

Measuring E-Learning Readiness for Students of Islamic Senior High School at South Kalimantan

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ABSTRACT

Indonesia government closed schools as a response to the spreading of COVID-19. Learning activity should do at home using e-learning. This study aims to describe the level of students' readiness for the implementation of e-learning. This study is descriptive quantitative research using survey method. Population in this study are 15.370 students of Senior Islamic High School in South Kalimantan. The sample consists of 432 students based on Isaac Michael Table. The results show that the questionnaire score of students is 6031, where the maximal possible score is 8.981 (67, 62%). Thus, it can be categorized as not ready; needs some work.

Keywords: E-Learning Readiness, learn at home, student

1. INTRODUCTION

Covid-19 attacked people in Wuhan, China at the end of 2019. Since then, it spread out across countries in instance. United Nation has been announced COVID-19 as a pandemic. In Indonesia, it has been detected on March, 2nd 2020, where two women has been reported being infected by Covid-19. Thus, Indonesia government declare that activities such us go working, do learning and do praying should be performed at home

In the educational sector, Minister of Education and Cultural Affairs issued a circular letter number 36962/MPK.A/HK/2020 concerning learning and working during COVID-19 pandemic. Then, Ministry of Religious Affairs also issued educational policy concerning teaching and learning during COVID-19 pandemic through circular letter number B-686.1/DJ.I/Dt.II/PP.00/03/2020. Teacher and students

ask to perform teaching and learning activities at home using e-learning.

E-learning is a new model in educational setting. E-learning is delivering instruction through digital devices such as computers and smartphones [1]. It defines teaching and learning activity should be oriented on student. Also, it supports for long life learning [2]

E-learning can be a win-win solution in this COVID-19 emergency. It provides opportunities for students to access learning resources at low cost anytime and anywhere [3]. Besides, e-learning does not require students and teachers to gather in one place physically. It does not depend on the quality of teachers to deliver learning content, but on the quality of digital learning sources and other didactic content [4].

Research concerning design and implementation of e-learning have been growing fast in last few years [5]. E-learning can improve learning outcomes. Also, it can be implemented as a complement of the traditional method [6]. According to Gotthardt [7], e-learning can create a competitive environment both for teacher and students. Also, teachers and students creativity can be increased. However, several other studies also reveal that e-learning has many disadvantages, even a high dropout rate [8]–[10].

Nowadays, students are digital natives. They are considered capable of using technology well [11]. It seems to be the assumption that students are ready to learn using e-learning automatically. Previous research on e-learning revealed that students' readiness is an essential factor for success in implementing e-learning [12]. School and teachers suggested to ensure the readiness of students before the implementation.

E-Learning readiness refers to an ability to use electronic media for learning effectively and efficiently [13]. In line with that, Kaur and Abbas [14] also stated that e-learning readiness is the ability of individuals to utilize electronic and multimedia learning resources to improve the quality of learning. Thus, measuring level of student's readiness should be done before implementing e-learning. It can help policy makers to adopt the best strategy and provide appropriate facilities to implement e-learning [14].

Stoffregena [15], in his research revealed factors that can thwart the implementation of electronic learning, namely the gap between satisfaction with the system and usage expectations when used in general. Besides, policy issues or technical issues for developing e-learning [16]. Few studies revealed that e-learning that prioritizes technological innovation is not able to facilitate learning more and better than face-to-face learning [17], [18].

Educators proposed several models to measure the level of e-learning readiness such as The e-learning readiness assessment model recommended by the Economist Intelligence Unit [19], E-learning Readiness Model for Organizations [20], Readiness Combination Model for Acceptance of E-learning [21], the Rosenberg Model [22], the Broadbent Model [23], the Anderson and Honey Model [24], the Rogers Model [25], and the Nilson Model and the Carlos Machado Model [13].

The dimensions of e-learning readiness are varied. It consists of background confidence, confident computers, computer skills, external locus of control, motivation, study environment, web skills [26], essential to your success, internet discussions, motivation, online audio/video, online skills and relationships, technology access [27]; academic skills, computer skills, dependent

learning, independent learning, need for online learning [28]; Attitude towards computers, computer self-efficacy, learner preferences, technological mastery [29]; and achievement beliefs, organization, risk-taking, technological mastery [30].

Several studies have been measured e-learning readiness with various forms of survey, comparison and historical analysis [31]–[33]. It seems that the standardization of these studies has not been able to describe the readiness of e-learning comprehensively. It is because the indicators, contextual and the level of flexibility and scoring guidelines are different [20], [34]. Although the e-learning readiness measurement instrument has not been able to specifically provide solutions and improvements to weak domains, at least most of them are able to identify barriers in e-learning implementation [35].

To understand how to overcome weaknesses in e-learning implementation during COVID-19 is essential. Understanding factors that influence the effectiveness of e-learning is a way to enhance the quality implementation of e-learning [36]. Several researches found out that the readiness of teacher, students and technology are important factors in successful e-learning implementation. Even, students attitude towards e-learning are the critical factor that determined success [37]. Therefore, knowing the level of e-learning readiness is a crucial. This study aims to describe the level of e-learning readiness of students in learning through e-learning model.

2. METHODOLOGY

This study was a quantitative descriptive study using a survey method. This study's population were all students of MAN in South Kalimantan, consisting of 15,370 students [38]. The sample is 342 students. It was determined based on the Isaac Michael table in a population of 20,000 with an error rate of 5%.

The instrument used was a questionnaire developed by Muse [26], which was constructed from seven indicators: computer skills, study environment, external locus of control, computer confidence, web skills, motivation, and background preparation. This instrument was chosen because it focuses on measuring student readiness. This questionnaire uses the Guttman scale. The answer "yes" gets a score of 1, and the answer "no" gets a score of 0.

Table 1. E-Learning Readiness Questionnaires

No.	Indicators	Items
1	Computer Skills	can attach a file to an e-mail message
		I can copy and paste selected material from internet into email messages box or discussion forum box
		I can copy and paste images/graphic into word document
		I can open a document attached into email or social media
		I can install and open new application in smartphone
2	Learning Environment	I am a good time manager
		I am able to set a time for study and do school assignment
		I have a designated place for studying that is relatively free from interruption
		It is difficult for me to focus on my learning assignment
3	External Locus of Control	The score I get in a course depends more on how hard the teacher scores than on how carefully I study
		Lucky is more important for academic success than study hard
		Getting a good score in a course depends more on being naturally smart than how hard I study
		I do not read the materials when they look too difficult for me
		I am not very interested in this e-learning
4	Computer Confidence	learn new computer/smartphone program easily
		I feel comfortable working with computer/smartphone
		I find using the computer/smartphones easy
5	Web Skills	I can find valid and reliable materials from internet
		I can evaluate the quality of the information from internet
		I can use search engine (google) to conduct search for material being studied
6	Motivation	I work hard on doing assignments in this online class
		When I decide to read or learn something, I go ahead and do it
		If I cannot understand the materials, I keep trying until
7	Background Confidence	My formal educational background has given me adequate preparation in this e-learning
		My work experience and other experiences outside of formal education have prepared me for this e-learning
		I feel I will do well in this e-learning

Table 2. E-Learning Readiness Classification

No	Percentage	Details
1	0.00-52.00%	Not Ready, needs lot of work
2	52.01-68.00%	Not ready, needs some work
3	68.01-84.00%	Ready, but need a few improvement
4	84.01-100%	Ready, go ahead

This students readiness of e-learning classification based on index determined by Aydin and Tasci [20].

3. FINDINGS

In this study, the Guttman scale was used to get a decisive answer. In general, scores in the 0% -50% range are categorized as not ready. Scores in the 50% -100% range are categorized as ready. This categorization is to make it easier to describe the factual conditions about students' readiness to use e-learning.

The statistical analysis results show that the maximum value obtained by respondents is 26, and the minimum value is 4. Also, the mode value obtained by respondents is 21. The mean value of all questionnaire results of respondents is 18, and the average value is 17.58. Based on the 343 respondents, the cumulative value obtained is 6031 from the maximum possible value of 8.918 (67.62%). Therefore, it can be concluded that MAN students in South Kalimantan are approaching ready to be taught using e-learning. However, because the conclusion in this study adopted the index set by Aydin and Tasci [20], the value of 67.62% is categorized as not ready: it requires a little improvement.

Table 3. Results of the respondents' questionnaire scores for each indicator

No	Indicators	Max. Score	Score	Percentage
1	Computer Skills	1715	1387	80.87
2	Learning Environment	1372	804	58.60
3	External Locus of Control	1715	861	50.20
4	Computer Confidence	1029	557	54.13
5	Web Skills	1029	886	86.10
6	Motivation	1029	891	86.58
7	Background of Confidence	1029	645	62.68

The level of readiness for each indicator is different. Starting from the smallest, namely external locus of

control with a 50.20% score, computer confidence is 54.13%, the learning environment is 58.60%, the background of confidence is 62.68%, the computer skills are 80.87%, web skills of 86.10%, and motivation of 86.58%. Indicators numbers 2, 4, and 7 show that MAN students in South Kalimantan are not ready to learn using e-learning. They still need a little upgrade first to be fully ready. Meanwhile, indicator number 3 shows that they are still not ready and need much improvement first. Besides, other indicators show that MAN students in South Kalimantan are ready for e-learning.

This study shows that students of MAN in South Kalimantan are generally not ready for e-learning. They need to improve themselves first, especially in external locus of control, the comfort of learning with computers and smartphones, creating a conducive learning environment and trust in informal educational backgrounds, and their daily experiences as digital natives to implement e-learning quickly.

Many previous studies have revealed that students' attitudes towards computers and information technology are essential factors for the success of e-learning [39], [40]. Students' attitudes toward computer use will affect their learning interests. If their attitude is positive, they will. If their attitude is positive, they will have a good impression and feel good about using the computer as a learning aid. It is essential to the success of electronic learning. On the other hand, if their attitude is negative, their interest in participating in electronic learning will also decrease.

External perceptions get the lowest percentage score when compared to other indicators in measuring e-learning readiness. Through the five questions posed, 50.20% of students believe that learning success is more influenced by hard work. The remaining 49.8% believe that innate factors and external factors, such as teachers, influence learning success. It impacts students' lack of motivation, innovation, and creativity in creating a conducive learning environment. It is an indicator that should be improved by MAN students in South Kalimantan before implementing e-learning. A conducive learning environment makes learning independence increase. Independence is an individual's tendency to certain functional aspects that play an essential role in ensuring success before performing a task [41]. Students with high independence are more confident in carrying out e-Learning activities and increase their satisfaction. A study of 122 students, Wang and Newlin [42] concluded that students with higher independence were more likely to adapt quickly in network-based learning and get much better learning outcomes. The convenience of learning to use a computer or smartphone is one indicator that MAN students in South Kalimantan must improve so that e-learning runs

smoothly. Piccoli et al. [43] argued that the inconvenience of using computers or smartphones as learning sources significantly affects learning satisfaction in e-learning.

4. CONCLUSION

In general, based on the results of a questionnaire from 343 samples it can be said that MAN students in South Kalimantan are not ready to using e-learning, but only need a little improvement so that their readiness can be ascertained. The cumulative value obtained is 6031 from the maximum possible value of 8,918, equivalent to 67.62%.

According to the modified index set by Aydin and Tasci [20] this value is in the not ready range; needs some work. Teachers are advised to maximize social media such as YouTube, Facebook, WhatsApp, and others and use free video conferencing applications such as zoom because these applications require much quota. Also, learning is expected to be packaged attractively so that the initially more teacher-centred approach can be shifted to be student-centred. Teachers should avoid simply giving students assignments to do without reviewing the material together online.

LIMITATIONS

This research has limitations because it does not describe other aspects that form the foundation of e-learning, such as teacher and system readiness. Also, this research only describes factual conditions and does not provide solutions to existing conditions.

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