An investigation on students' e-learning readiness in higher education

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Abstract. The main goal of this research was to measure students' readiness in applying E-Learning. Quantitative method was employed in this research. The researcher distributed an online questionnaire to undergraduate students at one of private university in Batam randomly. The collected data was analyzed with statistical software SPSS. The descriptive statistics (percentage, means and standard deviations) were calculated and reported in this research. Four categories of students' readiness are being discussed in this research – students' technology skills, technology access, motivation, and time management. Based on the result, the students were highly ready learn using E-Learning with overall mean 3.34.

Keywords: E-Learning, readiness, higher education

INTRODUCTION

The Covid-19 pandemic has caused major changes in activities at this time. The spread of Covid-19 is now spreading to the world of education quickly. Because of this case, schools and universities require their students to study at home. As Kementerian Pendidikan dan Kebudayaan stated that all sectors including education sector are expected to be done online. Online learning is an effort to prevent the spread of Covid-19 in Indonesia, especially Universities in Batam. By implementing online learning, it limits students do a physical interaction.

Online learning is an absence of regular face-to-face learning by using the computer technology and the Internet. In other words, it shifts the learning activities from traditional face-to-face into an electronic mode of learning. Clark and Mayer (2011) add that computer or mobile device is a digital device to support learning process. It facilitates students and lecturers to carry out learning activities and interact each other either synchronous or asynchronous.

One of learning technology which helps students and lecturers during online courses is E-Learning. The use of E-Learning enhances teaching and learning activities (Doculan, 2016). It is considered as a solution to increase students' ability to study on their own and become thinkers in a sheltered environment who need not rely on teacher's instruction. Besides allowing learners more self-directed, E-Learning increases accessibility of education, cost, and productivity for their educational requirements. Chitra and Raj (2018) adds E-Learning is importantly relies upon graphics, video, audio and gasification that enables students not rely on text book and expands their knowledge.

Although E-Learning has enormous benefits, a massive problem arises such as students' experience and motivation, environment, and technology. A number of preparations before implementing E-Learning is required in order to secure that the E-Learning processes run

successfully. In other words, the known levels of students' readiness, IT skills, continuous student support, and well-anticipated by institutions could affect educational stakeholders and its academic quality. Moreover, some students has lacked computer literacy and self-motivation, and they might feel isolated from the instructor (Mohamed Ali, 2016). In fact, some students most likely have experienced traditional classroom environments for most of their primary and secondary education that make them do not have sufficient experience for E-Learning in higher education.

Previous research about students' readiness for E-Learning experience have ever been completed by a number of researchers. Küsel et al (2020) evaluated two different university students in using digital media and online learning in their tertiary education. They compare German students with students from the United States. The result showed that U.S. students being more ready for online learning rather than Germany university students. Mafunda and Swart (2020) also conducted research in Africa in which they focused on students' efficacy and direction in improving their E-Learning experience. Rasouli et al. (2016) investigated art students' readiness in applying E-Learning which focused on gender, university, and subject. As above mentioned, the previous studies on E-Learning have rarely focused on the quality of academic and the use of ICT. Therefore, Students' readiness was evaluated in three dimensions: technology skills and access, time management, and motivation.

METHOD

This research used quantitative procedures and design to investigate students' readiness for E-Learning experience. This research dealt with quantifying and analysis of numerical data using specific statistical variables to gain the result. As Aliaga and Gunderson (2002) describes quantitative research employs a strategy of the issue or phenomenon through collecting data in numerical treatment and analyzing with the aid of statistical methods in order to support or refute alternative knowledge claims.

The data of this research was obtained at one of private university in Batam. This place was chosen because the researcher had easy access to this university. Due to Covid-19 pandemic, this university decided not only to have online courses but also to learn management system or E-Learning. In addition, the students had used this e-Leaning system more than one year. The sample size was 126 undergraduate students who had an experience in using E-Learning. A random sampling approach was conducted to reach students in different major.

Google form, an online questionnaire tool, was the platform to collect the data from respondents in this research. The researcher used this type of tool because it had specific characteristics such as technological, demographic, response rate. This questionnaire was developed by Tuntirojanawong (2013) and Ngampornchai and Adams (2016). Moreover, the total of the questions were 25 items in four subscales: (i) technology access, (ii) technology skills, (iii) time management, and (iv) students' motivation. These items were taken to measure students' readiness for E-Learning experience on a 4-point Likert scale: 1 (Strongly not Ready), 2 (not Ready), 3 (Ready), 4 (Strongly Ready).

In collecting data, the questionnaire was distributed among students randomly. The researcher vocalized that the respondents were voluntary, and they dropped out anytime. Then, they were

requested to state their readiness for E-Learning by choosing one of the scales provided in the questionnaire. In addition, the data was collected within 15 days between May and June of 2021.

The data was analyzed with statistical software SPSS. In order to answer research questions, descriptive statistics (percentage, means and standard deviations) were calculated and reported for the four subscales. Statistic interpretation of students' readiness is showed in Table 1.

Table 1 Interpretation of Students' Readiness for E-Learning experience

Mean Score Range	Interpretation of Readiness
1.00-1.75	Strongly Not Ready
1.76-2.51	Not Ready
2.52-3.27	Ready
3.28-4.00	Strongly Agree

FINDINGS AND DISCUSSION

The total of the participants was 126. All participants were undergraduate students from various department. Of the 126 students in this research were between 18 – 25 years old. 65% were female and the rest were male. All responses had ever enrolled E-Learning in learning process. Furthermore, the result of students' E-Learning readiness can be shown in Table 2 as follows.

Table 2 Students' E-Learning Readiness

Category	Mean	STD
Technology Access	3.46	0.71
Technology Skills	3.41	0.69
Time Management	3.34	0.66
Motivation	3.13	0.79
Overall	3.34	0.71

Three out of four categories of students' readiness were rated at the strongly ready. The readiness of the students to succeed E-Learning format assisted the development of practical skills. In other words, Students successfully utilized and participated a classroom course using ICT in a two-way communication in which they could carry out conveniently from home, work or anywhere else at any time. As Ikpe (2011) states that E-Learning as one of innovative ICT support tools indirectly replace part of traditional classroom and solve practical problems in learning experience. It also can be stated that the students had high motivation and participation in learning process in which they are familiar with technology access and skills. This statement is in line with Ali and Magalhaes (2008) who highlight frustrated students are mostly the ones who have low participation and insufficient understanding of using ICT especially in the area of adopting e-learning.

Technology readiness is another critical dimension on academic performance. The overall technology access and skills was categorized as strongly ready. Although 25% of the students were not aware and relatively new with technology, the rest of them had still awareness towards ICT context. It means that the respondents were highly ready to learn using E-Learning admits Covid-19 Pandemic. As Moftakhari (2013) states that students' technology readiness is essential

to accomplish goals in learning which influence the level of success especially in E-Learning. In contrast to Moftakhari, Ngampornchai and Adams (2016) states that there is no relationship between the familiarity of ICT knowledge and the acceptance of e-learning. They further add that incorporating technology in the learning process may or may not have positive perception toward E-Learning.

On average, students reported high level on time management. The mean of this category was 3.337 that shows students were strongly ready when using E-Learning. Students' time management is one of the most important terms in the educational process. Dealing with personal time management plays key role in the educational process in which it helps students to study continuously and efficiently (Foltynek & Motycka, 2018). 18 out of 126 students admitted that they did not have the self-discipline to log in and participate in an online course several times a week. It means that no more than 15% of the students had inconsistent pattern of time management success. The ones who are not able to efficiently organize and deal with their time will not have sufficient time for learning that cause quality decrease (Davis, 1993).

This research further revealed students' motivation in E-Learning experience was at ready status (M=3.13). 80% of the students had highly motivation in using E-Learning. However, students who are highly familiar with various types of technology do not guarantee motivated students (Samir Abou El-Seoud et al., 2014). It can be said that how familiar students in using ICT support tools is not contingent upon students' motivation to adopt E-Learning. It can be quite difficult to assist their motivation because teacher should be extra effort to avoid the lack of personal contact between the students and teacher. In contrast, the result showed that most of the students were interested and fun in learning lesson through E-Learning. It could increase their confidence to share their opinions with others. More than 70% of them pointed out they learnt from their mistakes, could remain motivated even though the instructor is not online all the time and would be able to complete their study even when there are online distractions. This result is in line with previous research which stated that learning in an asynchronous language course which is integrated into language learning at an increasing rate to boost students' motivation and maximize their understanding of the content (Harandi, 2015; Meşe et al., 2021).

CONCLUSSION

As clarified in the findings and discussion, this research has reported some important findings about students' readiness towards E-Learning. Four categories are being discussed in this research – students' technology skills, technology access, motivation, and time management. The researcher can conclude that students were highly ready learn using E-Learning.

Although the students reported high level on using E-Learning, it is not guarantee they can achieve their goal in learning. In other words, E-Readiness factor is not the only factor which influence students learning success. Support factors and pedagogical factors such as goal analysis, design approach, learning styles, interaction methods, appropriateness of support services to learners' needs, pedagogical, technological and responsiveness of learner support services and staff to learners' inquiries and others are also essential throughout the learning journey. Therefore, further researchers hopefully conduct the research not only determining ICT support tools, motivation, and time management but also investigating support factors, pedagogical factors, and institutional factors as additional roles to gain students' achievement throughout E-Learning readiness.

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