Student engagement in blended learning instructional design: an analytical study

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Abstract

The main purpose of this study was to evaluate students' perception of blended learning instructional design in a Higher Education Institution (HEI) in the Sultanate of Oman. A course in a bachelor degree was offered using blended learning instructional mode, and students' feedback was obtained on the impact of blended learning. The study was conducted in Ibra College of Technology, one of the seven colleges under the Ministry of Manpower in the Sultanate of Oman. A course in Business Strategy and HR Management was offered during Summer 2016 using a combination of traditional and online instructional design. A structured questionnaire was administered at the end of the semester to solicit feedback from students. The results of the study highlighted a positive attitude among students towards blended learning courses. The research stressed the requirements for proper infrastructure, training and development initiatives for staff and students, shift to a more focused practical assessment methods to measure the graduate attributes. Student engagement, learner autonomy, connection of learning to real life environments and flexibility all appeared to benefit from the blended learning course.

Introduction

Consistent with developments in information and communication technology (ICT), Higher Education Institutions (HEI's) have broadened the integration of online and internet enabled teaching pedagogy into their curriculum, to offer a high-quality student-centric teaching and learning environment. Technology as a resource in HEI has tremendously changed the way students learn and communicate (Kudrik, 2009). Research indicates that such integration is evident in all subject areas offered by HEI's, including Information Technology (Naaj, Nachouki, & Ankit, 2012; Gawande, 2016), English Language (Grgurovic, 2011; Larsen, 2012; Kosar, G, 2016), Engineering (Martinez-Caro & Campuzano-Bolarin, 2011) and Management Studies (Ajide & Tik, 2009; Arbaugh, et al., 2009). Collaborative and self-paced learning positively enhances learning outcomes (Kudrik, 2009) and blended learning is developing and increasing the usage in all educational institutions especially in higher education (Dos, 2014). Blended learning includes both a face-to-face and online component. The integration of blended learning in HEI's in the 21st century follows the changes in the higher education environment and changes in stakeholders' expectations for a more focused, student-centered teaching and learning environment.

Blended Learning (BL) has emerged as a popular pedagogical concept and a systematic philosophy of instruction during the last two decades. With an increasing tendency, many research studies have reported on blended learning since it flourished. Though these studies generally support the implementation of blended learning instructional design, the mode of implementation is debated in detail (Güzer & Caner, 2014). BL is a learning model that is enriched with traditional learning methods and online education materials and tools (Williams, 2002; Yigit et al., 2014); it integrates selected face-to-face and online approaches and technologies (Garrison & Archer, 2000). Thorne (2003) mentioned that

> Blended learning blends online learning with more traditional methods of learning and development. (p.2)

BL aims to integrate the advantages of e-learning methods with the advantages of face-to-face teaching methods, i.e., combining traditional physical materials and activities with elements of virtual education (Finn & Bucceri, 2004). Both components can serve as a medium for either individual learning or collaborative learning (Graham, 2006). The extent of combination between the traditional and online mode is typically driven by economic, logistical or other planning considerations as well as by relative strengths and weaknesses of different modalities for fostering learning (Graham & Dziuban, 2008).

Like the way BL is defined in literature listed above, Bowyer and Chambers (2017) observed that

> BL is a mixture of online and face-to-face learning. BL is also known as 'hybrid learning' or the 'flipped classroom' (p.17)

Horn and Staker (2010) define blended learning as an instructional design in which

> a student learns at least in part in a supervised brick-and-mortar location away from home and at least in part through online delivery with some element of student control over time, place, path and/or pace. (p. 3)

According to Rossett (2003),

> Blending involves a planned combination of different approaches, such as lecturing; participation in online classes; breakfast with colleagues; competency descriptions; reading on the beach; reference to a manual; collegial relationships; participation in seminars, workshops, and online communities. P.1)

Acree et al., (2017) explained the key features of BL as

> a personalized learning environment which incorporates digital tools and includes (1) some learning that is online or through digital media; (2) some elements of learner control over time, pace and path and/or place; and (3) an integrated learning experience connecting the different modalities. (p.105)

From these definitions, it can be concluded that BL is any instruction that combines classroom (face to face) instruction with online instructional methods.

To address the importance of BL in business and management education, this research critically reviews students' feedback after offering a course in blended learning mode. In this research, students at bachelor level (Human Resource Management (HRM) specialization) studied a course in Business Strategy and HRM using a blended learning approach during summer 2016 at Ibra College of Technology (ICT), Sultanate of Oman. Student centered learning is a major component in the College's vision and mission.

Literature review

The rapid growth in the use of learning technologies, particularly the use of web-based technologies and communications, have offered educators many more opportunities to investigate the most suitable learning environments for their students' learning styles (Akkoyunlu & Soylu, 2008). BL provides many advantages for the learners and facilitators. For learners, it offers autonomy in their learning, flexibility and wider access to learning materials. For the facilitator, it provides an instructional design customized to the needs of the learners, immediate support and guidance to learners, and greater interaction and improved autonomy compared to the instructional design.

Thorne (2003) explained that

> a way of meeting the challenges of tailoring learning and development to the needs of individuals by integrating the innovative and technological advances offered by online learning with the interaction and participation offered in the best of traditional learning. (p.16)

BL approaches do not eliminate the need for a face-to-face instructor and usually do not yield cost savings as purely online offerings do. To justify the additional time and costs required for developing and implementing blended learning, policy makers want evidence that blended learning is not just as effective as, but more effective than, traditional face-to-face instruction (Means, Toyama, Murphy, & Baki, 2013).

BL is not only an acceptable pedagogical approach; it has also the potential to transform higher education (Bransford, Brown, & Cocking, 1999). BL changes not only the way learners learn, but also the way teachers teach (Naaj, Nachoouki& Ankit, 2012). BL can improve students' engagement (Aldhafeeri, 2015), students' performance (Kiviniemi, 2014; Arbaugh, et al., 2009), students' autonomy and control over their learning (Larsen, 2012), and the overall learning experience (Poon, 2013). It can also improve flexibility and enhance teaching and learning practices (Graham, 2006), increase student confidence about working in virtual teams (Olson-Buchanan et al., 2007) and above all result in greater student satisfaction (Farley, Jain, & Thomson, 2011; Martinez-Caro & Campuzano-Bolarin, 2011; Owston, York, & Murtha, 2013).

Hopson et al., (2002) noted that BL promotes learning in many ways, as it
- Enables lifelong learning;
- Enables independent learning;
- Delivers updated and widely distributed information;
- Generates new ideas and practical experiences;
- Fosters individualized learning;
- Helps learners better interact with subject matter experts, and
- Helps learners control their own learning experiences.

Normally, any change is scary; whatever may be the benefits, any planned change requires active investment and support from different stakeholders involved in it. BL is an active process that requires motivation and social engagement, and technology is an enabler of these learning opportunities (Oblinger & Hawkins, 2006). The notion of impact of BL as 'no significant differences' in students' performance' is associated with lack of motivation and involvement by the stakeholders, particularly the teachers and the HEI administration in implementing the change. It is important to create conditions for success before implementing the BL approach. Infrastructure, technical support, competency of the staff and the extent of integration affects the success of BL implementation in HEI's. However, the support of administrators and teachers is vital to successfully implement the BL approach to education. Murphy (2017) mentions that administrators' behavior in creating and communicating a strong vision as well as a plan to sustain the vision is important in the implementation of a BL approach.

Research focused on perspectives on a blended learning intensive English program writing course (Larson, 2012) highlighted the need for a minimum amount of pedagogical and technical training for teachers to employ blended learning successfully. Students were found to work more autonomously and with greater focus while becoming responsible for their own learning. For teachers, employing BL enabled them to provide personalized assistance for their students, keep better track of students' progress, and cover more materials. The results suggested that teachers' experience might be a predictor of student satisfaction with their teachers.

Kiviniemi (2014) found, based on a quasi-experimental non-equivalent control group design, a statistically significant increase in students' performance under the BL approach even after accounting for previous academic performance. Student evaluations of the blended approach (in a graduate level public health course) were very positive and most students (83%) preferred the blended learning approach to a traditional face to face lecture method.

In a similar study, Poon (2013) pointed out the positive impact of BL on students' perceptions, for example that the overall structure of the module was integrated well, that it enhanced their overall learning experience, that it offered a good balance of theory and practice and that the use of an issues-based approach made economic concepts easier to understand. Poon (2013) suggested adopting a more interactive delivery style, which would provide more support to students for learning and developing professional skills.

Student engagement in class

Vaughan (2014) considered three relevant requirements in curriculum design for student engagement: curriculum relevance, rigor, and relationships. Twoler (2010) explained that engagement is "more than involvement or participation. It requires feelings and sense-making as well as activity" (p.7). Student engagement can be measured in three aspects: behavioral, emotional and cognitive (Bowyer & Chambers , 2017). Sarıtepeci and Cakır, in their study concluded that

> in [a] blended learning approach, average development of student engagement showed a meaningful rise when compared to [a] face-to-face learning approach. (p.203)

Instructional design strongly influences student engagement in class. Taylor and Newton (2012) commented that the design of the curriculum needs to ensure that learning objective engage the students in the class. Academically purposeful activities positively influence students' engagement and contribute positively to their learning (Kuh, 2001). Yorke and Thomas (2003) observed that a lack of student engagement in a class leads to academic underachievement. According to Delialioğlu (2011) the difference in active learning is due not to students' individual differences but rather to the learning environment provided.

BL creates an environment that promotes student interaction and engagement, and improved autonomy in instructional design. It complements classroom instructions with more flexible learning tools and multimedia (Aldhafeeri, 2015). BL structure of the course itself is a reason for student engagement (Lanham & Zhou, 2003). Bowyer and Chambers (2017) observe that

> A further potential benefit of blended learning is the additional opportunity for peer and tutor interaction through online discussion. Online discussion in blended learning can either be asynchronous (such as discussion boards) or synchronous (such as Instant Messaging) (p.18)

To conclude, BL has been found to positively influence students' engagement in the course, ownership and flexibility, learner's productivity, participation, feedback and interactions, access to relevant course data, a sense of belongingness, motivation, and relating the learning to real life applications.

Blended learning in the Middle East

Blended learning is widely recognized as an important priority in HEI's in the modern Middle East, to prepare students for a technological workplace (Kemp, 2013) and to improve student learning experience (Durrani, 2015). Countries in the Middle East recognize the enormous opportunities of blended learning to make learning more accessible (Mainey, 2016). However, Tamim (2018) observed that blended learning still in its infancy stage in the United Arab Emirates, a major economy in the Middle East. There are very few studies available in the Middle East of BL and its impact on student engagement.

Naqvi (2006) investigated WebCT's impact on students at the College of Commerce and Economics in SQU in an *Introduction to Computers in Business* course. The findings showed that students tend to appreciate WebCT's importance and usefulness as an easily accessible learning platform. In addition, it helped them to better understand and learn the course material. Others investigated WebCT as being a system that facilitated communication among learners.

Further, Al-Ani (2008) investigated the perceptions of students studying English as a Foreign Language of Moodle's utility as a course management system within the College of Education in Sultan Qaboos University. It was found based on the study that the Moodle usage increased student participation in learning, exchanging ideas and knowledge. Technical issues are often confronted as a barrier for Moodle usage. In a later study, Al-Ani (2013) also examined 283 student's perceptions of BL in all colleges of Sultan Qaboos University; the findings supported shifting from traditional learning into a blended learning environment. Students' responses have proven Moodle to be effective on their motivations, achievements and collaboration, and communication skills. The results also demonstrated that using blended learning helps students to be more self-regulated and self-directed by reducing the number of days and hours spent in traditional face-to-face learning environments.

Shantakumari and Sajith (2015) studied students' perceptions toward BL and their satisfaction in Gulf Medical University (GMU) Ajman, UAE. They collected questionnaire from 75 students of Blended Learning about process, content, and ease of use. They found that participants perceived BL to be less stressful and more effective than traditional in-class delivery. Students at GMU were of the opinion that BL improved their interaction with the teacher and classmates.

Naaj et al. (2012) conducted a study in the College of Information Technology in Ajman University of Science and Technology to evaluate levels of student's satisfaction with blended learning. At the time the study took place, the college used an equal balance of traditional face-to-face and videoconference learning, complemented with the use of a learning management system (Moodle). In a recent study, Gawande (2016) explored the association between behavior intention and user acceptance of technology (BL adoption) in Sur College of Applied Sciences (Oman). It was found that student satisfaction is significantly influenced by factors like interactivity and flexibility, ease of learning and efficiency of students, leadership of instructor and training and technical support BL adoption.

The significance of flipped classrooms to explore deep learning is discussed in the literature (Danker, 2015). Flipped classrooms drive a student-centric approach as they put more responsibility on learners to engage while giving them a greater motivation to experiment with learning differently. Flipped classrooms are based on concepts such as active learning, student engagement, hybrid course designs and course podcasting (Educause, 2012). Flipped learning is a subset of BL, wherein students engage with new material before attending the class. A flipped classroom helps students to prepare in advance and they are encouraged to create new ways of learning the material (Graham & Burke, 2014).

Lately, Gasmi (2016) conducted a study on a Level 3 academic writing course offered as part of the General Foundation Program (GFP) in Oman for 57 students and their perceptions of the benefits and challenges of BL. The study concluded that despite the challenges of increased workload and technology related difficulties, participants in the blended flipped academic writing class experienced increased involvement, development and use of deep learning strategies, and maximization of learning through constant collaboration.

Research methodology

Ibra College of Technology is one of seven colleges under Oman's Ministry of Manpower, offering programs in Information Technology, Engineering and Business Studies. The college's mission is:

> to deliver high quality student-centered education that produces competitive graduates who enter the labor market with confidence, strong technological and personal skills, prepared for a life of contribution and success. (url: https://www.ict.edu.om/en-US/About/Vision/)

The implementation of blended learning is part of its strategic initiative to offer high-quality student-centered learning. Currently, an e-learning platform (Moodle) is integrated into teaching and learning.

Collaborative learning and online activities are given due importance in the curriculum. As outlined, in order to evaluate the effectiveness of blended learning, a group of students doing their bachelor program in HRM is selected.

According to Oman Qualifications Framework (OAAA, 2004),

> a bachelor's degree is an award carrying 480 credit points (120 credit hours) following four years of full-time study or equivalent (p.8).

The year 1 and 2 are called Diploma level, while the third year is known as Advanced Diploma level. A total of six levels of post-secondary education exists in the framework including four undergraduate and two postgraduate levels.

This study focuses on a Business Strategy and HRM course at Bachelor level is elected. Students taking Business Strategy and HRM already completed Principles of Management (Diploma 1st year) and Human Resource Management (Diploma 2nd Year). The course is offered in three credit hours which is equivalent to eight contact hours per week of study in the summer semester. The semester spans for six teaching weeks, equivalent to 48 hours of teaching.

As part of the blended learning strategy, the following changes were made:

- Online course materials from MOOCS available in coursera and edx, are used.
- Course material and supporting documents available in Coursera and Edx are used.
- Online quiz is added to their curriculum.
- Social media are used to disseminate course related information and to enable discussion among the group members.
- Case studies are given more emphasis.
- Traditional lecture method is adopted to deliver part of the subject, though the major emphasis was given to discussions, case study analysis and presentations.
- Unstructured oral feedback is given for all continuous assessments.
- Flipped classroom model is used to promote discussions in the course.
- Lab rotation model is applied to rotate the students between classrooms and labs, particularly for doing online activities.
- Continuous assessments include case study, mid-semester examination, report and presentation.

These changes were incorporated to make the course more practical, with a good mix between the theory and practical. The concepts were taught in the class in traditional mode and the practical aspects of the course was completed in a blended mode, using case studies, audio and visual aids. Both class rooms and computer labs were used during the course delivery. The use of MOOCS was mainly to enrich students understanding of the subject. Assessments were both paper and online based, and feedbacks were given for each assessment. Summative assessment was conducted at the end of the semester and carries 50% of the total weightage of the total marks for the course.

At the end of the semester, a questionnaire was developed and administered among the students. The course tutor was the principal investigator in the study. The questionnaire was distributed to the students with a request to participate in the survey and submit the questionnaire once the teaching of course is over. Students deposited the completed questionnaire at a designated place, to maintain anonymity. All the questionnaires were collected before the announcement of final grades, to ensure that the feedback is not influenced by their grade. The questionnaire consisted of few questions related to the demographic profile of students, 26 questions based on five-point Likert scale to solicit response from students on their level of satisfaction in blended learning course. In addition, the questionnaire included questions to rank the various modes of blended learning, and impact of

blended learning on their learning style and performance. Some questions also focused on a comparison between the traditional teaching approach and the blended learning.

The reliability of the questionnaire was measured using Cronbach Alpha coefficient, which is used to measure the internal consistency of a test or scale. Internal consistency describes the extent to which all the items in a test measure the same concept or construct and hence it relates to the interrelatedness of the items within the test (Tavakol & Dennick, 2011). In this study, 26 questions (excluding the demographic questions) with a Cronbach alpha coefficient of 0.818 confirms a high degree of internal consistency. The total number of students participated in the study are 32. However, 28 completed questionnaires are taken for analysis. 4 questionnaires were removed during the editing process as it was not complete. In this study, 29% of students who participated were male, while 71% of the students were female. Among the participants, 85% attended a course in blended learning mode for the first time.

For analysis, Statistical Package for Social Science (SPSS) was used. Questions with five-point Likert Scale, weighted average was obtained. ANOVA was used to differentiate whether there exist any statistically significant differences in students' satisfaction, grouped based on gender of the students.

Results and discussion

Students' performance in the course

Business Strategy and HRM is a specialization course with a passing grade of C (67 Marks). The assessment methods include both formative and summative assessments. Case studies, mid semester examinations, presentations and assignments are part of formative assessments, while the end semester examination is considered as summative assessment. For this group of students registered in this course in summer 2016, the lowest and highest marks scored were 67 and 92 respectively, with an overall average of 80.16 and the standard deviation is 7.57. All students passed the course. Five students scored between 60 marks and 70 marks, 12 students scored between 71 marks and 80 marks, 13 students scored between 81 marks and 90 marks, and 2 students scored between 91 marks and 100 marks.

Preferred mode of learning

Students were given the opportunity to give their perception of the preferred mode of blended learning instruction used in this course (a) minimal use of technology and mostly face to face instruction, (b) equal mix of technology and face to face instruction, and (c) extensive use of technology and minimal use of face to face instruction. As shown in table 1, though students are found to be techno-savvy; their preference towards the mode of blending shows that they prefer mostly 'face-to-face' with minimal use of technology in their learning. A completely online instruction is not preferred by this group of students and, therefore, they ranked it the lowest.

Table 1: Preferred Mode of Instruction

Mode of instruction	Weighted Average	Rank
Completely face to face (lecture) instruction	3.26	2
Minimal use of technology, mostly face to face	3.65	1
Equal mix of technology and face to face instruction	3.13	3
Extensive use of technology, less face to face instruction	3.00	4
Completely online with no face to face instruction	1.91	5

The results are consistent with views expressed in other researches (e.g., Castle & McGuire, 2010; Farley, Jain, & Thomson, 2011; Owston, York, & Murtha, 2013) where it is articulated that students' preferences vary about the mix between face to face and online classes. The mode of instruction preferred mostly was 'minimal use of technology, mostly face to face'. This preference was evident in earlier studies, for example, Markovich (2006) observed that student preferred more face to face instruction because it is 'encouraging, supportive, and collaborative' (p.2). Similarly, Rotich (2003) commented that full time students prefer face to face instructional design than online mode (p.3).

Table 2: Preferred Mode of Instruction - Gender Wise

Mode of Instruction	Weighted Average	
	Male	Female
Completely face to face (lecture) instruction	2.88	3.42
Minimal use of technology, mostly face to face	3.38	3.80
Equal mix of technology and face to face instruction	3.50	2.93
Extensive use of technology, less face to face instruction	2.75	3.13
Completely online with no face to face instruction	2.50	1.60

Table 2 shows the preferred mode of instruction based on gender. There are differences in preferences between male and female students on the mode of blended learning instruction. The analysis revealed the highest preferences of male students are towards equal mix of technology and face to face instruction in blended learning (3.50). However, the highest preference of female students was towards minimal use of technology and mostly face to face instruction in blended learning (3.80). This is also witnessed in the last row "completely online with no face to face instruction", although male students do not prefer fully online courses; their female counterparts have rated this option with stronger disagreement (1.60) and rating the first option with completely face to face higher than the male students.

Previous studies on BL also explained the impact of gender on student engagement in BL. Two differing views are observed. There exist studies which highlights that male students are more active in online mode (Sanders, Koch, & Usro, 1997;Weber & Custer, 2005). Supporting this claim, studies also highlighted that female students lacks interest in the pedagogical approach of BL itself (Shroyer, Backe & Powell, 1995). Wu and Yeh (2012) also reported that gender significantly influence the computer competencies of students. In their study, the authors found that not all students possessed equivalent computer competencies to use library electronic resources. However, the results seem to contradict the findings of Tamim (2018) who found in a similar study in United Arab Emirates, that BL has a positive impact on female empowerment. To conclude, gender, subject field, and internet use are factors that correlate with competence variations. Studies (Kosar, 2016) also indicated that the level of education and the cultural sensitivity also impacts the extent of student's readiness to accept the blended learning paradigm.

Thus, learning skills are vital and any change that exhibit a deviation from the current practices is often rejected, because of lack of expertise to take advantage of the new instructional design.

Impact of blended learning

Table 3 contains students' perception with the impact of blended learning; 60.71% of students considered blended learning courses more interesting to learn than traditional courses. Nearly all the students, 96%, felt differences between a normal course and a blended learning course and more than

half of students, 57.14%, commented that their learning has improved in the blended learning courses.

Table 3: Impact of Blended Learning

Comments	% of Male *	% of Female *	% of Respondents
There is no difference	0.00	5.00	3.57
My learning improved in blended learning courses	62.50	55.00	57.14
I could relate my learning to real life examples	50.00	25.00	32.14
The blended learning course is more interesting to learn	100.00	45.00	60.71

* Percentage of Male as a % of total number of Male

It can be observed from the table that the higher percentage of male and female positively rated the implementation of BL in their curriculum. 62.50% of boys commented that their learning improved in the BL courses, while 100% of boys unanimously supported that statement that the BL courses are more interesting to learn. Though the female students viewed blended learning as more interesting and acknowledges its positive impact on their performance, the rating is comparably lesser than the male students.

However, the results also show differences among students based on their gender, on their preferences towards BL course. Notably, 50% of male students reported that through BL, they could relative their learning to real life examples, while only 25% of female students supported this. The lecturer has observed significant changes in students' behavior in BL courses. The notable among them is the lack of 'exam stress' among students. This is observed from their comments on advantages of BL.

Rating of different components of blended learning instructional design

In Business Strategy and HRM, students were given Powerpoints, videos and case studies prior to the classes and were asked to prepare for the class. Inside the class, the facilitator concentrates on discussing the materials with the students than lecturing. In addition, different teaching tools and techniques are used to engage study in their learning and measure their learning experience. different teaching tools and techniques are used., such as Online assessment to assess their learning, Social media for information sharing, Open online course materials, MOOCs and Case study approach (listed in table 4). Moodle was used to share course related materials that includes text, audio and video contents. Different activities are carried out using Moodle that includes e-voting, choice, quiz and the submission of reports. A group is created in Facebook and WhatsApp which is used to send course related materials (course materials, case studies, videos) and engage in discussions. Students are asked to post their queries which is simultaneously addressed by other students and moderated by the course tutor. Among these, the use of social media for sharing information is rated most effective by the students (4.10), followed by online assessments (4.0) and Open online course materials (3.81).

Table 4: Effectiveness of different blended learning tools

Rate effectiveness of	Male	Female	Overall
Moodle – E learning platform	3.75	3.20	3.80
Online Quiz	4.88	3.30	4.00
Social Media for information sharing	4.38	3.85	4.10

Open Online Course Materials	4.38	3.05	3.81
Case Study approach	4.00	2.25	3.43

Social media is extensively used in the course. WhatsApp is used to share information among students. Case studies, videos, PowerPoint's slide (ppts) and texts are forwarded through WhatsApp. It is also used to generate discussions among students and facilitator. Also, important announcements regarding classes and assessments were shared through the social media. This allowed more flexibility and the interaction improved the students level of understanding.

Students' perception and satisfaction regarding different components of blended learning

The different features of blended learning such as students' engagement, online communication, and feedback are appraised using student's level of satisfaction. Students rated their level of satisfaction in a five-point Likert scale on 17 items (as shown in table 5). The highest rating (4.33) is for use of social media in teaching and learning, followed by sharing of course related information (4.14), online communication and student understanding (4.05)

Table 5: Students Level of Satisfaction on different blended learning components

Blended Learning	Weighted Mean
Social media (Facebook, WhatsApp) for communication	4.33
Sharing of course related information using online and traditional mode	4.14
Student understanding of the subject.	4.05
Student academic productivity & learning performance.	4.05
Online communication for social interaction.	4.05
Student Engagement in productive online and face to face discussions.	3.95
Online quiz and other activities	3.95
Motivation to explore content related questions.	3.95
Ease in discussion and participation through the online medium.	3.91
Relating theory to real life examples	3.91
Encouragement to explore new concepts	3.86
The level of mixing different tasks in a way to support learning	3.77
Effect of Blended learning on making an independent learner.	3.76
Variety of information	3.75
Ease in interaction	3.59
Sense of belonging in the course.	3.57
Timely feedback on my performance.	3.33

The analysis revealed that students among the various components the following are rated high by the students; (a) the use of social media for communication, (b) sharing of course related information through online and traditional mode, (c) Student understanding of the subject, and (c) Improved discussions. To summarize, the analysis revealed that blended learning as an instructional design is accepted mainly because of its ability to effectively engage students, promotes a sense of belongingness, promotes student ownership in learning outcomes and improves communication between the learner and facilitator.

Overall satisfaction with the blended learning approach

Students' overall level of satisfaction in this course is promising for the College to implement blended learning in other courses. As can be seen in Table 6, students have rated blended learning approach high because it has improved the quality of their learning experience. Students' engagement is of course the major factor for the acceptance of blended learning as effective in HEI's. Supporting the evidences from the literature (Kuh, 2001), it can be concluded that blended learning creates independent learners who are engaged and in charge of their learning.

Table 6: Overall Satisfaction on Blended Learning

Comments	Weighted mean
Studying with a blended learning approach is a wise idea.	4.05
Studying with a blended learning approach makes my work easier in this course.	4.18
I have no difficulty in accessing information using e-learning system in the college.	3.59
I prefer to use e-learning (online materials, online quiz, online communication) in other courses too.	3.59
Given the opportunity I would take another blended learning course in the future.	3.82
Given the opportunity, I would recommend blended learning courses to other students.	3.73
Blended learning makes me independent learner.	3.76
It is necessary to take blended courses in order to prepare me for future job and keep-up with the trends.	3.73
Overall, I am satisfied with this blended learning course.	3.89

Students perception on blended learning is assessed using Table 6. In general, the acceptance of blended learning instructional design is mainly because the presence of an engaging class rooms, sharing of information, use of different instructional methods and above all, its ability to prepare students as independent learners. As can be observed from the table, students addressed the benefits of blended learnings from different points of view.

Level of satisfaction and effect of gender

To evaluate whether there exist significant differences in student satisfaction on blended learning in this sample, ANOVA is used. Few of the similar studies (e.g. Naaj, Nachouki, & Ankit, 2012) have established relationship between the level of satisfaction and student gender. The analysis revealed that there exist significant differences in student satisfaction based on gender, with respect to the following;

The course tutor encouraged students to explore new concepts in the course using blended learning: The results (F =*6.298; Sig=.019)* indicate that there exist significant differences in the level of satisfaction among male (mean= 4.63) and female students (mean= 3.65). It can be hypothesized that such differences are due to the level of interaction and involvement needed to explore new concepts in the course. Similar observations are found in a study by Khodabandelou et al., (2014) and stated the differences between the two groups on the impact on community of inquiry and perceived learning (male and female) was statistically significant. Community of Inquiry is a common framework that directs attention to the process of constructing and confirming deep learning.

Online communication is an excellent medium for social interaction: The results (F=8.430; *Sig =.008*) indicate that there exists a significant difference in the level of satisfaction among male (mean= 4.57) and female students (mean=3.58) regarding the effectiveness of online communication. Like the observed results before, a specific group may not be interested to communicate online using Social Media. Cultural factors are a convincing reason for this. The results support the observations in the previous studies including Idemudia et al., (2017) wherein it was found that male students have a stronger perception of satisfaction and information quality when using social media compared to females.

I felt comfortable discussing and participating through the online medium: The results (F = 5.224; *Sig =.031*) indicate that there exist significant differences among male (mean= 4.25) and female students (mean= 3.58) in their level of satisfaction in discussion and participation in online medium. The findings support earlier observations on the preference of online communication as an excellent medium for social interaction.

The course tutor helped us to relate the theory with real life examples: The results (F=5.922; *Sig =.022)* shows that there exist significant differences among male (mean= 4.63) and female (mean= 3.80) in their level of satisfaction. This area needs to be explored in detail. There may be differences in students' level of understanding of real-life examples used in the class. Such an inference requires the course tutor to be careful in picking examples while explaining the subject.

I prefer to use e-learning (online materials, online quiz, and online communication) in other courses too: The results (F=10.823; *Sig =.003*) highlight the presence of significant differences in the level of preference between male (mean= 4.50) and female (mean= 3.20) students in the use of e-learning and online platform for teaching and learning. The results are like the observed results before and highlight the disagreement between male and female on the use of e-learning and online forum as a source of instructional design.

Overall, the results of the study indicate that there exist statistically significant differences in the perceptions of male and female students on their level of satisfaction, perceived learning, and the preference to use e-learning and online forums. As highlighted, these differences are also established in previous research as well (Idemudia et al., 2017; Khodabandelou et al., 2014).

Blended learning: key benefits

The College has a comprehensive view of student-centered education and considers blended learning as an important strategy to produce quality graduates. Students, as a very important stakeholder in blended learning, influence the success and failure of blended learning implementation. The focus of this study was mainly to understand students' perception on various aspects of blended learning. However, it is important to obtain their feedback on the most effective aspects of blended learning. An analysis of these aspects will allow the facilitator to design blended learning in a better way in the proceeding semesters. An open question was asked in this regard, and the responses were obtained from students. The question was focused on the benefits of incorporating blended learning in

classrooms. In general, the students identified the following as the most effective aspects of blended learning.

1. The learning from blended learning classes can be easily applied to real life situations.

2. Learning remains with the student for a long time. It is very easy to understand the subject and does not consume more time to prepare for the different assessments.

3. The availability of different teaching materials like ppts, case studies and videos improve students' attention and engagement in the class.

4. It improves the knowledge of the student on how to use the technology and how to deal with online quiz and other assessments.

5. Different roles in the class, not always a listener in the class.

6. More communication with facilitator, examples from real life.

7. Communication between facilitator and student, easy to get information from online,

8. It is easy to understand the course; itis delivered in an interesting way. Students can access the materials in advance which allow them to prepare for the classes.

9. It is very flexible, and it can allow student to learn easily and fast

10. It reduces boredom in the class and improve interest and learning of student. Also, the student can understand the subject in a better way.

11. Able to comprehend the subject easily, and able to link my learning to reality smoothly

12. Bringing online materials that match with the course material which leads to help understanding

13. Share the material with the students before starting the class is helpful to prepare for the class.

14. All queries can be communicated with the teacher through Social Media.

It is interesting to note that the comments summarized above were written in an open-ended question in the questionnaire. Overall, students prefer blended learning modes of instructional design because it helps them to engage in classes and the ability to match learning with real life applications. In general, these aspects are unanimously agreed in research as the key advantages of blended learning.

Challenges faced by the students in the class

Adopting a new teaching approach is often a daunting task if one is an early adopter in a limited resource environment (Kenney, 2011). Successful implementation requires 'organization readiness' (Kim & Bonk, 2006) that includes availability of infrastructural facilities (Azizan, 2010) and faculty training (Dukes, Waring, & Koorland, 2006). Mader et al., (2008) concluded that infrastructural facilities for blended learning incudes technological, organizational and political infrastructure. Any change, as mentioned, face challenges during implementation. Student' perceptions on various challenges related to blended learning are detailed below:

1. Time was the major constraint.

2. The quality of network and internet connectivity.

3. Lack of knowledge in using computers and difficulty on how to do online assessments.

4. Some online materials are international and use difficult concepts and words.

5. It is difficult for the student for the first time.

6. More information can lead to confusion.

Overall, the results from the open-ended question on challenge faced by students raise the awareness of fine-tuning of instructional design and the importance of infrastructural requirements. The infrastructure requirements in terms of IT resources, internet connectivity, etc., are required to effectively handle blended learning instructional design. This blended learning course was offered for the first time, hence; required students to practice in a different learning style. The first three challenges listed above focus on the infrastructural and time constrains, which can be investigated from an administrative point of view. The latter challenges listed above primarily emanate from the new initiative in undertaking blended learning course for the first time. Owston et al., (2013) concluded that as students' progress in using blended learning, they become more independent and sophisticated in their deliberations and thus less attached to face to face lectures as major source of knowledge.

Suggestions to improve blended learning

The overall feedback from students is supportive for implementing blended learning in ICT. Such implementation, however, requires infrastructural and academic support from the stakeholders. The implementation of blended learning shall consider the following, according to the feedback received from the students:

1. Blended learning courses must be offered by all staff.

2. Select facilitators who are best in information technology to teach blended learning courses.

3. Orientation on how to use to technology for both students and staff.

4. Provide more labs and facilities such as Wi-Fi.

5. Can apply in difficult courses. Use different type of online activity or social media like video learning movies, online activity

6. Apply online quiz to all courses.

7. Learning materials should be shared using Social Media.

These suggestions are important and require active strategic consideration from the stakeholders.

Conclusion

The focus of this study was to evaluate the students' perception on blended learning courses. The study highlighted a positive affiliation towards implementing blended learning instructional design in their different courses. Further studies are recommended using experimental research design focusing on the progress of students in courses with traditional teaching pedagogy and courses with blended instructional design. Such studies can further enhance the literature on the relative impact of blended instruction on student learning and learning experience.

Engagement is about feeling part of an activity, actively involving and participating fully. In this research, the impact of blended learning on student engagement is analyzed using primary data. The students are exposed to a blended learning course and their feedback was obtained using a structured questionnaire. The blended learning instructional design was adopted for the course 'Business Strategy and HRM' offered at the bachelor level in the Business Department in Ibra College of Technology in summer 2016.

Blended learning is a student-centered instructional design that integrates both traditional face to face lecture method and online approaches and technologies. The findings of the study highlighted an improvement in overall learning experience, when blended learning is integrated in the curriculum. In

the online platform, the use of social media and e-learning platforms enhanced the overall experience, as it helped the student to understand the subject at ease compared to a lecture method, explore new information, interact and participate, and above all to relate the theory with the real-life applications. The advantage of blended learning instructional design is mainly on account of learner autonomy, flexibility, improved communication and discussion and above all the real-life experience of the blended learning course. The study revealed that blended learning is not only an acceptable pedagogical approach, it also possesses the potential to transform teaching and learning experience in the higher education institutions. To conclude, the study provided an insight into the learner's perception on the implementation of blended learning and concludes that blended learning is an effective instructional design in class rooms.

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