

An Analysis On The Readiness Of Using E-Learning In Teaching And Learning Strategies In Higher Education

Jamiludin Usman¹, Halimatus Sa'diyah², Sri Nurhayati³, Usman Usman⁴

¹ IAIN Madura, Pamekasan Indonesia, (e-mail) jamiludin.usman@iainmadura.ac.id

² IAIN Madura, Pamekasan Indonesia, (e-mail) halimah261282@iainmadura.ac.id

³ IAIN Madura, Pamekasan Indonesia, (e-mail) yaatiecie@gmail.com

⁴ IAIN Madura, Pamekasan Indonesia, (e-mail) ualadipni@gmail.com

Abstract

Today's educational institutions need to use innovative learning strategy by e-learning. State Islamic institute (IAIN) of Madura has implemented E-Learning but there are many applications that hasn't yet fulfilling the institution's need. By knowing the readiness level in using E-Learning is expected to be the base in doing preparation and improvement. This research measured the readiness level in implementing E-Learning uses Aydin & Tasci model which measure 4 main factors namely technology, innovation, human and self-development factor. The data collected using questionnaire, while the data analysis uses descriptive statistical analysis refers to Aydin & Tasci model. This research is done to the leaders, lecturers and other IAIN Madura's members by random sampling. The research shows that IAIN Madura is ready to implement E-Learning but it still needs a slight improvement in the technology, because innovation factor score level of readiness is less, and human factor readiness is on. Meanwhile, for the self-development factor IAIN Madura is not ready and it still needs to do some improvements.

Keywords: E-Learning, E-Learning readiness, Aydin & Tasci .

Article Received: 18 October 2020, Revised: 3 November 2020, Accepted: 24 December 2020

Introduction

Today's educational institutions are expected to create learning opportunities independent of time and place, to offer easily accessible learning environments and interpersonal communication opportunities (NMC Horizon Report, 2017). Facing the 4.0 industrial revolution, the government through the research and higher education department is trying to implement some regulations and guidelines about the use of a long distance teaching and learning activity (Ristekdikti, 2016). By the time these guidelines and regulations about long distance teaching and learning activity was made, it is expected that all educational institution including higher education institution to get ready to accommodate and implement the regulation in every institution. The traditional context of learning is experiencing a radical change. Teaching and learning are no longer restricted to traditional classrooms. Likewise, faculty saw online teaching as an opportunity to disseminate knowledge and assess student progress according to their personal preferences, and to communicate personally with

their students, albeit virtually (Marold 2008; Solikhah & Wirawati 2020).

Schools and corporations are investing substantial amounts of time and money in developing online alternatives to traditional types of education and training system (Wang, Wang, and Shee 2007). The traditional education is made in classrooms where the teacher presents the learning material to a group of students. The educational technology depends mainly of teacher and the students must physically participate in the learning process. Regardless of obvious advantages as a direct contact between a teacher and students and immediate feedback the traditional classroom education has many disadvantages (Georgiev and Smrikarov 2004). For example if the student has no ability to take part in some lesson he or she will miss the training material. These disadvantages lead to search for new and more effective educational methods. The rapid growth of information and communication technologies and rising computer knowledge of the students make possible appearance of these new educational forms. If 15 years ago the main accent

have been on Computer Based Training which used primary CD and local area networks as information medium, 5 years ago the accent is moved to use of Internet and Learning Management Systems. The e-Learning as new term is appeared (Haryanto, Purwanto, Giyoto, 2020).

E-Learning is all learning activities uses electronic technology help, this can be applied in a conventional and far-distance education (Rusman, 2013). E-Learning is an education or learning activity through electronic media (Wena, 2009; Putri, Fauzan & Toba (2018). Another opinion about E-Learning is a new learning method which integrate the web technology and multimedia with pedagogy and andragogy matching (Sutopo, 2012). So E-Learning is a learning activity which takes an advantage of the internet support. In E-learning the teacher is not only uploading the material that can be accessed by the students online, but the teacher also evaluating, communicating, collaborating, and managing the rest of the aspect of teaching and learning. Another opinion from Riyanto and Prasjo (2011) that E-Learning is an internet and intranet based online learning. It needs a media to show the course materials and questions and it also need communication facilities to share information among the members of the class.

It can be concluded that E-Learning is education or learning activity which takes an advantage of a network and multimedia technology in delivering the material. The online learning can be combined and completed with conventional teaching and learning that has been used in school. For the optimal use of E-Learning, it requires some requirements; they are (1) the teaching learning process takes advantage of network (2) the availability of the tutor's support and service (3) the existence of management or administrator (4) the presence of positive attitude of the learners and the teacher (5) the availability of the lesson plan (6) the availability of the evaluation system (Wena, 2009).

E-Learning development started from the use of Computer-Based-Training system in PC standalone or CD-ROM package in 1990. After that, in 1994 E-Learning was made in a bigger quantity and it is packed up interestingly. In the year 1997 the Learning Management System (LMS) started to be introduces to fulfill the rapid information need. The application of web-based E-Learning was born in 1999 and the LMS usage is started to be combined with the information site. The developing E-Learning started to be filled by

interesting contents in the form of multimedia content, video streaming (Klašnja-Milićević et al; 2016). E-learning has the following characteristics; (1) It takes the advantage of electronic technology service, they are teacher and students or fellow students or fellow teacher are able to communicate relatively easier without any boundaries in the protocol form; (2) It takes advantage of digital media and computer network; (3) It uses self-learning material saved in a computer so that it can be accessed by the teacher and students anywhere and anytime they need; (4) It takes advantage of the schedule, curriculum, the learning progress, and everything deals with educational administration can be look up in the computer anytime it is needed (Eveline. 2010).

According to Rusman (2013), there are four characteristics owned by E-Learning, they are as follow; (1) Interactivity; the availability of a much bigger direct communication track synchronously, such as chatting or messenger or indirectly (asynchronus), as form and mailing list take the list. (2) Independency; the existence of flexibility in terms of time allocation, place, teachers, and materials. This made the teaching learning process more focused on the students or student-centered learning; (3) Accessibility; learning sources become easier to be accessed through the internet network distribution with a wider area of distribution than the conventional one; (4) Enrichment; the teaching learning process, the course material presentation, the training material as the enrichment, possibly uses information technology devices such as video streaming, simulation and animation (Rusman, 2013).

In its process of application, E-Learning cannot be separated from the internet. Therefore, the lecture and students need to understand their own role in the teaching and learning process. In E-Learning, the lecturer's role is as a facilitator to students which means they give the students assignments; they need also to give solution on the students' problem in learning. There are many researches about student motivation to study because teaching strategies are interesting. The students with high task value, e-learning motivation, and self-efficacy preferred studying in blended learning environments. Cognitive strategies, self-directed learning, learner control, and test anxiety factors are independent of the learners' learning delivery preferences (Keskin, 2019). In addition, students will be more motivated if the quality of the content and the quality of the teacher is really good compared to

only the quality of the LMS (Learning Management System) at the Institute. As a result of research at several universities in Indonesia found that content quality, teacher quality (empathy, responsiveness, reliability, and guarantee), and the quality of LMS (usability and informativeness) have a significant effect on the quality of e-learning based on the student perception. However, the quality of LMS does not have a significant effect on satisfaction. The quality of e-learning and user satisfaction was found to have a significant and positive influence on the user's intention to engage in e-learning (Theresiawati, 2020).

The online teaching and learning has some more advantages than the conventional one, they are; (1) It can be done anytime and anywhere we like. By using E-Learning the teacher can open the class anywhere and anytime they like, as long as they can get the internet connection and the available facilities; (2) Cost saving: different with conventional learning, the E-Learning does not need to meet up, so that it can minimize the cost of transportation; (3) Time efficiency: we can communicate the teaching material rapidly without wasting time doing the travelling. The message can be delivered at a time in the process of teaching although both parties are far apart; (4) It is integrated with other information technology services: while teaching using E-Learning, you can also take advantage of other information technology services to support the implementation and the completeness of the teaching and learning process. The example of services that can be used is screen share, presentation, and document; (5) It increases the intensity of communication: E-Learning can support people who tend to be passive in the real word become more active in communicating in the cyberspace; (6) It increases participation: the more open the network learning, the more people will participate in the teaching learning process (Rusman, 2013). Besides its strength, online communication has also some weaknesses, they are: (1) It cannot deliver the user's emotion: speaking intonation, facial expression, gestures are relative things that are difficult to understand through online communication; (2) It needs specific device: in its implementation, online communication needs the existence of hardware and software; (3) It contains too much unimportant information: sometime online communication may give you much or even excessive information, it can confuse the users; (4) It confiscates concentration: when we do online communication not in the right place and time, it

would make you ignore or delaying other matters, even it can harm you and others (Priyatna, 2016).

The institutional transformation from the state Islamic high education school (STAIN) Pamekasan to state Islamic institute of Madura (IAIN Madura) has had a more complex responsibility as a state Islamic institution because it needs to preserve the Islamic cultural value in the Madura society which automatically demands for the point of view changes, the changes on the academic community's attitude toward the academic culture and tradition and also the way to manage all the departments in the context of IAIN transformation.

In responding the growth of technology in teaching learning process is not as easy as turning up a hand. There must be a new challenge that needs to be faced both from the side of the professional human resources, means the lectures, and the facilities that need to be owned by IAIN Madura. From the researchers' point of view, there are some challenges that IAIN Madura needs to face: first, the synergy between the development of information and technology with the lectures' professionalism. The second is the information source transfer. As the development on the information technology higher, it makes the point of view changes on the teaching and learning situation inside or outside the classroom. Generally, the learning source is available in the form of printed book (we call it as Module, independent book, textbook, posters, and others), while non-printed materials categorized into two kinds. The first is the separated tools such as audio, video, computer assisted learning (CAL and others), simulation, etc. the second one is the integrated tools such as audio gravis, multimedia simulation, and E-Learning package.

In this research, the researchers wants to know the comprehensible answer for the data collection, the questions for the effort to simplify and focus the problems to analyzed as follow: How is the preparation of State Islamic Institute of Madura in applying the E learning teaching program and what are the supporting and obstacle factors in applying the online teaching and learning and e learning use in IAIN Madura.

Method

This research belongs to a field research. The approach of this research is a quantitative approach with descriptive method. A descriptive method is a method which tries to describe the symptoms, phenomenon, indication happens in the present time. This research is trying to describe the

readiness of a high education institution (IAIN Madura) in using E-Learning.

To collect the data, the researcher uses a method/ technique of collecting data through questionnaire instrument.

The model used in this research is ELR Aydin & Tasci (2005) model to measure the readiness of using E-Learning. ELR Aydin & Tasci model has been developed and adjusted so that it is suitable

with this research. The ELR Aydin & Tasci model uses 4 readiness factors. This model will give score to the readiness level in applying E-Learning of an education institution (school/ higher education level). ELR Aydin & Tasci model is developed to some institutions in the developing country, so that it will suited with Indonesia. The factors of ELR Aydin & Tasci model can be seen in the following table:

Table 1.
E-Learning Readiness Aydin & Tasci model

	Resources	Skill	Attitude
Technology	Access to computer and internet	The ability to use computer and internet	The positive attitude in using E-Learning technology
Innovation	Boundaries in adopting E-Learning	The ability to adapt the changes (The renewal/ innovation)	The openness to the innovation
Human being	- Educated students - Experienced teachers - Pioneers on E-Learning - The service provider and external factor	The ability to learn through/ with E-Learning	- cooperation among the students I using E-Learning - cooperation between the students and the teacher in E-Learning teaching and learning process - cooperation between the employee and teacher in managing E-Learning system
Self-development	The internal budgeting for E-Learning	The ability to manage time	The trust on the self-development.

Based on the above table, human being from the resource and attitude side, innovation factor from the resource side, and also self-development factor from the resource side have been adjusted. The adjustment aimed at gaining the more optimal score for the measurement of readiness in applying the E-Learning teaching learning.

This model can be applied before using E-Learning by giving the preparation score. This model can also be used after the use of E-Learning by giving the result in the form of evaluation for the continuation of using E-Learning. This model only focuses on the institution aspect which means the headmaster, the vice headmaster, school

treasurer, a person responsible for the computer laboratory, and teacher who has a competency in using E-Learning.

The average score 3.41 is the minimal score to the preparation level of applying e-learning, so that

the $\bar{x}_{elr} = 3.41$ which means that the average score of every question, the average score of a question for one similar factor and the total average score of all questions must be $\bar{x} \geq \bar{x}_{elr}$ to be assumed as ready in applying e-learning. We can see the score category range as follow:

Table 2.
Score and category range in ELR Aydin & Tasci model

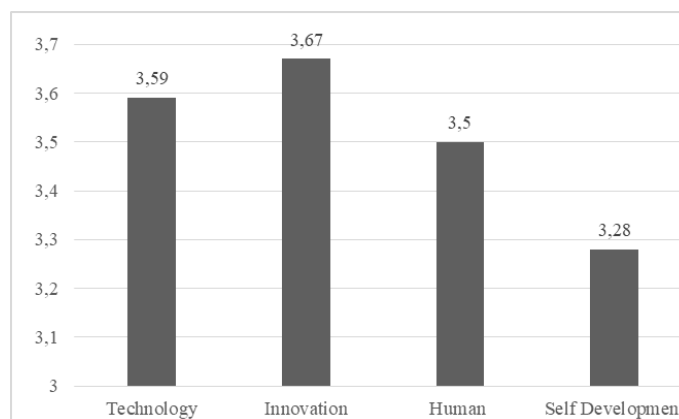
Score range	Category
$1 \leq \bar{x} \leq 2.6$	Not ready, need much improvement
$2.6 \leq \bar{x} \leq 3.4$	Not ready, need slight improvement
$3.4 \leq \bar{x} \leq 4.2$	Ready, but needs slight improvement
$4.2 \leq \bar{x} \leq 5$	Ready, the E-Learning implementation can be continued

In table 2 can be seen the indicators of readiness through the scores obtained from surveys conducted by researchers, while the scores and category were adopted from the ELR Aydin & Tasci model. Score between 1 and 2.6 means it is not ready and needs some improvement. Score of 2.6 to 3.4 is also considered not ready and still needs some improvement, while score range from 3.4 to 4.2 means it is ready but still needs some improvement. For score between 4.2 to 5 means that the institution is ready to do it and it can be continued.

Results and Discussion

The data from questionnaire then analyzed using ELR Aydin & Tasci model. This research questionnaire has 36 questions with 5 alternative answers. They are “strongly agree” with 5 score, “agree” with 4 score, “Neutral” with 3 score, “disagree” with 2 score and “strongly disagree” with 1 score. The result of the questionnaire to know the readiness of using E-Learning in IAIN Madura showed in picture 3 (graphic):

Figure 1.
The result score of ELR IAIN Madura



The last score is gained from the result of the data. It is categorized as the ELR by Aydin & Tasci (2005).

Technology Factor

The measurement of the readiness level in the application of ELR in IAIN Madura for the technology factor can be measured from 3 sides,

they are; resources, skills and attitude. The number of question for technology factor is 11 questions as shown in table 3.

Table 3.
ELR calculation for technology factor

Parts	Number of question	Total	Average	Average score
Resources	Q3	57	4.07	4
	Q4	50	3.57	
	Q5	61	4.357	
Skill	Q7	59	4.21	3.88
	Q8	46	3.28	
	Q9	58	4.14	
Attitude	Q10	55	3.92	2.91
	Q15	46	3.28	
	Q18	29	2.07	
	Q19	22	1.57	
	Q34	52	3.71	
Average score of the factors				3.59

Based on table 3, the calculation on the readiness of using E-Learning for technology

factor in IAIN Madura consists of 3 measurement sides; they are the resources part, it can be in the

form of the measurement on the computer access and internet access and it got $\bar{x} = 4$; the second one is the skill, it is shown in the skill to operate computer and internet and it got $\bar{x} = 3,88$; the last is the attitude, it is in the form of positive attitude toward the use of E-Learning technology, it got $\bar{x} = 2,91$.

The calculation result of ELR from the sides of technology factor is $\bar{x} = 3,59$. Based on the score and category range of ELR stated by Aydin & Tasci, the calculation for technology factor $\bar{x} = 3,59$ belongs to "ready" category but it still needs slight improvement. From 3 measurements for technology factor, resources side got the highest score.

The calculation on the technology factor from the side of resources which means the measurement on the access to computer and internet got $\bar{x} = 4$. This shows that the technology infrastructure in IAIN Madura has been adequate and it can be used as predominance to apply E-Learning in the teaching and learning process. Technology here consists of two components, they are hardware and software. Hardware involves physical components such as "server" and network used by IAIN Madura to access E-Learning, while the software here means all information aspect that help to operate the hardware to access E-Learning. IAIN Madura use Moodle as LMS platform on <https://elearning.iainmadura.org>.

The calculation for technology factor from the skill part is in the form of the ability to operate

computer and internet. It got $\bar{x} = 3,88$ score. This means that lecturers and students of IAIN Madura have the ability to operate computer and internet in applying E-Learning. Lecturers and students of IAIN Madura have the basic ability to operate computer such as typing, accessing internet, editing file, etc. besides, the lectures and the students also have the basic competence dealing with internet, such as e-mail, searching, downloading, etc.

The calculation for technology factor from the part of attitude, the positive attitude toward the use of E-Learning technology got $\bar{x} = 2,91$ score. This is proven that the lectures and students in IAIN Madura have not showed positive attitude toward the use of E-Learning technology. The lectures and students are enthusiastic in using the E-Learning in doing their assignments. The lectures and students in IAIN Madura receive renewal technology as a teaching media such as the use of digital document instead of printed document.

Innovation Factor

The measurement of readiness level of using E-Learning in IAIN Madura from the innovation factor can be measured from 3 parts; they are resources, skills and attitude. The number of questions for innovation factor is 7 questions showed in table 4.

Table 4.
ELR calculation for innovation factor

Parts	Number of questions	Total	Average	Average score
Resources	Q30	53	3.78	3.78
Skill	Q6	60	4.28	3.85
	Q8	48	3.42	
Attitude	Q11	52	3.71	3.39
	Q12	42	3	
	Q17	61	4.35	
	Q35	35	2.5	
Average Score Of The Factors				3.67

Based on table 4, the calculation on the readiness of using E-Learning in innovation factor in IAIN Madura consists of 3 parts of measurement; they are (1) resources which means barrier/ obstacle in applying E-Learning with $\bar{x} = 3,78$ score; (2) skill, it is in the form of measuring the ability to adapt the changes (the renewal/

innovation). It got $\bar{x} = 3,85$ score; (3) attitude, means the openness or the open mind to receive innovation which got $\bar{x} = 3,39$. Based on the ELR calculation by Aydin & Tasci in calculate the innovation factor $\bar{x} = 3,67$ score belongs to

“ready” category, but still it need more improvement.

The calculation for innovation factor from the part of resources in the form of barrier/ obstacle in applying E-Learning got $\bar{x}=3,78$ score. This showed that lecturers and students of IAIN Madura have adapted well the E-Learning although there have been an internal/ external problem in the campus that can obstruct the E-Learning application.

The calculation for the innovation factor from the part of skill which means the ability to adapt the renewal/ innovation got $\bar{x}=3,85$ score. This means that IAIN Madura has adapted the innovation but it is still needed to be improved.

The calculation for innovation factor from the part of attitude which means the openness to the innovation got $\bar{x}=3,39$ score. This shows that lecturers and students in IAIN Madura have already received all the technology changes and innovation on the teaching and learning process through E-Learning. But the improvement on the lectures and students still need to be done so that the use of E-Learning can work well.

From the above calculation, we can see that from the innovation factor IAIN Madura has already well prepared but it still needs some improvements. Resources part got the smallest score out of 3 parts of measurement. This shows that IAIN Madura still has both internal and external factors that hold up the use of E-Learning. Therefore, those problems must be solved so that it cannot disturb the use of E-Learning in the teaching and learning process.

The institution needs to give some instructions about choosing the implementation strategy in applying E-Learning as a tool to help the teaching learning process. The leaders are expected to make some policies dealing with the use of E-Learning such as giving command for lectures to use E-Learning as a media in helping the teaching and learning process.

Human Factor

The measurement on the readiness of E-Learning use in IAIN Madura for the human factor is assessed from 2 aspects; they are resources and skill. The number of question for the human factor is 7 questions showed in the following table.

Table 5.
ELR calculation on human factor

Parts	Number of questions	Total	Average	Average score
Resources	Q1	46	3.28	3.22
	Q2	47	3.35	
	Q24	41	2.92	
	Q25	34	2.42	
	Q29	57	4.07	
Skill	Q26	49	3.5	3.78
	Q27	57	4.07	
The average score of the factors				3.5

Based on table 5, the calculation on the readiness of using E-Learning from the human factor in IAIN Madura consists of 2 part of measurements; (1) resources in terms of educated lecturers and students, experienced lecturers, E-Learning supporters (pioneers), service provider and external factor got $\bar{x}=3,22$ score; (2) skill in terms of the measurement on the ability to learn with and through E-Learning got $\bar{x}=3,78$. Based on the value and category range of ELR by Aydin & Tasci, the calculation for the human factor got $\bar{x}=3,5$.

Based on the ELR calculation by Aydin & Tasci in human factor on the score $\bar{x}=3,5$ belongs

to “ready” category but it still need some improvement. It shows that human resources are still needed to be improved. The calculation of resources has got the smallest score out of two measurements in the human factor. This shows that resources in IAIN Madura still need to be improved both the lectures and the students.

The calculation of human factor from the part of resources in terms of educated lecturers and students, experienced lecturers, pioneers of E-Learning, the service provider and the external part got $\bar{x}=3,22$. This shows that the lecturers and students of IAIN Madura have understood about E-Learning. Besides, the majority of lecturers have enough experiences in E-Learning-based

organizing and evaluating teaching learning process so that it can help them in applying E-Learning.

The calculation of human factor from the part of skill which means the measurement on the ability of learning with and through E-learning got $\bar{x} = 3,78$. This shows most of the lectures and students of IAIN Madura have the competence to use E-Learning. Some lecturers have used e-learning after attending training on e-learning both inside and outside town. Likewise, students who are accustomed to using and applying computers and have an android support this result. However, one of the important stakeholders of this process is the learners. In e-learning, which are relatively new learning environments, it is known that learners' various and innovative learning strategies can motivate students more to study and it can affect their learning result (Adam et al., 2017; Broadbent, 2017; Littlejohn, Hood, Milligan, & Mustain, 2016; Şahin, Keskin, Özgür, & Yurdugül, 2017). Therefore, when the students are ready to implement e-learning, it shows the readiness of the Institute in conducting e-learning.

The readiness of human factors in IAIN Madura belongs to "ready" category, but it still needs a slight improvement. This shows the importance of the improvement on the part of human resources. The lecturers' competency's improvement can be done by giving E-Learning training. E-Learning training is done in order to make the lecturers have the ability and the experience in using E-Learning. The lecturers who

have already the ability and the experience using the E-Learning are expected to use it in the teaching learning process.

The students' improvement can be done by giving them E-Learning training so that the students can take the advantage of E-Learning well. Besides, it is also important to improve the quality of both students' relationships with other students and the students with the lecturers. The purpose of quality improvement on the students' relationship with the lecturers is to make the lecturers cooperate well with the students in the process of teaching and learning using E-Learning so that E-Learning can be very useful.

The institution need to give more information about the use of E-Learning and also the advantages of it. The institution also needs to give simpler and understandable "user manual" on E-Learning. Moreover, funding is also important as well as the detail of budget to apply E-learning such as the availability of internet network, the E-Learning application developer, the treatment and the maintenance, and also funding for E-Learning administrator who handles E-Learning so that it can be implemented well.

Self-development Factor

The measurement on the readiness level of ELR application in IAIN Madura for the self-development factor is measured from 3 parts; they are resources, skill and attitude. The number of question for the self-development factor is 11 questions. The questionnaire result from this factor can be seen in table 6 below

Table 6.

ELR calculation on the self-development factor

Parts	Number of questions	Total	Average	Average score
Resources	Q20	62	4.42	3.17
	Q21	38	2.71	
	Q22	33	2.35	
Skill	Q36	39	2.78	3.14
	Q14	49	3.5	
Attitude	Q16	48	3.42	3.55
	Q31	52	3.71	
	Q32	57	4.07	
	Q33	52	3.71	
	Q23	38	2.71	
The average score of the factor		52	3.71	3.28

Based on the table 6 the calculation for the readiness of using E-Learning from the self-development factor consists of 3 parts of measurements; they are (1) resources, in terms of internal funding for the E-Learning got $\bar{x}=3,17$; (2) skill in terms of the measurement on the ability to manage time got $\bar{x}=3,14$; (3) attitude in the form of the trust on the self-development which got $\bar{x}=3,55$. Based on the value and category range of ELR stated by Aydin & Tasci the calculation for the self-development factor got $\bar{x}=3,28$.

Based on the ELR calculation stated by Aydin & Tasci for the calculation of self-development $\bar{x}=3,28$ belongs to "Not Ready" category which needs some improvement. This shows that it needs significant improvement on the part of self-development.

The calculation on the self-development factor from the part of resources in the form of internal budgeting for E-Learning got $\bar{x}=3,17$. This shows that IAIN Madura has already allocated funding for E-Learning application in the campus. The leaders also have specific time to discuss about allocated budgeting for E-Learning. But, the fund for E-Learning still to be added.

The calculation of self-development factor from the part of skill in terms of measurement on the ability to manage time has got $\bar{x}=3,14$. This shows that lecturers and students of IAIN Madura have less time to adapt the changes of using E-Learning in teaching and learning process. So that it needs to be improved.

The calculation of self-development from the part of skill in the form of the trust level to the self-development has got score of $\bar{x}=3,55$. This shows that lecturers and students of IAIN Madura has already had a high trust level in self-development that E-Learning can help and develop the teaching and learning process.

The calculation of self-development factor measured from 3 parts of measurements. The resources part deals with the internal budgeting for E-Learning got the lowest score of all. This shows the importance of additional budget for E-Learning implementation in IAIN Madura. The enhancement on the budget planning to apply E-Learning needs to be discussed in the institution's leaders meeting. The budgeting planning can indicate whether the budget from the institution is already sufficient or not. The best budgeting planning will give a good and optimal E-Learning implementation. The institution is expected to give

fund assistance and make budget details to implement E-Learning such as for the availability of internet network, E-Learning application developer, E-Learning maintenance and also allocated fund for the administrator of E-Learning who handles E-Learning so that it can be implemented well.

Based on the calculation of ELR with Aydin & Tasci model in picture 3, it can be known that IAIN Madura has ELR score $3.51 < \bar{x} < 4.2$. this shows that IAIN Madura is ready to apply E-Learning but it needs more improvement in the part of technology, innovation factor and human factor. While for the self-development factor IAIN Madura considered to be "not ready" and it still need improvement.

The enhancement score for every factor in the measurement of ELR is needed to increase the quality use of E-Learning in the teaching and learning process. It is better to give some information about the advantage of using E-Learning so that the lecturers and students can apply the E-Learning well.

Conclusions

Based on the above discussion, it can be concluded that the readiness level of using E-Learning in IAIN Madura has got $\bar{x}=3.51$ which means ready for the implementation of E-Learning but it still need some improvement in some factors. The readiness level on the technology factor is $\bar{x}=3.59$ which means ready in applying E-Learning. The readiness level for innovation factor is $\bar{x}=3.67$ which means ready for the E-Learning also but it needs to be improved. The human factor got $\bar{x}=3.5$ which also means ready for E-Learning implementation with a slight improvement. For the readiness level of self-development factor has got $\bar{x}=3.28$ which means "Not ready" in applying E-Learning and it also needs to be improved.

Acknowledgement

This paper certainly has many shortcomings, this research only highlights one institution in assessing the readiness of using e-learning, further research is needed that can compare the readiness of educational institutions in the use of e-learning in a broader and more comprehensive scope.

References

Adam, N. L., Alzahri, F. B., Soh, S. C., Bakar, N. A., & Kamal, N. A. M. (2017).

- Selfregulated learning and online learning: a systematic review. Proceedings of the International Visual Informatics Conference, 143-154. Springer, Cham.
- Aydin, Cengiz & Tasci, Deniz. (2005). Measuring Readiness for e-Learning: Reflections from an Emerging Country. *Educational Technology & Society*. 8. 244-257. Available at https://www.researchgate.net/publication/220374121-Measuring_Readiness_for_e-Learning_Reflections_from_an_Emerging_Country.
- Broadbent, J. (2017). Comparing online and blended learner's self-regulated learning strategies and academic performance. *The Internet and Higher Education*, 33, 24-32.
- Direktorat Jenderal Pembelajaran dan Kemahasiswaan Kementerian Riset, Teknologi dan Perguruan Tinggi, (2016), *Panduan Pelaksanaan PJJ 2016 Pendidikan Jarak Jauh*, Jakarta: Ristekdikti.
- Eveline. (2010). *Teori Belajar dan Pembelajaran*. Bogor: Ghalia Indonesia.
- Georgiev, Tsvetozar, Evgenia Georgieva, and Angel Smrikarov. 2004. 'M-Learning-a New Stage of E-Learning'. In *International Conference on Computer Systems and Technologies-CompSysTech*, 4:1-4.
- Haryanto, Purwanto, Giyoto. (2020). Implementation of Blended Learning Based-Model in English For Specific Purposes for The Islamic University: A Case Of UNISNU, Jepara, Indonesia. *International Journal of Pharmaceutical Research*. 12(04), 4474-4482. <http://www.ijpronline.com/ViewArticleDetail.aspx?ID=19179>
- Klašnja-Milićević A., Vesin B., Ivanović M., Budimac Z., Jain L.C. (2017) Introduction to E-Learning Systems. In: *E-Learning Systems. Intelligent Systems Reference Library*, vol 112. Springer, Cham
- Littlejohn, A., Hood, N., Milligan, C., & Mustain, P. (2016). Learning in MOOCs: Motivations and self-regulated learning in MOOCs. *The Internet and Higher Education*, 29, 40- 48.
- Marold, Kathryn A. 2008. 'Delivering Web-Based Education'. Chapter. *Online and Distance Learning: Concepts, Methodologies, Tools, and Applications*. 2008. <https://doi.org/10.4018/978-1-59904-935-9.ch055>.
- Prasojo, Lantip Diat dan Riyanto. (2011). *Teknologi Informasi Pendidikan*. Yogyakarta: Gava Media.
- Putri E. W., Fauzan U., Toba, R. (2018). The Quality of Listening Skill of the EFL Students. *Indonesian Journal of English Language Teaching and Applied Linguistics*, Vol. 3(1), 2018. <https://ijeltal.org/index.php/ijeltal/article/view/125>
- Rusman. (2013), *Model-model Pembelajaran*. Jakarta: Rajagrafindo Persada.
- Şahin, M., Keskin, S., Özgür, A., & Yurdugül, H. (2017). Determination of interaction profiles based on learner characteristics in e-learning environment. *Educational Technology Theory and Practice*, 7(2), 172-192. doi: 10.17943/etku.297075
- Solikhah, I & Wirawati, D. (2020). Mobile Assisted Language Learning and Its Insights in Teaching Academic Writing: A Literature Review. *Asian EFL Journal*, 27(2.2), 102-118. <https://www.asian-efl-journal.com/monthly-editions-new/2020-monthly-editions/volume-27-issue-2-2-april-2020/>
- Surya Eka Priyatna, Pendekatan Realita Perkuliahan Pada Media Online, - Alhadharah: Jurnal Ilmu Dakwah, 2016 - jurnal.uin-antasari.ac.id).
- Sutopo, A. H., (2012), *Teknologi Informasi dan Komunikasi dalam Pendidikan*. Yogyakarta: Graha Ilmu.
- Theresiawati, T., Seta, H. B., Hidayanto, A. N., & Abidin. Z. (2020). Variables affecting e-learning services quality in Indonesian higher education: Students' perspectives. *Journal of Information Technology Education: Research*, 19, 259-286. <https://doi.org/10.28945/4489>
- Wang, Yi-Shun, Hsiu-Yuan Wang, and Daniel Y. Shee. 2007. 'Measuring E-Learning Systems Success in an Organizational Context: Scale Development and Validation'. *Computers in Human Behavior* 23 (4): 1792-1808. <https://doi.org/10.1016/j.chb.2005.10.006>.
- Wena, M. (2009), *Strategi Pembelajaran Inovatif Kontemporer*. Jakarta: Bumi Angkasa.