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The Relationship Between Accessibility, Communication and Motivation Towards Online Learning

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Abstract

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There are higher education institutions in Malaysia, which are at the stage of transforming from teacher-centred teaching in the classroom to a more learner-centred teaching environment. A number of innovations in teaching styles including the use of technology such as online websites, games, e-learning applications and so on will be introduced to improve the understanding of students. With the assistance of technology, various learning tools or techniques were introduced and incorporated into teaching and learning process. This includes the online learning environment, which supports synchronous and asynchronous learning. Regardless of the advantages that online learning offers, a variety of factors should be identified as crucial to the success of online courses such as motivation. It is a key factor in learning and achievement in online learning environments. This paper examines the relationship between accessibility, communication and motivation towards online leaning. A case study was conducted on 331 students of Universiti Teknologi Mara, Negeri Sembilan Malaysia. The results show that accessibility and communication are positively significant influence on students' motivation to learn online. Hence, online platforms for learning should be convenient for students to access with feedback support from instructors and peers.

Keywords: Innovation in teaching; online learning; e-learning; student's motivation; structural equation modelling.

1. Introduction

Education has become a very essential element in everyone's life. With education, people will portray good attitudes. As we realise, in the present context, students are very much attached to technology. This includes comprehensive-features mobile phones, notebooks, and such. In addition,

most of schools and universities are equipped with up-to-date technologies. Despite having a wide range of technology, there is a need to ensure the effectiveness of its usage. This is where the utilization of such emergence is crucial. Technology must be used appropriately in order to influence a positive environment towards students as well as society (Roden, 2011). Hence, students must equip themselves with skills in order to enable them to obtain the advantages of technology such as online learning. Online learning is referred to as a distance learning process with internet support or specifically using the World Wide Web.

Online learning gives many benefits to both students and instructors, not least of which is the ability to overcome the temporal and spatial restrictions of traditional educational settings (Bates 2005). Traditional teaching initiates discussions in the classroom, and focuses exclusively on knowing the content in textbooks and notes. Students will refer to the textbook and take notes from teachers. If the student wants to do some revision, they have to carry the textbook with them. However, some textbooks may fail to arouse students' interest. Studying using traditional methods such as books and classroom learning makes students heavily dependent on teachers. Whereas online learning, provides a varied experience of the learning process. There are many modes of delivery of online learning for instance through websites, virtual courses, and electronic books. It provides accessibility to students in getting the learning materials Abedin *et al.*, (2015). In addition, it facilitates communication between students, instructors and peers. It will indirectly help in improving the learning and teaching process.

Since there are many advantages of using online learning, it is important to identify the key factors that have led to the success of online courses. According to Jones *et al.*, (2007), one of the key factors in learning and achievement in online learning environments is motivation. Schunk *et al*, (2008) shows that motivated learners are more likely to undertake challenging activities, to be actively engaged, to enjoy and adopt a deep approach to learning, and to exhibit enhanced performance, persistence, and creativity.

On the other hand, motivation towards online learning is influenced by several determinants. Among them are accessibility especially in terms of the internet or the platform used and communication. Communication can be referred to as the feedback received from instructors and peers. Many studies investigate the motivation to learn online such as (Harnet *et al*, 2011; Hershkovita *et al*, 2009; Bassili *et al*., 2008 and Xie *et al*, 2011). However these studies are focused on intrinsic and extrinsic types of motivation. Therefore, this paper aims to examine the relationship between accessibility, communication and students' motivation towards online learning. The paper is presented with discussion on previous studies followed with the methodology part. The output of this study is represented in the results section. The following sections to that are the conclusion and suggestions for future study.

2. Literature Review

Online teaching is important to the instructors in order to deliver a good teaching process within a new environment. Bibbin *et al*, (2015) believes that classroom management tends to be easier in online environments. Some teachers mentioned that online teaching requires that they design every step in the

course, so the teaching process tends to be more specified and refined. Likewise, the lower level of time and attention needed to focus more on the content of teaching. Moreover, referring to Barnes *et al* (2007), technology allows lecturers to be well-connected with other lecturers. This expands the sources of knowledge and consequently, it encourages them to get more research done. Another advantage of technology is with regards to teaching skills. According to Liaw *et al* (2010), "the more confident a teacher is, the more he or she uses technology in the classroom". One thing for sure is that confidence will bring better lecturing skills. As a conclusion, this portrays that technology can be a means to increase the lecturers' level of excellence.

Other than that, students are the closest group that will be affected from the advantages that the lecturers have gained from the utilization of technology. This is because, a good medium of teaching, will help the students to understand the subjects better. For instances, teaching has become easier with the use of power point slides. Lecturers will focus on their lectures rather than bothering with writing it on the board. It has also significantly affected students since it will convey a better and clearer layout of teaching materials, which subsequently helps them to understand it faster. Therefore, from a simple example, we can see how technology is essential in teaching nowadays.

According to Gommon *et al* (2011), students in universities are connected with more critical-thinking approaches. These ways of study require them to possess problem-solving skills. Other than that, the use of advance technology during conducting classes will attract more student attention. In addition, the learning process becomes more enjoyable and more effective. Thus, it shows that technology can be tailored to special needs of its users in order to ensure that they will gain its benefits the most (Roben, 2011). This has been supported by Hershkovitz & Nachmias (2009) quoting that "technology offers a highly interactive medium of learning that can be customized to meet the individual needs of students Liaw *et al* (2010)."

2.1 Accessibility

Accessibility and individuality could be well achieved in online teaching. Various respondents mentioned that providing online courses allowed students to access content and instructions (Binbin, 2015). Bernard *et al* (2015) also believed that the online course could allow students to learn without restriction to time and space. According to Bernard et al; (2015) and Zhang et al., (2008) [18], technology mediated learning environment affords more study flexibility and broader accessibility, improves students' performance and their evaluation of the learning experience. In addition, it provides benefits to academic institutions in terms of cost reduction and increased revenues.

2.2 Communication

The openness of communication is very important in the learning process. As argued by Tess et al., (2015), students complain on the use of technology and they prefer face-to-face learning, as quoted by Hershkovitz et al., (2009). This is because, technology has reduced their ability to have open and comprehensive discussions due to the lack of immediate response and feedback, particularly from the lecturers. They also quoted that this leads to the inefficiency of the use of technology since it requires more time in order to have a clear understanding on certain matters (Strauss, M. 2013 and Yap et al., 2016). Thus, technology alone cannot be used as the main teaching method as it will gradually result in the feeling of isolation towards students when there is a lack of a face-to-face relationship between

lecturers and students E-learning allows techniques to be used that fit with dissimilar learning styles including the use of complex digital content and innovative methods. It can develop the quality of the interaction and communication between trainer and trainee. (Bernard *et al,*. 2015). Anson et al., (2015) also believes that the online course could allow students to visualise the actual communication in their future workplace. In addition, online environments can enhance opportunities for immediate and ongoing formative feedback (Gikandi *et al*., 2011). It is proof that interactive teaching strategies stimulate their learning. According to Binbin *et al*., (2015) online learning also provides individualised support, especially to students who tend to be quiet in a large group. Those students have more chances to communicate individually with their teachers than in traditional classrooms.

2.2 Motivation

A majority number of participating teachers mentioned that online learners usually have higher motivation and more interest than students in a traditional learning environment. It is an expected situation that individuals who are ready for online learning and have high levels of information, skills and efficacy also have high levels of academic motivation, (Gammon *et al*., 2011). Students were provided with more opportunities to practice and communicate using the target language in class, and are asked to acquire most of the relevant knowledge by themselves after class. For these reasons, students also expressed higher motivation and interest in learning compared to face-to-face ones (Binbin *et al*., 2015). According to Bernard *et al*., (2015), the combination of e-learning and mentoring is particularly helpful, and this increases compliance by maintaining motivation. Other practises of motivation are self-evaluations and entertaining exercises and collaborative work.

3. Methodology

This study used simple random sampling technique to 331 students of Universiti Teknologi MARA, Negeri Sembilan. The assumption regarding to the sample size for SEM analysis has been fulfilled where the number of respondents are more than 200. A larger sample size is always desired for SEM (Ghozali *et al*., 2011). The respondents were given a set of questionnaires to indicate their opinion about motivation towards online learning. Eleven items were included to test the relationship between accessibility, communication and motivation. Out of these eleven items, three items were used to measure accessibility, five items were used to measure communication and three items were used to measure motivation itself. The details about the items can be found in Table 1.

The measurement in the questionnaire used 5-level Likert scale, whereas 1=strongly disagree, 2=disagree, 3=neither agree nor disagree, 4=agree, and 5=strongly agree. The study was carried out using SPSS for basic analysis and Structural Equation Modeling (SEM) which was run by AMOS Program to illustrate a path diagram. Byrne, 2010 stated that SEM is a second generation data analysis technique for estimating complex relationships among multiple variable. It has been increasingly used in social science, behavioural science and management science to model complex and multivariate relationships.

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Table 1. Statement for variables

Variable	Statement
B1	I am able to easily access the Internet as needed for my studies
B2	I am comfortable communicating electronically
B3	I am willing to actively communicate with my peers and instructors electronically
B4	I feel comfortable composing text on a computer in an online learning environment
B5	I can ask my teacher questions and receive a quick response during Internet activities outside of class
B6	I am motivated by the material in an Internet activity outside of class
B7	I can discuss with other students during Internet activities outside of class
B8	I can work in a group during Internet activities outside of class
B9	I can work in a group during Internet activities outside of class
B10	I can collaborate with other students during Internet activities outside of class
B11	I believe that learning on the Internet outside of class is more motivating than a regular course
B12	I believe a complete course can be given by the Internet without difficulty

The study theorised that two constructs proxy by accessibility (access) and communication or feedback of instructors and peers have significant influences on students' motivation towards online learning. Figure 1 shows the theoretical framework and the hypothesized relationship among the constructs in the study. Items B1, B2 and B4 in Table 1 represents the accessibility, items B3, B5, B7 B8 and B9 are categorised under communication, and B6, B1 and B12 represent students' motivation to learn online.

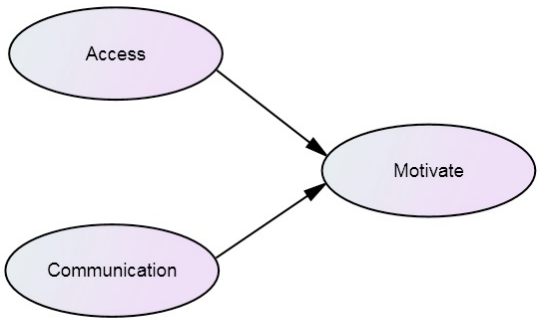

Fig. 1. Theoretical Framework.

4. Results and Discussion

The normality test of the data was examined before further analysis was conducted. The result proved that the study fulfilled the assumption of normal distribution for data used. The data has normal distributed as indicated by the value of CR Kurtosis and CR Skewness which were in the range between -2.580 until 2.580 (Ghozali *et al*., 2015).

All parameter estimates for linear structure relation analysis are statistically significant ($p<0.001$). The baseline comparisons are tested by NFI, RFI, IFI, TLI and CFI. The fit index value more than 0.9 show that the proposed model is fit with data. The value for these indexes are NFI=0.888, RFI: 0,846, IFI: 0.906, TLI=0.870 and CFI=0.906. Although some values are below 0.9, it does not necessarily mean that the model has a poor fit because the values are almost 0.9. The low standardised root mean square residual (RMR=0.052) are all within acceptable ranges and show that a substantial amount of

variance is accounted for by the model. Thus it was possible to proceed to examine the path coefficients.

The internal reliability of the items was verified by computing the Cronbach's Alpha. It was suggested that a minimum Cronbach's Alpha of 0.600 was suffice for early stage of research. The Cronbach's Alpha estimated for accessibility, communication and motivation are 0.725, 0.858, and 0.740 respectively. As the Cronbach's alpha in this study exceeded 0.600, the constructs were therefore deemed to have adequate reliability.

Properties of the causal paths for the structural model (standardised path coefficients (β), standard error, and hypotheses result) are signified in Table 2. The path diagram is illustrated in Figure 2. It can be interpreted as: when accessibility and communication rise by 1 standard deviation, motivate goes up by 0.251 and 0.318 standard deviations respectively. The probability of getting a critical ratio as large as 3.491 (accessibility) and 3.244 (communication) in absolute value is .001. In other words, the regression weight for accessibility and communication in the prediction of motivate are significantly different from zero at the 0.001 level (two-tailed). The covariance between access and communication is estimated to be .338 and the covariance between e11 and e14 is estimated to be -.666. Hence both variable (accessibility and communication) have a positive and significant relationship with motivation towards online learning. Therefore, the hypotheses of the study are supported.

Table 2. Summary of Hypotheses Testing Results

Path	Estimate (β)	S.E.	C.R.	ρ	Results
Motivation ← Accessibility	0.318	0.091	3.491	***	Supported
Motivation ← Communication	0.251	0.077	3.244	0.001	Supported

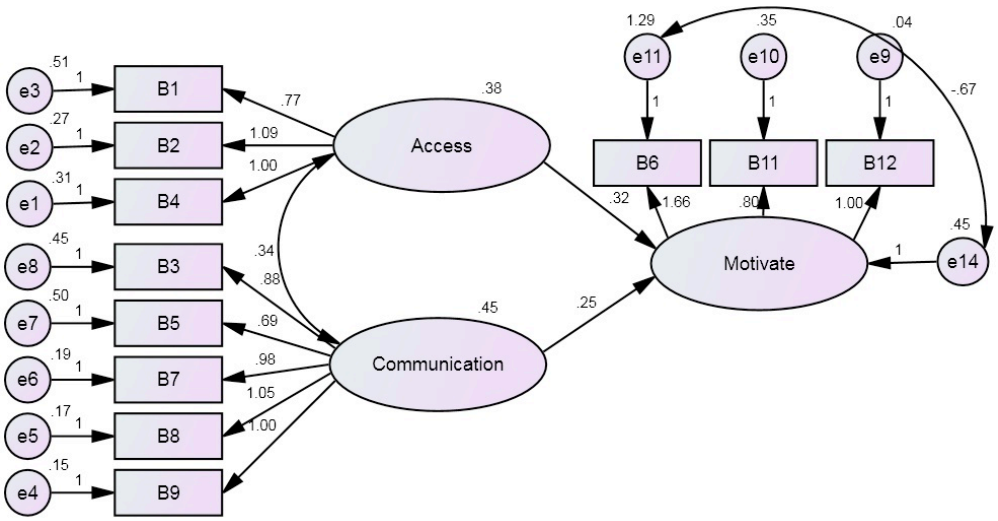

Fig. 2. Path Model.

5. Conclusion

There were many studies that examine the motivation of students towards online learning. However they were only interested on the motivational context itself. Instead of looking at intrinsic and extrinsic factors, this paper examines accessibility and communication determinants of motivation that engage students in online learning. The results support the hypotheses made. Thus, it is recommend that one should take this into consideration and make every effort to increase students' motivation when implementing an online learning system. It is apparent that online learning should be designed with authentic experiences for the learners. Other features of online learning experiences that are motivating for students include design and navigation systems. An interactive and attractive design will increase the students' interest. A simple, consistent, and easily understood navigation system helps them in searching for information in a more convenient way.

Future research should also examine students' motivation and their online engagement in a broad context in order to draw broader implications for online learning. Last but not least, suggested upcoming research should also examined and to also compare factors that influence students' involvement over the course of online learning.

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