studies	4	7	11 (14%)
Computing	0	0	0

Most participants (71%) from both semesters have used the Institution's online system before. Although courses were not necessarily blended before the BL Project started, they may have been supported in the Learning Management System (LMS). This support may have been as minimal as uploading information in document format for students to access, or even including activities embedded in the LMS. Information on the nature of the courses students have accessed previously in EIT Online would have been beneficial for interpreting the results of this survey.

It is clear from the results in Table 3 that not many participants had been exposed to learning technologies before they commenced with the BL courses, but they were exposed to a large number of learning technologies in their BL courses by the time they completed the surveys. It is unclear whether students would have known the names of different learning management systems (LMSs). This may have had an influence on the responses. Students may have watched a slideshow presentation a voice over in Adobe Captivate without knowing what technology was used to create it. Some options in the list are online learning activities within a Moodle course. It was expected that there would be no confusion about such activities (for example quizzes). It may be useful to distinguish between technologies and activities in future surveys.

Table 3: Learning technologies used before enrolling in the current course

Technology	Semester 1	Semester 2	Total	%
Online Quizzes	17	14	31	40%
Moodle	16	10	26	34%
Discussion Forums	13	7	20	26%
Video Recordings (including Youtube)	9	8	17	22%
Chat & Assignment Submission tools	7	9	16	21%
WIKIS	5	7	12	15%
Video Conferencing & Mobile Devices (includes Tablets, smartphones)	5	6	11	14%
Adobe Connect & Smartboards	6	4	10	13%
Glossary tools	5	4	9	12%
Mindmapping tools	6	2	8	10%
BlackBoard, Voicethread & Classroom Voting Handsets (includes classroom clickers)	5	2	7	9%
Peerwise	3	3	6	7%
Audio Recordings (including podcasts)	4	1	5	6%
Turnitin	-	4	4	5%
Captivate, Weblogs (Blogs) & Hot Potatoes	1	0	1	1%

Qualitative data

Coding was used to transform the raw data into a standardised form. One person coded the data and another confirmed the themes. This step by step process entailed the recognition of repetitive words, phrases, themes and concepts or the recognition of words, phrases, themes and concepts with similar meaning. The main themes of the findings were based on the three open questions in the survey and the coding was done for each question separately. Themes served as first level coding and sub-themes as second level coding (Burns & Grove, 1997; Graneheim & Lundman, 2004; Holloway & Wheeler, 2002). Because of the qualitative nature of this part of the survey, information from the literature is incorporated in the discussion of the three questions and serve as literature checks for the survey findings.

Where quantitative data enhances or contradicts the qualitative findings, it was added to provide rigour. Respondents' quotes are woven into the discussions of the findings. Table 4 contains the Main Themes, Themes and Sub-themes.

Question 1: Was your decision to enrol in your course(s) influenced by the fact that it was offered in a Blended Learning mode?
The blended nature of the courses provoked three different types of responses. The first group said "they had no choice with the blended learning and so carried on with the courses even though they were online". They felt the BL occurred "halfway through the degree and that BL was more or less thrown at us".

Some students felt negative as they "had no choice that all classes were blended learning, so felt less excited and motivated", and even had them "look at other places to study". The flexibility of BL had some students quite excited as they "felt great relief because the programme does not require physical presence … that way I can better combine student and family life". The negativity around feeling that they were not informed does not reflect in the quantitative data. Most participants (47; 80%) felt that BL learning provided them with sufficient flexibility in their studies.

Table 4: Qualitative data coding layout

Main Themes	Themes	Sub-themes
1. Enrolment decision	No Choice	None
	Negative Feelings	
	Flexibility	
2. Advice to tutors	Communication	Talking/Sound
		Online
		Teaching
	Approach/Student Support	Face-to-face
		Teaching
	Tutor Facilitation	Technology
		Course
		Teaching
3. Advice to the Institution	Blended Learning	Positive
		Students
		Negative
	Communication	Information
		Interaction
	Student Support	Physical space
		Online and computers
	Professional Development for Tutors	Technology
		Courses
		Organise

Question 2: What advice would you give to a lecturer/teacher about to teach a Blended Learning course?
Communication/interaction between tutors and sound issues were specifically mentioned. The comments of sound are related to the Video Conference (VC) methods of teaching, as well as Adobe Connect (AC) virtual classrooms. Delivery via VC and AC were done from one campus to another with students on both sites and tutors were requested to "speak up and answer questions from both classes". They also felt that improvement was necessary of the "audio and microphones in the classroom. If extra microphones are not possible, the lecturer needs to be aware and repeat comments/questions made by persons outside audio range". It was also suggested that "if there is an issue with sound, you should type what you are saying in the chat box".

Technology significantly influences the ways students interact with their peers and tutors (Jaggars, 2013). For this reason student complaints had to be considered in this current study and effort was put into solving sound and other technology problems. Individual tutors did take comments by students to heart and made changes to their pedagogy. A follow-up study is currently being conducted which will provide information on whether the measures taken were successful.

Students identified specific issues with online content. They felt that tutors should "proof read the questions to ensure correctness", and "make sure the student knows exactly where to access all the information online". They also requested their tutors to "give detailed instructions and a demonstration on what to do and where to go… and be available during allocated time slots". This was unique to the online content. No comments were made to printed course material.

Yang and Cornelius (2005) are of the opinion that student satisfaction in an online classroom is influenced by the degree and type of interactions by the tutor and their peers. Kurow (2005) say that the quantity and quality of tutor interaction as well as social interaction online affect the academic success of students. Students may feel positive about virtual contact with the tutor and their peers, but Halstead and Coudret (2000) in Kurow (2007) mention that some students do not see online contact as positive and rated decreased face-to-face contact with tutors and their peers as a disadvantage. In this study, students wanted their tutors to "involve both ends" (when teaching with students at two campuses attending at the same time), and "where there is more than one lecturer, it needs to be clear which lecturer is going to regularly check the online questions asked by students" as they felt they had to wait too long for answers to their questions at times. Students felt tutors should "have simple slides and not animations on them".

It has been suggested that communication technology offer better opportunities for students to interact with their tutors by removing geographical and situational learning barriers, and may even raise the quality of learning experiences (Benson et al., 2011). This may be advantageous for students who find they do not have positive learning experiences in face-to-face classes. Jaggar (2013) found that some students felt they could perform very well academically without having a face-to-face class. Most students in this study however felt that online courses were more challenging and difficult. They wanted "more one on one time" and felt that "face to face is a lot easier when you are going to be working with people". They wanted their tutors to "see each student on a one to one basis to see if they understand what is being asked".

According to Jaggar (2013) older students tend to prefer online courses specifically due to less face-to-face interaction with other students. An older student in that study felt that "a lot of older, mature people take online classes because they are afraid [of] the classroom" *(*p.8). This is in contrast with another student who felt that "when you do it online, if you need help, your teacher is basically not there" (p. 9).

From Table 5, it is clear to see that most tutors at the Institution did plan for learning activities that helped students to master the content of their courses. Most students (47; 70%) generally agreed to this. However, this aspect of planning and developing learning activities could be improved.

Table 5: Learning activities helped to learn

Learning activities helped to learn	Semester 1	Semester 2	Total
Generally agree	28	19	47
Generally disagree	11	9	20
Total response	39	28	67

Most students (71 = 95%) indicated that they did participate in the online activities. Unfortunately there was no question asked on whether the activities were compulsory or not. That may have provided some information as to the manner in which students take responsibility for their own learning.

Table 6: Participation in online learning activities

Participated in online activities?	Semester 1	Semester 2	Total
Generally agree	37	34	71
Generally disagree	0	4	4
Total response	37	38	75

Online presence and participation of tutors are important to students. Involvement and feedback are factors that influence the successful completion of a course, and so does clarity of feedback provided on activities (Carlson, & Jesseman, 2011). Tutor interaction and clarity in teaching was also important to students in this study. They felt that "online activities should be relevant to what we learn in class. They need to follow up on activities that are not working and answer our questions online". Student wanted "more links to quizzes and interactive diagrams rather than writing*"*. However, one student felt that tutors "have all the knowledge and skills so share and actually teach!!!! I have paid for their knowledge". This of course, goes against the grain of current teaching practices, considering the *sage on the stage* versus the *guide on the side* approaches. A principle of adult learning is that students should take responsibility for their own learning. Sixty three students (95%) confirmed that BL does encourage them to do exactly that (Table 7). This shows strong commitment and volition from the students, and they will likely be successful and learn more than they thought they would (Hsu & Hsieh, 2011), as students with strong commitment will be more successful. However, Meyer (2005) states that being a

responsible learner still requires a structured learning environment to ensure that learning strategies are successfully employed.

Table 7: BL encourages taking responsibility for own learning

BL encourages responsibility	Semester 1	Semester 2	Total
Generally agree	33	30	63
Generally disagree	3	0	3
Total response	36	30	66

Respondents in this study suggested that the tutor have an Information Technology (IT) person in the room as back-up. They felt tutors should "be familiar with the technology" and "take time to understand the technology they will be using". They required their tutors to "come in before classes to prepare so no time is wasted in class", and "understand where to stand to be in camera view and try to ensure you get comments or class discussions" from both campuses on an equal basis.

Tutors should also be provided with continuous professional development on support they need to provide in online learning environments. Most students (34 = 58%) felt satisfied with the support provided by tutors while they were doing the learning activities (Table 8). Fifty eight percent is however not a satisfactory results. A higher percentage of satisfied students would have been preferred.

Table 8: Satisfied with support during learning activities

Satisfied with support	Semester 1	Semester 2	Total
Generally agree	22	12	34
Generally disagree	14	11	25
Total response	36	23	59

Although efficiency in the use of technology is required, it is important that tutors should remember to use the most appropriate teaching strategy for the knowledge or skills they want students to acquire. This is quite clear in the following comment made by Fleck (2012):

> But technology is not an end in itself: pedagogy must lead. ... In reality the solution lies in the minutiae about how the technology is used (p.404).

Students had specific advice for tutors related to their courses which relate to these learning issues. They said that tutors should not have "a person do the online component and a different person doing the class component" and "be very familiar with the exercises … many of the activities have very little learning achieved however are time consuming and often not in line with the content learnt in lectures".

From Table 9, it is clear that most students (46; 70%) however agreed that tutors are confident in using technology. However, considering the answers they provided in the open ended questions, it is apparent that they are of the opinion that some tutors still need extensive training to improve their skills.

Table 9: Tutors confident in using technology

Tutors confident in using technology	Semester 1	Semester 2	Total
Generally agree	24	22	46
Generally disagree	14	3	17
Total response	38	25	66

Question 3: What do you think the Institution needs to do (or keep doing) to make Blended Learning successful for students?

Some students were quite positive about BL and said "use it in more classes" and "make it absolutely compulsory", "train more lecturers and also offer more papers in this format". However, there was a bit of caution by a student who said "it's a good idea … just need to be integrated better". The students were not shy in taking some blame for some ineffectiveness as "our class didn't interact as much as we could have", but felt that "as students become mor [sic] comfortable with the technology it will become easier". On the other hand,

some student thought BL not to be such a good method as it "does not work for me", and "it is hard to fathom how a social science degree can have such a strong element of online learning while it's a degree which prepares us for social interaction, not computer interaction".

Students felt that communication with them could have been better by "explaining what blended learning is, what it entails and also to what extent the courses will be online". They felt that they could have used a "step by step, on how to set up your tablets the student can print them out and catch up in their own time".

Students needed support related to online access and asked that "a bit more help with problems that crop up while using the computers to be on hand" and "be more supportive especially of those students who don't have internet access at home … as you can feel disconnected as a student…". Students experience greater satisfaction and a reduction in social and psychological distance when receiving plentiful instruction from their tutors. The interaction may include prompt feedback, and the use of humour or emoticons. This leads to a decrease in the level of feeling isolated (Jackson et al., 2010).

When asked to indicate whether the Institute provides flexible learning spaces on campus, 41 students (91%) agreed (Table 10). Flexible spaces include spaces outside the classroom, such as the library, computer labs, and rooms available for individual and group work/breakout sessions.

Table 10: EIT provides learning spaces on campus for flexibility

Learning activities helped to learn	Semester 1	Semester 2	Total
Generally agree	34	7	41
Generally disagree	4	0	4
Total response	38	7	45

According to Castle and McGuire (2010), course content is the most important component in a teaching-learning environment regardless of excellent advanced technology or tutor competence. The course content should reinforce the learning experience. In their study, Hermans, Haytko and Mott-Stenerson (2009) found that satisfaction with the tutor and with the course was very strong. They are of the opinion that this suggests a positive attitude towards their overall learning experience. Respondents in this current study did not necessarily mention course content, but suggested that "courses should be structured more efficiently for blended learning" and that tutors should "make sure that all links are up and going". Students felt that some tutors "are disorganised, and do not give clear explanations" and should "accept that students are uncertain about things and offer support".

Limitations

Limitations for this study were: it cannot be established whether students knew that Moodle and EIT Online is the same platform. In the survey, Moodle was listed as a learning technology. The students know it as EIT Online which is the default name for the LMS at EIT; respondents may have used or have been exposed to technologies that they did not know the nature or name of. For example, a PowerPoint slide show may have been used in a captivated session without students knowing the technology is called Captivate; some options listed in Table 4 are not technologies, but really online learning activities within a course. It may have been good to distinguish between these in future surveys; the majority of students generally agreed that they did participate in the online activities. The question was not asked whether the activities were compulsory or not; and the self-selection of the sample, as well as the manner in which students were informed about the survey, as the response rate may increase in future if students are invited through e-mail or another electronic means, and not through their tutors.

Conclusion

It is evident that most students are of the opinion that BL tutors need more training specifically on how to use technology in their teaching practices. They mention both online technology as well as equipment such as those for VCs. As the use of BL has the potential to improve the effectiveness of teaching and learning, it is important that tutors develop BL student-oriented teaching pedagogies (Fleck, 2012) that include face-to-face and online instruction, rather than just focusing on the provision of technical skills (Hsu & Hsieh, 2011). Overall, students felt that they did get sufficient orientation to BL environment in their courses, and understood the requirements

of their online activities and indicated a willingness to participate.

Students generally agreed that tutors plan learning activities to support their mastery of the course content. They also felt that the learning activities helped them to learn and were engaging. However, most felt that it was difficult to study online. Students felt that tutors were confident with using BL technology, but they also commented that tutors needed help and more training on how to use the technology effectively. It appears that it is particularly evident in the interaction between different campuses, while using the VC and Smart Board technology that dissatisfaction was experienced. Students particularly complained about sound problems in these classes and about not being able to see tutors on screens.

Students were of the opinion that BL provided them with sufficient flexibility in their studies. This is linked to taking responsibility for own learning, a principle of adult education, which they felt they are able to do. Tutors do however need to structure the learning environment sufficiently for this to take place effectively.

While students supported BL, they provided significant comments on how it could be improved. They felt that tutors should be diligent in communicating and providing feedback online. They want to interact with their peers and tutors to let them know how they are faring with online activities. Students' responses related to their overall BL experience portrayed above average satisfaction.

Student satisfaction during synchronous live video classes was evaluated, and they rated their overall experience with BL as extremely poor to average. In 2012 the Institution and its tutors were still feeling their way through BL. Considering that nearly a whole year has passed since the study was completed, one can assume (with caution) that tutor planning and execution of BL pedagogy has improved. Students may also be more comfortable with being a student in a BL learning environment. To ensure improvement in planning and delivering courses in BL format, it is important that "student needs, expectations and experiences underscore the need for a thorough front-end analysis … in order to inform practical decision making as part of the design and development process" (Kehrwald, et al, 2011, p. 671) of courses and programmes.

Recommendations

For further research

This study would be substantiated with higher numbers of participants. It is recommended that a similar survey be administered again, specifically to look at the possibility of improved pedagogy and student satisfaction. The recommendation is that some survey questions be reviewed and changed. The follow-up study does contain five point Likert scale questions to provide clearer information on specific traits.

For practice

Some students may feel stressed and experience feelings of isolation due to a lack of proper feedback and communication both online and face-to-face. For this reason a comprehensive plan needs to be developed that will support recruiting, advising, and supporting students. This will allow them to feel connected and part of the Institute's learning community. This will include library support, tutoring, mentoring, and career advice for both on campus and online students (Carlson & Jesseman, 2011).

It is imperative that tutors diligently attend training sessions planned for learning technologies to ensure pedagogically sound design and practices in the BL environment. The institution should provide encouragement and incentives for tutors to comply with this. Tutors need to be at the forefront of redesigning curricula and revising learning strategies. "… without skilled and effective staff conducting teaching in new ways, student learning is less likely to be as successful as it might be" (Jeffrey et al, 2012).

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