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Research paper

Students' Acceptance on Blended Learning: A Case Study

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Abstract

Electronic Learning (E-Learning) has been widely used as a complement to the traditional learning method. It includes the introduction of blended learning (BL) that fully utilises the use of Learning Management System (LMS). The aim of this study is to examine students' acceptance of blended learning specifically with the use of Openlearning (OL) as an online learning platform to complement traditional teaching. 137 students had participated in this study. OL was introduced to the Health Sciences students, who enrolled in the Principles of Nutrition course. Students explored teaching materials, videos, activities, and several assessments in OL while facilitated by facilitators for 14 weeks. A self-administered questionnaire was given via online to the participants to evaluate their attitudes and acceptance towards OL. Descriptive statistic was used to describe the demographic data and t-test was performed to report the level of acceptance. Overall results showed students were very satisfied with blended learning using OpenLearning as a web-based tool. Students accepted OL as it is easy to use and convenient. They also agreed that the usage of OL in teaching and learning will improve their academic performance. In conclusion, it is proven that Health Sciences students accepted the use of OL in blended learning.

Keywords: *Blended learning, Principles of Nutrition, learners' acceptance, teaching and learning*

1. Introduction

E-learning is getting more attention from many industries for its benefits such as the learning process is unimpeded by time and location[1]. Malaysia Education Blueprint (2016) outlines ten shifts that will promote excellence in the higher education system. One of the shifts is globalised online learning that includes the usage of Blended Learning (BL) as a staple pedagogical approach in Higher Learning Institutions[2]. BL can be defined as the combination of any teaching and learning approaches (distance education, distributed learning, e-learning, online learning, open learning, flexible learning, m-learning) and/or associated elements, methods or environments for creating a customized learning system[3]. Also, BL can use a mix of face-to-face and e-learning or online teaching method[4,5]. The mixed features of virtual and real environments provide a more efficient and convenient learning environment and improve the students' learning experience[5]. The implementation of BL will need to consider three components of enablers: connection, content and confident as illustrated in Figure I[6].

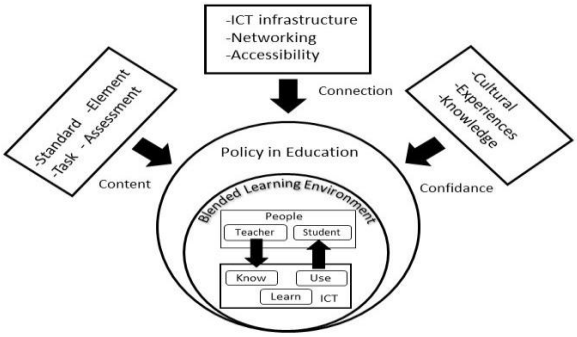


Fig. I: A Conceptual Model of Blended Learning. Adopted from Yusof, Daniel, Low and Aziz (2011).

BL is believed to improve the learning outcome by 500%[7]. The Traditional teaching method is focused on the sizeable face-to-face lecture limiting the interactive discussion between the learners and trainers. In contrast, BL is able to deliver information to many people simultaneously[1]. Due to BL's benefits, many higher learning institutions provide Learning Management Systems (LMS) which may include the use of BL in teaching and learning[8]. Nevertheless, the transformation from the traditional way of teaching to BL needs to consider the learners' acceptance toward BL. Many universities providing e-learning services face issues regarding adopting successful strategies including the acceptance and effectiveness of delivering courses[9]. Besides, considering the learner's background is also necessary to ensure the effectiveness of BL. Learners come from various backgrounds

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and different levels of Information and Communication Technology (ICT) literacy. Also, apart from the differences in intelligence level, they also differ in training needs, learning pace, and learning style preferences (e.g., auditory, visual, active, intuitive)[10].

However, little research was done on the acceptance level of the learners towards BL. The acceptance or willingness to use blended learning is reflected when the learners recognise the ease of use and perceive the benefits[11]. Therefore, this article describes the learners' acceptance of blended learning for Principles of Nutrition course. The acceptance is measured by the Perceived Ease of Use (PEU), Perceived Usefulness (PU) and Behaviour Intention (BI). The PEU and PU were defined somewhere else in the literature[12]. Understanding students' acceptance of e-learning is considered the most significant step toward implementing and developing a successful e-learning environment[9]. This study will help academicians to better understand the students' acceptance of BL. Their feedbacks are paramount important in the effort to optimize the teaching and learning process.

2. Methodology

137 undergraduate students had voluntarily participated in this survey out of 154 that enrolled in this course. Convenience sampling was applied during the recruitment. OL was made available to the students from September until December 2017 (14 weeks). The survey was distributed in week 15.

A self-administered questionnaire that contains two parts; Part 1: Demographic profiles and Part 2: Learners' acceptance toward blended learning that consists of 3 domains; Perceived Ease of Use, Perceived Usefulness and Behaviour Intention was used[13]. The questionnaires were distributed via online. The questionnaire for part 2 consists of Likert 5-scale close-ended questions as described in other literature[13]. The average points were categorised as in Table I.

Table 1: Level of satisfaction score

Level of satisfaction score	Indication
4.21 – 5.00	Users have an excellent level of satisfaction with the system.
3.41 – 4.20	Users have a very good level of satisfaction with the system.
2.61 – 3.40	Users have a good level of satisfaction with the system.
1.81 – 2.60	Users have a fair level of satisfaction with the system.
1.00 – 1.80	Users have a poor level of satisfaction with the system.

2.1. Principles of Nutrition for Blended Learning

There are nine modules developed by the Lecturers in the Centre of Nutrition and Dietetics. The modules are 1. Protein, 2. Carbohydrates, 3. Lipid, 4. Energy metabolism, 5. Water soluble vitamins, 6. Fat soluble vitamins, 7. Minerals, 8. Guideline in diet planning, and 9. Nutrition entrepreneurs. Lecturers are also known as facilitators. There are three facilitators assisting in the OL. All modules were standardised to have activities, namely a forum for discussion, quizzes, and games. Students are required to complete all modules to be awarded a completion certificate. Throughout the course, students can communicate with the facilitators via a chat channel. At the end of course, students will be assessed based on the performance on the activities in each module.

2.2. Blended Learning Delivery

Combination of face-to-face learning method and online teaching that uses Openlearning.com as a web-based tool was applied in this study with the ratio of 60:40, respectively. OL provides many features such as forums to enable students to comment and receive comments encouraging interaction while learning. Also, OL allows developers to put various forms of teaching materials such as notes, video, pictures, and other embedded online materials. Learners were monitored through the analytics feature available in OL.

Data from the questionnaire were analysed using the Statistical Package for Social Sciences v.21 using descriptive statistics and independent t-test.

3. Results

A total of 137 questionnaires were analysed, the demographics of the participants are presented in Table II. Majority of the participants were female (93.4%, n=128); this gender imbalance is a typical characteristic of the students population at the Faculty of Health Sciences, UiTM. The average age of the respondents was 22 years old (SD 1.85). Respondents informed a good self-reported ICT knowledge; 74.5% (n=102) being intermediate users. Almost all participants use smartphones (93.4%, n=128), but only 2.9% (n=4%) use eReading devices to access OL.

Table 2: Learners profile (n=137)

Characteristics	Frequency (n)	Percentage (%)	Mean (sd)
Age			22 (1.85)
Gender			
Male	9	6.6	
Female	128	93.4	
Level of ICT Knowledge			
Basic	28	20.4	
Intermediate	102	74.5	
Advance	7	5.1	
Usage of ICT Devices			
Desktop	40	29.2	
Noteboook	54	39.3	
eReading device	4	2.9	
Smartphone	128	93.4	
Others	12	8.8	

The results were summarized as shown in Table III as follows. The learners' acceptance toward the blended learning courses overall is at a very good level (mean=3.52, SD=0.79). The perceived ease of use is at a very good level (mean=3.45, SD= 0.95). The largest score is "Use of Openlearning to connect with friends is simple and fast" at a very good level (mean=3.51, SD=0.97). The lowest score is "The communication between the student and the instructor using Openlearning is simple and easy." at a good level (mean=3.33, SD=0.98). The perceived usefulness is at a very good level (mean=3.59, SD=0.91). The largest score is "Learning through Openlearning can support multimedia in a various format including text, picture, video and animation." (mean=3.84, SD=0.90). The lowest score is "Learning by social media provides Interaction, not only between the learners, but also between learner(s) and the instructor" at a very good level (mean=3.42, SD=0.91). Also, the behaviour intention is at a very good level (mean=3.51, SD=1.03). The largest score is "Implementation of combined teaching and learning by using social media in the classroom will improve student achievement" at a very good level (mean=3.62, SD=1.09). The lowest score is "Students have a positive attitude towards the adoption of teaching and learning by using Openlearning with various courses" at a good level (mean=3.40, SD=1.04).

Table 3: Learners' acceptance towards blended learning

Characteristics	Mean (SD)	Level of satisfaction
1. Perceived Ease of Use	**3.45 (0.95)**	**Very good**
• It is easy to learn and have	3.49 (0.91)	Very good

skill for using *Openlearning*.		
• Discussion by posting with a reference sources, is easy for collaborative learning.	3.48 (0.94)	Very good
• Use of *Openlearning* to connect with friends is simple and fast.	3.51 (0.97)	Very good
• The communication between the student and the instructor using *Openlearning* is simple and easy.	3.33 (0.98)	Good
2. Perceived Usefulness	**3.59 (0.91)**	**Very good**
• Learning by *Openlearning* provides Interaction, not only between the learners but also between learner(s) and the instructor.	3.42 (0.91)	Very good
• Discussion by posting on *Openlearning* can be amended later on.	3.48 (0.93)	Very good
• *Openlearning* has time and date stamp. When feeding a new post, it will alert to the user(s) immediately.	3.47 (0.91)	Very good
• Collaborative Learning through *Openlearning* enable access to knowledge from various sources.	3.73 (0.90)	Very good
• Learning through *Openlearning* can support multimedia in a various format including text, picture, video and animation.	3.84 (0.90)	Very good
• Learning and collaborating activities through *Openlearning* can support learning in the classroom.	3.59 (0.90)	Very good
3. Behaviour Intention	**3.51 (1.03)**	**Very good**
• Students have a positive attitude towards the adoption of teaching and learning by using *Openlearning* with various courses.	3.40 (1.04)	Good
• Implementation of combined of teaching and learning by *Openlearning* media in the classroom will improve student achievement.	3.52 (0.98)	Very good
• *Openlearning* should be used in combined with teaching and learning in the classroom for various subjects /courses.	3.62 (1.09)	Very good
Overall	3.52 (0.79)	Very good

4. Discussion

In general, LMS allows the uploading/downloading of course materials, facilitates interactive communication among users, and contains tools for evaluating and managing learners[14]. Various versions of LMS used by the higher institutions differ in terms of its technical requirements, usability, reliability, accessibility, and affordability[15]. This study was conducted based on the foundation that user's acceptance is important to ensure the process of learning is effectively implemented and achieves the desired outcome of the course[9,16-18]. Based on the results, students are satisfied with the OL system for perceived ease of use. It shows that it took less effort to learn the system. This finding is similar to other research that also found students were satisfied with BL[13]. OL seems to be easy to use although some studies mentioned that many people face obstacles when they first use online tools for collaborative learning or social media to support collaborative work[13] and the continuing need for the development of technological skills[19].

Results from the survey implied that students valued the perceived usefulness of OL. The system promoted interaction between learners and instructors, editable comment functions, keeping learners updated via mail alert, support various multimedia formats and support classroom activities. Students were very satisfied with the OL and accepted that OL would enhance his or her academic performance. The previous study also supports the findings in this study[13].

Besides that, learners had a positive attitude towards the adoption of OL and supported that the combination of BL and traditional teaching method will improve students' achievement as well as encouraged the use of OL in teaching and learning. Another study that addresses the contribution of blended learning in higher education at South East European University found that many students (58%) were very satisfied with their online learning experiences. They regarded their online classes as excellent and better than traditional teaching[20].

5. Conclusion

Principles of Nutrition is the first subject in Faculty of Health Sciences that offered BL by using OL as the LMS tool. This case study provides an evaluation towards the acceptance of BL. Students were very satisfied towards OL as an educational tool due to its simplicity, engaging, and interactive nature. OL warrants consideration to be used in conjunction with the existing LMS to augment blending learning and to provide students with ubiquitous learning possibilities. Future research should explore how OL should be designed to optimize the use of BL from students' point of view.

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