The Effect Of Lecturer Behavior, Lms Ease Of Use, And Content On Student Satisfaction With Student Involvement As A Mediating Variable In Blended Learning Program

Deby Septiana[a], Natasha Ester F Siahaan[b], Tengku Mohd. Khairal Abdullah[c]

[a]Business Management Program, Management Department, Binus Business School Master Program, Bina Nusantara University, Jakarta, Indonesia, 11480, deby_septiana@yahoo.com
[b]Business Management Program, Management Department, Binus Business School Master Program, Bina Nusantara University, Jakarta, Indonesia, 11480, natashasiahaan@gmail.com
[c]Business Management Program, Management Department, Binus Business School Master Program, Bina Nusantara University, Jakarta, Indonesia, 11480, tabdullah@binus.edu

Abstract

This research aims to identify and analyze the impact of lecturer behavior, LMS ease of use, and content on student satisfaction in blended learning program mediated by student involvement. The study focused on a Master level of Blended Learning Program at one of Indonesia's private university. Out of 250 respondents in population, 150 respondents were targeted as the sample of this study, in which 105 returned the questionnaires. In the end only 102 respondents were admissible for further analysis. The testing method used questionnaire to students who are currently active in the blended learning of Master program at one of Indonesia's private universities. The hypotheses was analyzed using Partial Least Square - SEM to determine the relationship between student satisfaction and student involvement as mediating variable. This research reveals that lecturer behavior and content has a significant effect on student satisfaction, however LMS ease of use has no substantial effect on student satisfaction. Moreover, student involvement does not mediate the relationship between lecturer behavior, LMS ease of use, and content on student satisfaction.

Keywords: Blended learning, student satisfaction, student engagement, lecturer behavior, LMS, content.

1. Introduction

The importance of technology in all levels of society cannot be ignored, notably in higher education institutions. Universities today are focused on developing effective learning models, by integrating technology in teaching and learning, meeting student needs and providing the education and skills for the future. Blended Learning model combines the benefits of e-learning and conventional learning. It provides learning flexibility, the possibility of coaching during learning phase with independent management while giving autonomy to students, and interaction between students through technological media. An important variable in the success and sustainability of an institution is student satisfaction, it measures the effectiveness of the systems and programs implemented. Thus the management and independent skills in blended learning play a vital role in the success the university and students, as much as the curriculum in online learning (Mihanović, Batinić, & Pavičić, 2016).

Choosing blended learning as a learning system certainly has its challenges. Brooks (2003) describes lecturer behavior as a major problem affecting online learning. This is also supported by Arbaugh (2000), asserting that the teaching style of lecturers and technology are the main challenge. Yeung (2001) added that lecturers are one of the challenges in education. This challenge is related to the success of student learning, particularly student

satisfaction (Naaj, Anchouki, & Ankit, 2012). Earlier research explained that lecturers face challenges in the quality of teaching styles in blended learning class and inconsistent student perceptions. Their results show gaps and differences of perspective between lecturers on themselves and students' perceptions of lecturers in certain pedagogical styles. Conversely, lecturers are not aware of these inconsistencies and differences in perceptions. So, as a result there is a decrease in student satisfaction in blended learning because lecturers do not accurately understand student's perspective (Dziuban, Hartman & Moskal, 2004).

Albeit the use of technology in this study of Learning Management System (LMS) which is very effective in supporting interactions between students during online classes, it can also cause frustration, difficulty, and isolation among students due to unaccustomed with online learning methods and no direct interaction with lecturers and classmates. This feeling of isolation can affect learning and cause retention problems, which eventually affect student satisfaction levels (Beaumont, Stirling, & Percy, 2009). Additionally, research shows that good content does not automatically increase student satisfaction due to the interaction with content to encourage student involvement and whether or not the content is interesting (Montgomery et al., 2015). So, it can be understood that content quality does not directly influence satisfaction.

The presence of diverse choices in the learning process is not simply attainable or acceptable. Previous studies have shown that simplicity in the structure and the design of online courses has a significant impact on content access (Lee, 2008). This is one of the factors that inspired to conduct this particular study on blended learning compared to the online learning program. Research shows that in the absence of face-to-face interaction, it can be difficult for students to engage in complex learning structures because interacting only with subject matters have a higher degree of difficulty. Researchers have revealed that simple and standard course designs help facilitate interaction between students and content and have a positive effect on their online learning experience (Lee, 2008; Swan, 2001). Determining predictors of significant results in blended learning will help universities increase the variables needed in designing and improving blended learning processes and systems (Kintu, Zhu, & Kagambe, 2017).

2. Theoretical Framework

STUDENT SATISFACTION

Student satisfaction is considered a significant aspect in measuring the quality of blended learning model. Student satisfaction is the result of a combination of factors which is a basic need to achieve a good application of teaching -learning process (Naaj, Anchouki, & Ankit, 2012). Furthermore, student satisfaction is an important element for measuring the effectiveness of courses in blended learning. Although student satisfaction is not necessarily linked to achievement, satisfied students tend to be more motivated, especially in achieving their cognitive goals. Student satisfaction also determines whether they continue the course with the same learning methods and with the same educational institutions (Arbaugh, 2000).

Student satisfaction is imperative in higher education for it affects student responses to learning and influences their decision to stay in the programs and institutions (Roberts & Styron, 2011). Student satisfaction is the level of expectations and experiences of the course taken (Gray & Daymond, 2010). It is also a subjective evaluation from various results and experiences obtained based on participation in learning and their campus life (Elliott & Shin, 2002).

Student satisfaction is positively related to retention and the decision to take a similar class (Booker & Rebman, 2005) and satisfied students represent public relations of the university. If students are satisfied with their place of education, their satisfaction is essential to increase the number of intake at the university. Therefore, more understanding is needed about the factors that affect student satisfaction especially in the blended learning program (Naaj, Anchouki, & Ankit, 2012).

LECTURER BEHAVIOR

Bolliger & Martindale (2004) suggested that one of the main factors affecting student satisfaction is lecturers. Lecturers in blended learning class are tasked with designing material, accommodating the flow of discussion between students, providing online and face-to-face material delivery strategies, and directing the learning process from the subject matter and assignments determined by the study program. Building quality content or materials for both online and in-person sessions is a challenge for lecturers and universities. In an online learning environment, lecturers play an important role in delivering content, discussions, and various class activities (Shea, Li, & Pickett, 2006). The presence of lecturers includes how course's design and management are displayed, facilitated and guided. Communication in online learning is generally asynchronous and the lack of nonverbal conversation leads to the importance of feedback from lecturers (Ladyshewsky, 2013). Lecturers not only act as facilitators, but also as motivators for students, where the role of the lecturer can

significantly influence student acceptance in blended learning environment by providing feedback and responses, which are closely related to student satisfaction. (Naaj, Nachouki, & Ankit, 2012; Dang et al., 2016). Awamleh (2019) identified that student satisfaction is essential and the quality of lecturers is the most influencing variable of student satisfaction, such as competent lecturers who are experts in their fields and are able to stimulate students to think critically. Lecturers are said to be successful if they are able to guide online discussions through constructive feedback and inspire students to continuously learn (Taghizadeh & Hajhosseini, 2020). From the above statement, a hypothesis can be proposed:

H1 = Lecturer Behavior (X1) affects Student Satisfaction (Y1) in Blended Learning

LMS EASE OF USE

The TAM model of Davis (1989) defined user friendly technology as the extent to which individuals perceive the use of certain information systems to be easy, straightforward and are expected to help the effectiveness and efficiency of work. The two important variables in this model are perceived usefulness and perceived ease of use, both influence perceptions that determine technology adoption and show user interest in developing new skills. The level of acquisition of new skills can be significantly influenced by extrinsic and intrinsic motivation. Extrinsic motivation refers to the performance of an activity because it is considered helpful in achieving certain results that are different from the activity itself. In contrast, intrinsic motivation refers to the performance of tasks that are fast and easy to execute.

In spite of its ability to facilitate communication between students in online classes, the use of technology can also cause frustration, difficulty, and isolation for students (Beaumont, Stirling, & Percy, 2009). Although blended learning has a positive impact on lecturers and students, one need to have certain level of understanding of the system implemented by the university (Lin & Vassar, 2009). Low quality technology which are difficult to use affects user satisfaction (Kintu, Zhu, & Kagambe, 2017). Using the right technology can increase the benefits of the interaction process between students and lecturers (Jain, 2011; Taghizadeh & Hajhosseini, 2020). When students find it easy to use technology and feel the benefits, consequently they feel a desire to use it (Davis, 1989). This study measures the level of ease of use in using technology, assumed to be the Learning Management System (LMS) used by universities in the process of delivering the subject content to students. Based on the above statement, a hypothesis is proposed:

H2 = LMS ease of use (X2) affects Student Satisfaction (Y1) in Blended Learning

CONTENT

Content is the knowledge learned and the overall guidance of the learning process. The content consists of activities from lecturers instructions and interactions so that students can learn effectively (Grossman et al., 1989). According to Dickey (2004), a new strategy to overcome frustration and isolation in online learning programs is by providing more attractive and interactive content that supports active participation between individuals involve. Thus, wider interaction is required for students to successfully complete distance learning programs. Varieties and reliable content can increase student satisfaction in blended learning (Al-Hassan & Shukri, 2017). An efficacious content stimulates student interest in the learning process, so it is necessary to pay attention to content that is in accordance with the needs to increasing student satisfaction (Taghizadeh & Hajjhoseini, 2020). According to Montmogomery et al. (2015), students have a positive response to access and involvement in content through a variety of learning, such as reading material, watching videos, discussing, and social media. Further research on student characteristics is useful to increase effectiveness of blended learning, so the following hypotheses is proposed:

H3 = Content (X3) affects Student Satisfaction (Y1) in Blended Learning

STUDENT INVOLVEMENT

Student involvement is the psychological process to increase attention and interest in the implementation of teaching-learning process (Marks, 2000). Involvement is associated with subjective experiences that a person has during class interactions (O'Brien & Toms, 2008). The concept of student involvement is based on the belief that the learning process is enhanced when there is interest and inspiration from curious students.

Gunuc & Kuzu (2014) define student involvement as the quality and quantity of psychological reactions, ways of thinking, emotions, and behavior in learning and social activities, in the classroom and outside the classroom in order to achieve successful learning. The level of student involvement in learning activities is one of the fundamental quality of learning activities, which has been proposed to be the mediating variable in this study. Student satisfaction and achievement is influenced by class activity in blended learning (Melton, Bland, & Chopak-Foss, 2009).

The Effect Of Lecturer Behavior, Lms Ease Of Use, And Content On Student Satisfaction With
Student Involvement As A Mediating Variable In Blended Learning Program

According to Gray & DiLoreto (2016) student involvement mediates the relationship between lecturer behavior and student satisfaction. The more attentive the lecturers are, the students feel more involved so that student satisfaction will increase (Garrison & Vaughan, 2008). Student performance and motivation is said to increase with lecturer's efforts, making them more involved in the learning process (Mandernach et al, 2011). From the above statement it can be proposed:

H4 = Student Involvement (Z1) mediates the relationship between lecturer behavior (X1) and Student Satisfaction (Y1) in Blended Learning.

Zhu, Lin & Hsu (2012) suggest that ease of use of technology will facilitate learning activities, which would increase student participation in technology-adopting environments. The involvement of students in the classroom will increase satisfaction. However, quality technology needs to be accompanied with good quality content. Good technology will be a learning tool that helps improve student relationships with other people and informative content (Al-Rahmi & Othman, 2013). Students have positive response and good involvement with content through various learning, such as reading, videos, online discussions, or through social media. Interesting content can increase student engagement (Montgomery et al, 2015). Students who are involved will feel more satisfied with their learning. Based on the above statement, it can be proposed:

H5 = Student involvement mediates the relationship between the LMS ease of use (X2) and Student Satisfaction (Y1) in Blended Learning.

H6 = Student involvement mediates the relationship between content (X3) and Student Satisfaction (Y1) in Blended Learning

Figure 1. Research Model
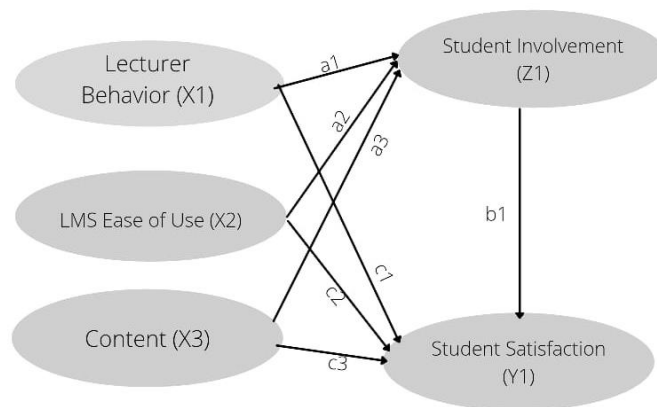
Notes:
H1 = c1, H2= a2, H3 = a3
H4= a1b1, H5= a2b1, H6= a3b1

3. Research Method

Cross-sectional and causal research approach are used in this study. The study's population are students who are currently taking a blended learning Magister of Management at a private university in Indonesia. The sample was measured based on calculation of Hair et al. (2014), where the minimum sample required is the largest number of paths pointing to one of the latent variables in the structural model. For that reason, it is determined that the minimum sample is 40. The questionnaire is structured based on objective and subjective questions. Subjective questions are organized based on questionnaire items used in the research of Gray & DiLoreto (2016), Alharbi & Drew (2014), as well as Cabero, Llorente, & Puente (2010). The questionnaire use a Likert scale in online form which then was distributed to the blended learning students at the private university. To analyze data SmartPLS ver 3.2.2 was used with the PLS-SEM method. The confidence interval use is 95%. The sampling technique chosen is convenience sampling, where the questionnaire link is sent in bulk via email to respondents. The number of total population was assumed to be 250 students.

4. Result And Discussion

The number of questionnaires was distributed around 150 students covering six batches. Of the 105 respondents returned, 102 data was usable, while the rest could not be used because they did not meet one of the initial requirement, which is an active blended learning program students. Of the 102 data, 57 are men (55.9%)

and 45 women (44.1%). The majority of respondents are aged 26-34 years old, about 40.2% and 31.4% are aged 35-44 years. In addition, the majority of respondents live in Greater Jakarta (59.8%). The majority of respondents are married (64.7%) and have managerial level position (39.2%). Most of the respondents are in semester 2 (34.3%) and have access to LMS about 1-3 times a week (37%). Employing SmartPLS ver 3.2.2, the validity test is conducted by carrying out the convergent validity test and the discriminant validity test. Based on the measurement results, the second indicator on lecturer behavior, the seventh indicator on LMS ease of use, the twelfth and thirteenth indicators on content quality, and indicators four and six on student involvement, all have a loading factor less than 0.5. So all the sixth indicator is invalid and does not meet convergent validity, therefore removed from the model.

Based on the above results, the AVE value is obtained as follows:

Table 1. Average Variance Extracted (AVE)

Variable	Average Variance Extracted (AVE)
Lecture Behavior (X1)	0.587
LMS ease of use (X2)	0.673
Content (X3)	0.630
Student Satisfaction (Y1)	0.603
Student Involvement (Z1)	0.629

From the table above, it is concluded that each variable fulfills the validity test for it has an AVE value exceeding the required value, which is more than 0.5 (Hair, et al, 2014).

Discriminant validity assessment is determined based on the Fornell-Larcker Criterion. Table 2 displaying discriminant validity assessment (Fornell-Larcker Criterion) shows that each variable has a diagonal value greater than the value of other columns. From these results it is established that the discriminant validity assessment is achieved, hence each construct measures what it should measure.

Table 2. Discriminant Validity Assessment (Fornell-Larcker Criterion)

	X1	X2	X3	Y1	Z1
X1	0.766				
X2	0.548	0.820			
X3	0.710	0.709	0.794		
Y1	0.740	0.601	0.790	0.777	
Z1	0.657	0.391	0.500	0.583	0.793

Reliability test is measured by two criteria, they are composite reliability (CR) and Cronbach's alpha (CA) from the indicator measuring the construct. A construct is deemed reliable when the value of composite reliability and Cronbach's alpha is more than 0.7 (Hair, et al., 2014; Hair et al., 2017). Table 3 shows the value of composite reliability and Cronbach's alpha.

Table 3. Composite Reliability and Cronbach's Alpha

Variable	Composite Reliability	Cronbach's Alpha
Lecturer Behavior (X1)	**0.908**	**0.882**
LMS ease of use (X2)	**0.925**	**0.902**

Content (X3)	0.957	0.950
Student Satisfaction (Y1)	0.899	0.864
Student Involvement (Z1)	0.871	0.803

According to table 3, Lecturer Behavior has composite reliability value of 0.909 and Cronbach's alpha value of 0.882, while LMS ease of use has values of 0.925 and 0.902 respectively. Content has a composite reliability of 0.957 and Cronbach's alpha of 0.950. Student satisfaction is at 0.899 composite reliability and 0.864 Cronbach's alpha. Student Engagement scores 0.871 and 0.803. Therefore, it is established that the composite reliability and Cronbach's alpha value on each construct are> 0.7, this means each construct meets the criteria and is affirmed to be reliable.

Structural Model

Assessment of the structural model or inner model aims to analyze the collinearity issues in data. The structural model was evaluated using the R-square to assess the accuracy of the predictive model (Hair et al., 2014). The higher the R^2 value, the greater the ability of the independent latent variable to explain the dependent latent variable. 0. R^2 results of 75, 0.50, and 0.25 indicate that the model is categorized as "good", "moderate", and "weak". Table 4 shows the coefficient R^2.

Table 4. Coefficient of R^2

Variabel	R^2
Student Involvement (Z1)	0.434
Student Satisfaction (Y1)	0.701

Referring to the table above, the R^2 value for the student involvement variable is 0.434. This results of R^2 indicates that R^2 is in the medium range. Student satisfaction shows a value of 0.701. So the results of R^2 calculation consider it as moderate.

Bootstrapping Results
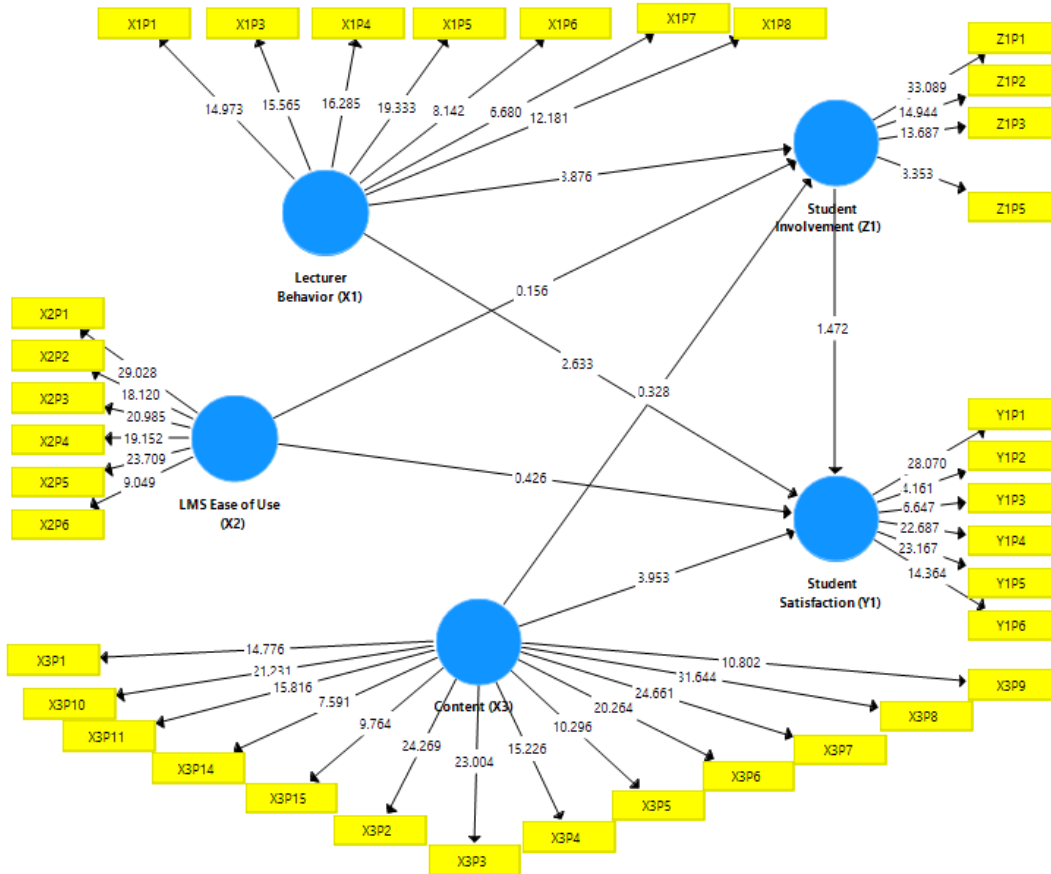
Figure 2 shows the results of the bootstrapping:

Figure 2. Bootstrapping Results

Table 5. Path Coefficient

	Original Sample (O)	Sample Mean (M)	Standard Deviation	T Statistics (|O/STDEV|)	P Values
Lecturer Behavior (X1) -> Student Satisfaction (Y1)	0.274	0.259	0.104	2.641*	0.009
Lecturer Behavior (X1) -> Student Involvement (Z1)	0.607	0.583	0.155	3.911*	0.000
LMS ease of use (X2) -> Student Satisfaction (Y1)	0.048	0.040	0.109	0.438	0.661
LMS ease of use (X2) -> Student Involvement (Z1)	0.018	0.024	0.120	0.149	0.882
Content (X3) -> Student Sactisfaction (Y1)	0.492	0.520	0.121	4.054*	0.000
Content (X3) -> Student Involvement (Z1)	0.057	0.088	0.189	0.301	0.764
Student involvement (Z1) -> Student Satisfaction (Y1)	0.138	0.124	0.104	1.331	0.184

The Specific Indirect Effect of Table 6 displays the effect of mediation in research model. The effect of mediation can be determined by observing Table 6.

Table 6. Specific Indirect Effect

The Effect Of Lecturer Behavior, Lms Ease Of Use, And Content On Student Satisfaction With Student Involvement As A Mediating Variable In Blended Learning Program

	Original Sample (O)	Sample Mean (M)	Standar dDeviation	T-Statistics (|O/STDEV|)	P Valu es
X1 -> Z1 -> Y1	0.084	0.082	0.076	1.105	0.270
X2 -> Z1 -> Y1	0.002	0.002	0.018	0.136	0.892
X3 -> Z1 -> Y1	0.008	0.000	0.029	0.269	0.788

Based on the Path Coefficient Table 5 and the Specific Indirect Effect Table 6, it is determined that lecturer behavior affects both student satisfaction and student involvement. This is indicated by the T-statistic values of 2.641 and 3.911 with p values <0.05. However, student involvement variable did not mediate the relationship between lecturer behavior and student satisfaction as the T-statistic value of 1.105 is less than the critical value. LMS ease of use does not affect student satisfaction and student involvement, indicated by the T-statistic values of 0.438 and 0.149. Student involvement does not mediate the relationship between LMS ease of use and student satisfaction, because T-statistic value is at 0.136. The third independent variable, content, based on the Path Coefficient Table is shown to affect student satisfaction with t-value of 4.054, but does not affect student involvement, as specified by the T-statistic scores of 0.1. Student involvement variable does not mediate the relationship between content and student satisfaction, as revealed in the Specific Indirect Effect Table 6 with a T-statistic value is 0.269.

5. Discussion & Conclusion

The Effect of Lecturer Behavior on Student Satisfaction

Lecturer behavior through hypothesis testing has a significant positive relationship on student satisfaction in blended learning environment. According to the mean value, lecturer behavior has a value of 3.61, indicating that the respondent agrees that lecturer behavior affect their satisfaction. Particularly when they learn and have better understanding when inputs are given by lecturer during class. Having competent lecturers who are active and passionate about teaching, encourage students to be enthusiastic about learning, thus student satisfaction is achieved. Lecturers in blended learning not only act as facilitators, but also as motivators, where feedback is an important factor in student satisfaction (Bolliger & Martindale, 2004). The feedback provided is used as learning material for exams or to improve the quality of submitted assignments. The results of this study, which is positive relationship between lecturer behavior and student satisfaction, are in line with the results of previous studies of Wilkins & Balakrishnan (2013) posited that one of the factors affecting student satisfaction is the role of the lecturer. This is also supported by research conducted by Naaj, Nachouki, & Ankit (2012), Gray & DiLoreto (2016), and Mihanovic, Batinić, & Pavičić (2016).

The Effect of LMS ease of use on Student Satisfaction

This study shows that LMS ease of use does not have a significant effect on student satisfaction., which is contradicted to the study proposed by Kintu, Zhu & Kagambe, 2017. The mean value of LMS ease of use of 3.86 indicates that the average respondent agrees with LMS ease of use. The highest score is shown in the statement that respondents find the existing LMS user friendly. This was probably supported by the average respondents who mostly work as managers or equivalent, where they are familiar with and understand technology quite well. It can be ascertain that the use of an LMS is fairly easy thus not requiring special skills, or possibly because the user has mastered the difficulty when using LMS (Nagy, 2018). In addition, the ease of use of technology such as LMS has become familiar among students hence it does not significantly affect their satisfaction.

The Effect of Content on Student Satisfaction

Based on the results, content has a significant effect on student satisfaction in this study. The mean value of the content is 3.77, indicating that most respondents agree the content provided is of in good quality. Respondents approve that the content provided is good and easy to understand. On the other hand, respondents disagree regarding student participation is well explained and the objectives of each lecture is clearly conveyed. This study have similar results with Al-Hassan & Shukri (2017) previous research, determining that varied and reliable content increases student satisfaction in blended learning.

A study conducted by Montgomery et al. (2015) suggested that students have a positive response to access to the content material and are engaged with content through various learning mediums, such as reading, videos, online discussions, or social media. Kintu, Zhu, & Kagambe (2017) in their research found that student satisfaction is influenced by content material, mostly the suitability of learning objectives with the content provided. Furthermore, students believe that images, videos, graphics, and audio-visual components can help better comprehend lessons (Cabero et al., 2010). According to Garrison & Kanuka (2004), by combining computer-mediated learning models (i.e., dynamic digital interfaces, assessments, data analysis, independent content acquisition) and face-to-face class time (i.e., lecturer and student involvement or direct learning in class), blended learning model can produce higher student performance and facilitate the acquisition of proficiencies that may not be achieved via face-to-face learning alone.

The effect of Mediating Variables

Based on the results shown in the specific indirect effects table 6, which display a T-statistic value of <1.96, student involvement does not mediate the relationship between lecturer behavior and student satisfaction. This can happen owing to several factors. One of the reason is the density of activities that reduce the opportunity to discuss with lecturers which is also shown by the frequency of using LMS only 1-5 times a week, as well as the work pressure at certain positions or levels and those who are married. Engagement with lecturers outside classroom is low, this could mean that even though lecturers are responsive and passionate, it does not signify that students are sufficiently engaging with the lecturers.

Likewise, LMS ease of use as the independent variable displays T-statistic value of <1.96. This indicates student involvement does not mediate the relationship between LMS ease of use on student satisfaction. Ease of accessing LMS does not necessarily encourage conjoint student engagement activities, which proves the results are not significant. In addition, the variable of content displayed in The specific indirect effect table 6 has a T-statistic value of <1.96, which indicates that student involvement does not mediate the relationship between content towards student satisfaction. This means that the content used by the university does not have features and approaches that encourage student involvement in learning activities. Even though they are satisfied with the content provided, it does not necessarily offer opportunities for students to be involved, as a result student involvement does not mediate the relationship between content and student satisfaction.

CONCLUSION

The result of this study established that the behavior of lecturers has a significant positive effect on student satisfaction in blended learning. On the other hand, LMS ease of use does not have a significant effect on student satisfaction. While, content has a significant effect on student satisfaction. For the mediating variable, student involvement did not mediate the relationship between lecturer behavior and student satisfaction. Equally with LMS, student involvement also did not mediate the relationship between LMS ease of use and student satisfaction. Similarly, student involvement did not mediate the relationship between content and student satisfaction.

The suggestions that can be drawn here is that program course and universities as an institution should pay closer attention to the level of student satisfaction, because it has been proven that user satisfaction is a priority in meeting or exceeding the level of expectations of service. The level of dissatisfaction needs to be further explored because if students are displeased with the learning system, service quality and learning instruments, it can result in a negative image and affect the sustainability and future of the university. Specifically, universities need to consider variables that have a significant effect on student satisfaction, such as lecturer behavior and quality of content, and also investigate the reasons why LMS ease of use have no significant effect on student satisfaction. The implication for students as users of blended learning is to provide one of the benchmarks in assessing the effectiveness and ability of the program course and the university to deliver engaging learning process through the blended learning program. In the future it is hoped that students can provide more constructive, objective and direct feedback to the program course and the university to further enhance the blended learning system. For future research, there is a need to examine other independent variables associated with the dependent variable, such as student academic performance and with a larger population to represent universities in Indonesia that adopt the blended learning system..

References

[1] Al-Awamleh. (2019). Students Satisfaction on Blended Learning in School of Sport Sciences. Annual Applied Sport Science, 8(1):e803. DOI: 10.29252/aassjournal.803.

[2]   Al-Hassan, S.,Shukri, N. (2017). The Effect of Blended Learning in Enhancing Female Students'
Satisfaction in the Saudi Context. *Educational Language Teaching*. 66(6), 190-203. doi:
10.5539/elt.v10n6p190

[3]   Al-Rahmi, Waleed & Othman, Mohd. (2013). The impact of social media use on academic performance
among university students: A pilot study. Journal of Information Systems Research and Innovation. 4. 1-
10.

[4]   Alharbi, S., & Drew, S. (2014). Using the Technology Acceptance Model in Understanding Academics'
Behavioural Intention to Use Learning Management Systems. *International Journal of Advanced
Computer Science and Applications,* 5(1), 143-155. doi: 10.14569/IJACSA.2014.050120

[5]   Arbaugh, J., (2000). Virtual classroom characteristics and student satisfaction with Internet-based MBA
courses. Educational Management Education. 11(1), 32-54. DOI: 10.1177/105256290002400104.

[6]   Beaumont, R., Stirling, J. & Percy, A. J. (2009). Tutors' Forum: engaging distributed communities of
practice. *Open Learning*, 24 (2), 141-154. doi:10.1080/02680510902879478.

[7]   Bolliger, D.U., & Martindale, T. (2004). Key factors for determining student satisfaction in online
courses. International Journal on E-Learning, 3(1), 61-67.

[8]   Booker, Q. E., & Rebman, C. E. (2005). E-student retention: Factors affecting customer loyalty for
online program success. Issues in Information Systems, 1(1), 183-189.

[9]   Brooks, L. (2003). How the attitudes of instructors, students, course administrators, and course designers
affects   the   quality   of   an   online   learning   environment.   Online
Journal   of   Distance   learning   Administration,   6(4),   Retrieved   from
http://www.westga.edu/~distance/ojdla/winter64/brooks64.htm

[10]   Cabero, J. et al. (2010). Online Students' Satisfaction with Blended Learning. Scientific Journal of
Media Literacy. 35(18), 149-156. DOI:10.3916/C35-2010-03-08

[11]   Dang, Yongy & Zhang, Yang & Ravindran, S. & Osmonbekov, Talai. (2016). Examining student
satisfaction and gender differences in technology-supported, blended learning. Journal of Information
Systems Education. 27. 119-130.

[12]   Davis, F. (1989) Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information
Technology. *MIS Quarterly*, 13, 319-340. doi: 10.2307/249008

[13]   Dickey, M. D. (2004). The impact of web-logs (blogs) on student perceptions of isolation and alienation
in   a   web-based   distance-learning   environment.   O*pen   Learning*,   19(3),   279-291.   doi:
10.1080/0268051042000280138

[14]   Dziuban, CD., Hartman, JL., Moskal, PD. (2004). Blended learning. Educause Center for Applied
Research, 2004(7), 1-12.

[15]   Elliott, K. M. & Shin, D. (2002). Student satisfaction: An alternative approach to assessing this
important concept. Journal of Higher Education Policy and Management, 24(2), 197-209.

[16]   Garrison DR, Kanuka H. (2004). Blended learning: Uncovering its transformative potential in higher
education. Internet High Educ. 7(2):95–10

[17]   Garrison, D. & Vaughan, Norman. (2008). Blended Learning in Higher Education: Framework,
Principles, and Guidelines. doi:10.1002/9781118269558.

[18]   Gray, AJ., DiLoreto, M. (2016). The effects of student engagement, student satisfaction, and perceived
learning in online learning environments. *NCPEA International Journal of Educational Leadership
Preparation* 11(1), 1-20.

[19]   Gray, D & Daymond, J. (2010). The influence of student engagement levels on satisfaction and
behavioral intentions. ANZMAC 2010, pp. 1-10

[20]   Grossman, PL., Wilson, SM. & Shulman, LS. (1989) Teachers of Substance: subject matter knowledge
for teaching, in M.C. Reynolds (Ed.) Knowledge Base for the Beginning Teacher, 23-36. New York:
Pergamon.

[21]   Gunuc, S., Kuzu, A. (2014). Factors Influencing Student Engagement and the Role of Technology in
Student Engagement in Higher Education: Campus-Class-Technology Theory. Educational Qualitative
Inquiry. 44(4), 86-113. doi: 10.17569/tojqi.44261

[22] Hair, JF., Black, WC., Babin, BJ., Anderson, RE. (2014). Multivariate Data Analysis. 7th ed. America: Pearson.

[23] Hair, JF., Hult, GTM., Ringle, C., Sarstedt, M. (2017). A primer on partial least squares structural equation modeling (PLS-SEM). 2nd ed. USA: SAGE Publication.

[24] Jacobs, P. (2014). Engaging students in online courses. Research in Higher Education Journal,26.

[25] Jain, P. J. (2011). Interactions among online learners: A quantitative interdisciplinary study. *Education, 131*(3), 538–544.

[26] Kintu, MJ, Zhu, C., Kagambe, E. (2017). Blended learning effectiveness: the relationship between student characteristics, design features and outcomes. International Journal of Educational Technology in Higher Education. 14(7), 1-20. doi:10.1186/s41239-017-0043-4

[27] Ladyshewsky, R. (2013). Instructor Presence in Online Courses and Student Satisfaction. Educational and Learning. 11(1), 1-7. DOI: 10.20429/ijsotl.2013.070113

[28] Lin, Binshan & Vassar, John. (2009). Determinants for success in online learning communities. IJWBC. 5. 340-350. 10.1504/IJWBC.2009.025210.

[29] Mandernach, B. J., Donnelli-Sallee, E., & Dailey-Hebert, A. (2011). Assessing course student engagement. In R. Miller, E. Amsel, B. M. Kowalewski, B.B. Beins, K. D. Keith, & B. F. Peden (Eds.), Promoting Student Engagement: Techniques and Opportunities (pp. 277- 281). Society for the Teaching of Psychology, Division 2, American Psychological Association.

[30] Marks, H.M. (2000) Student Engagement in Instructional Activity: Patterns in the Elementary, Middle, and High School Years. American Educational Research Journal, 37, 153-184. http://dx.doi.org/10.3102/00028312037001153.

[31] Melton, BF., Bland, HW., Chopak-Foss, J. (2009). Achievement and Satisfaction in Blended Learning versus Traditional General Health Course Designs. International *Journal for the Scholarship of Teaching and Learning.* 3(1), 1-13. doi: 10.20429/ijsotl.2009.030126

[32] Mihanović, Z., Batinić, A. B., & Pavičić, J. (2016). The Link Between Students Satisfaction With Faculty, Overall Students Satisfaction With Student Life And Student Performances. *Review of Innovation and Competitiveness*, 2(1), 37–60. doi: 10.32728/ric.2016.21/3.

[33] Montgomery, A., Hayward, D., William, D., Carbonaro, M. Amrhein, C. (2015). Blending for student engagement: Lessons learned for MOOCs and beyond. *Educational Educational technology*. 66(6), 657-670. doi:10.14742/ajet.1869

[34] Naaj, M., Nachouki, M., Ankit, A. (2012). Evaluating Student Satisfaction with Blended Learning in a Gender-Segregated Environment. Educational Education Research. (), 185-200. doi: 10.28945/1692

[35] Nagy, JT. (2018). Evaluation of Online Video Usage and Learning Satisfaction: An Extension of the Technology Acceptance Model. *International Review of Research in Open and Distributed Learning,* 19(1), 160-185

[36] O'Brien, HL., Toms, EG. (2008), What is user engagement? A conceptual framework for defining user engagement with technology. Journal of the American Society for Information Science & Technology, 59(6), pp.938-955. doi: 10.1002/asi.20801

[37] Roberts, J.,Styron, R. (2011). Student satisfaction and persistence: Factors vital to student retention. Educational Education Journal. (), 1-18.

[38] Shea, P., Li, C.,Pickett, A. (2006). A Study of Teaching Presence and Student Sense of Learning Community in Fully Online and Web-Enhanced College Courses. Educational Higher Education. 33(3), 175-190. DOI:10.1016/j.iheduc.2006.06.005

[39] Swan, K. (2001). Virtual interaction: Design factors affecting student satisfaction and perceived learning in asynchronous online courses. Distance Education, 22, 306-331.

[40] Taghizadeh, M., Hajhosseini, F. (2020). Investigating a Blended Learning Environment: Contribution of Attitude, Interaction, and Quality of Teaching to Satisfaction of Graduate Students of TEFL. The Asia-Pacific Education Researcher, doi: 10.1007/s40299-020-00531-z.

[41] Wilkins, S. & Balakrishnan, MS. (2013). Assessing student satisfaction in transnational higher education. *International Journal of Educational Management*, 27(2), 143-156. doi:10.1108/09513541311297568.

[42] Yeung, D. (2001). Quality Assurance of Web-Based Learning in Distance Education Institutions. Online Journal of Distance Learning Administration, 4(4)

[43] Zhu, D. Lin, CT., and Hsu, Y. (2012). Using the technology acceptance model to evaluate user attitude and intention of use for online games. Total Quality Management, 23(8), 965-980. doi:10.1080/14783363.2012.704269.