

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

---

Library Philosophy and Practice (e-journal)

Libraries at University of Nebraska-Lincoln

---

Fall 10-1-2021

## The Effect of E-learning Media on the Quality of Learning of the Library Science Students Amidst the COVID-19 Pandemic

Retno Sayekti

*Universitas Islam Negeri Sumatera Utara Medan*, retnosayekti69@uinsu.ac.id

Muslih Fathurrahman

*Universitas Islam Negeri Sumatera Utara Medan*, muslih.fath@uinsu.ac.id

Eben Haezarni Telaumbanua

*Institut Agama Kristen Negeri (IAKN) Tarutung, Tapanuli Utara*, ebenhaezarni2017@gmail.com

Sitti Rahmah

*Universitas Negeri Medan, Sumatera Utara*, rahmaiye7@gmail.com

Fitriani Lubis

*Universitas Negeri Medan, Sumatera Utara*, rianiavandi@gmail.com

*See next page for additional authors*

Follow this and additional works at: <https://digitalcommons.unl.edu/libphilprac>



Part of the [Educational Technology Commons](#), [Higher Education Commons](#), [Library and Information Science Commons](#), and the [Online and Distance Education Commons](#)

---

Sayekti, Retno; Fathurrahman, Muslih; Telaumbanua, Eben Haezarni; Rahmah, Sitti; Lubis, Fitriani; and Amrina, Effi, "The Effect of E-learning Media on the Quality of Learning of the Library Science Students Amidst the COVID-19 Pandemic" (2021). *Library Philosophy and Practice (e-journal)*. 6272.

<https://digitalcommons.unl.edu/libphilprac/6272>

---

**Authors**

Retno Sayekti, Muslih Fathurrahman, Eben Haezarni Telaumbanua, Sitti Rahmah, Fitriani Lubis, and Effi Amrina

# **The Effect of E-learning Media on the Quality of Learning of the Library Science Students Amidst the COVID-19 Pandemic**

**Retno Sayekti**

Universitas Islam Negeri Sumatera Utara Medan, Indonesia, [retnosayekti69@uinsu.ac.id](mailto:retnosayekti69@uinsu.ac.id)

**Muslih Fathurrahman**

Universitas Islam Negeri Sumatera Utara Medan, Indonesia, [muslih.fath@uinsu.ac.id](mailto:muslih.fath@uinsu.ac.id)

**Eben Haezarni Telaumbanua**

Institut Agama Kristen Negeri (IAKN) Tarutung, Tapanuli Utara, Indonesia, [ebenhaezarni2017@gmail.com](mailto:ebenhaezarni2017@gmail.com)

**Sitti Rahmah**

Universitas Negeri Medan, Sumatera Utara, Indonesia, [rahmaiye7@gmail.com](mailto:rahmaiye7@gmail.com)

**Fitriani Lubis**

Universitas Negeri Medan, Sumatera Utara, Indonesia, [rianiavandi@gmail.com](mailto:rianiavandi@gmail.com)

**Effi Amrina**

Universitas Islam Negeri Sumatera Utara Medan, Indonesia, [efiamrinalubis14@gmail.com](mailto:efiamrinalubis14@gmail.com)

## **Abstract**

The aim of this study is to investigate the effect of e-learning on the quality of learning of the Library Science students amidst the COVID-19 pandemic. This study was conducted in Universitas Islam Negeri Sumatera Utara Medan (UINSU), Indonesia. Data was obtained from 83 respondents, that were selected from a total population of 497 students using questionnaires, and, was analyzed using descriptive statistical and simple linear regression techniques. Furthermore, the analysis was carried out through descriptive and quantitative methods. The empirical results of the hypothesis test was obtained using the SPSS Version 23 software and it showed that the results of  $t_{count}$  was greater than  $t_{table}$  ( $8.337 > 1.989$ ) with a significant level below 0.05, namely 0.000. Therefore, this means that the e-learning variables significantly influenced the quality of learning. The results of the coefficient of determination ( $R^2$ ) which showed the  $R^2$  value of 0.462/46.2%, indicated that the percentage of e-learning contributions on the quality of learning of the Library Science students was 46.2%. Meanwhile the remaining 53.8% was influenced by other independent variables that were not discussed. The finding reveals that E-learning has a positive and significant effect on the quality of learning of the Library Science students at UINSU Medan during the pandemic COVID-19. Therefore, it is recommended that university policies in utilizing e-learning needs an in-depth study and design and the decision makers of the university should improve the learning facilities to make the learning process better.

**Keywords:** e-learning, online learning, distance learning, student learning achievement, moodle-based e-learning

## **Impact of the E-learning Media**

The COVID-19 pandemic had a negative impact on all aspects of human life, especially the educational sector. To prevent a further spread of the virus, the government decided to close all educational institutions. Consequently, the teaching and learning process during the COVID-19 pandemic was conducted online due to social distancing obligations. This situation made educational providers and practitioners search for various strategies to ensure the implementation of the distance learning processes. This was to maintain the quality of learning (Quattrone et al., 2020; Talidong & Toquero, 2020), despite various difficulties and obstacles experienced by students and parents (Alifia et al., 2020). Quality learning is a target that must be achieved by lecturers and students. Furthermore, this process is indicated by the quality of fresh graduates from higher institutions.

In situations, where face-to-face learning is not possible, e-learning applications and learning media would help in delivering messages effectively and efficiently. A learning media is a means of communicating with students and a source of information (Heinich et al., 2002; Smaldino, Sharon E.; Russel, James D.; Heinich, Robert; Molenda, 1997). In addition, it is called a learning media when it provides messages that are meant for learning.

With the use of information and communication technology in learning activities, the process of delivering messages can be conveyed via distant learning. It has created an opportunity for learning activities to be conducted at any time, place, or stage according to how it suits an individual. Moreover, students are free from the pressures of conventional education in their environments. They no longer have to live or attend lectures in a location far from where they stay (Naidu, 2006). The use of electronic devices for distance learning is known as electronic learning (e-learning). This media has changed the conventional learning system into modern learning (Ghareb & Mohammed, 2016).

The learning system which was previously limited to place and time is now more flexible in adjusting the needs of students (student-centered learning). Learning technology is an attempt to design, implement, and evaluate the entire teaching and learning process. Furthermore, the specific aim is to research on learning and communication processes in humans using a combination of human and non-human sources. Therefore, it creates an opportunity for effective learning. (Rabinowitz et al., 2004). Learning technology is a skill in utilizing technological tools. The use of e-learning in the educational sector, involves several technological facilities, such as CD-ROM, internet or intranet, and computers (Clark, R.C. & Mayer, 2008; Clark & Mayer, 2008).

## **Literature Review**

E-learning involves the use of an electronic system for teaching and learning processes. Furthermore, students do not need to sit in the classroom to directly receive lessons from their teacher. It also shortens the targeted learning time schedule and save the cost of a study or educational program (Axelsson, 2017; Kamsin, 2005). Examples include the cost of printing learning materials, transportation, accommodation, meal, and time spent. Furthermore, this is because it uses digital learning resources that are accessed remotely, without having to be physically present.

An e-learning system is a form of technology implementation aimed at assisting learning processes which are presented in electronic/digital form. Furthermore, its implementation requires a web-based computer facility on an Internet site. Basically, it has the impact of expanding roles, horizons and providing the usual reach of teaching processes. An e-learning application facilitates formal and informal training and learning activities, and the teaching and learning process. Furthermore, it promotes the activities of electronic media users through the use of the internet, CD-ROMs, videos, DVDs, televisions, cellphones, and others (Clark & Mayer, 2008)

There are three functions of e-learning for classroom learning activities, and they include: supplement, complement, and substitute. The functions of e-learning as an optional and additional (supplement) way of learning, means that it is not mandatory to use it. Students are free to choose, whether to use electronic learning materials or conventional learning models. Therefore, there are no obligations for students to access electronic learning materials. Though it is optional, students that use it would have additional knowledge.

E-learning as a compliment means that the learning material presented is only a complement to others that have been given conventionally. That means electronic learning materials are programmed to become reinforcement or remedial materials for students in various conventional learning activities. Though it is complementary, e-learning has proven to be an effective tool in learning (Lira et al., 2013; Prasetyo, 2019; Qin et

al., 2014). It is a substitute when other conventional methods are used in learning processes. In this condition, participants only made use of electronic learning, without using other learning models. Several studies have shown that e-learning are used as substitute for conventional learning which relies on physical presence (Kamsin, 2005). This is because e-learning is more portable and can be done anytime and anywhere using devices such as a smartphone, tablet, or laptop connected to the Internet. In this period of the COVID-19 pandemic, where schools and universities are closed and learning is carried out from home, the use of e-learning is the only substitute for the conventional learning process in the classroom. In addition, the problems experienced with face-to-face learning was subdued with e-learning media and it has made learning processes more dynamic. When seeking for information, e-learning provides a number of advantages such as providing pleasure in learning, making the learning process efficient, opening opportunities to obtain information and knowledge from a variety of available sources globally, creating dynamic learning interactions and promoting user creativity in utilizing information and knowledge. Therefore, the use of e-learning in the educational sector, has increased students' motivation to learn (Harandi, 2015).

Generally, the use of this technology depends on the situation involved, presence of adequate funds and facilities, and whether there is any support from policymakers. The advantages of using e-learning includes: first, the availability of e-moderating facilities (Moule, 2007) where lecturers and students can communicate easily through internet facilities. This could be regularly or at any point in time without being limited by distance, place, and time. Secondly, lecturers and students use structured and scheduled teaching materials or study instructions via the internet. Therefore, they both assess each other based on the teaching materials studied. Thirdly, student studies or reviews teaching materials (courses) at their own convenience because they are stored on their computer. Fourth, whenever students need additional information related to learning materials, they access the internet more easily. Fifth, both lecturers and students conduct discussions via the internet with a large number of participants. This helps in broadening their knowledge and giving them a better insight on what they have studied. Sixth, it changes the role of students from passive to being active. Seventh, it is relatively more efficient for those that live far from conventional colleges or schools.

The shortcomings of e-learning are that students without motivation and bad learning behavior are left behind in learning activities. Teachers might not be able to provide time, slow and unreliable internet connections, some subjects/courses may be difficult to realize in the form of e-learning. Furthermore, students need to provide time to learn software/e-learning application so it does not interfere with their learning load and learners that are not familiar with the structure and routine of the software are left behind. In addition, certain educational institutions, require expensive investments to build e-learning facilities, and for students that are stuttering technology, this system would be difficult to implement. Other challenges involved in using e-learning are the subjects to be taught, the individuals learning through the platform, technology used, and context. However, in developing countries, the main problems faced are the technology used and context (Andersson & Grönlund, 2009).

Moodle is one of the open source based learning management system (LMS) that is widely implemented in various education institutions, secondary and tertiary levels. LMS is a software application for creating online lecture materials, managing learning activities, and facilitating interactions. The use of Moodle as a Learning Management System increases the level of interaction between teachers and students. Furthermore, learning can be done anywhere at anytime, and is easy for students to store their learning materials (Ahmad & Al-Khanjari, 2012; Syamsuddin, 2014; Yaman & Ph, 2010).

Apart from the challenges faced in the use of e-learning as a medium for carrying out learning activities, the Universitas Islam Negeri Sumatera Utara (State Islamic University of North Sumatra, further called UINSU Medan) has been using this system since 2014. However, in 2019 it was officially built on the institutions server which is accessed via the URL: <http://elearning.uinsu.ac.id>. UINSU Medan e-learning was implemented using the Moodle Learning Management System (LMS).

Some of the e-learning features of UINSU Medan that are used by lecturers include: making courses, the inclusion of syllabi and course materials in various formats (including text and video), conducting online discussions, giving and sending assignments, saving or sending lessons, conducting online exams with various forms of questions (multiple choice or essay), storing question banks, controlling student assignments, giving instant grades, and others. The use of e-learning is strongly influenced by the values possessed by both lecturers, and students. Previous research has shown that the value of self-improvement through the social environment, costs, and performance expectations affect the use of technology in learning. (Mehta et al., 2019). Furthermore,

the ultimate goals of using e-learning is to improve the quality of learning. In ISO standards (The International Standards Organization), quality is the totality of features and characteristics of a product or service that affects the ability to meet certain needs. It is the total characteristics that qualifies a particular desire. Quality learning is the degree of excellence and knowledge gained by students. It is the efforts made to convey knowledge, organize, and use various methods to ensure teaching and learning activities that are effective and efficient with optimal results. This research is conducted to investigate the following research questions:

- How is the influence of e-learning on the quality of learning of Library Science students?
- How big is the influence of e-learning on the quality of learning of Library Science students?

## Methodology

### Design and instrument

A quantitative approach was used as a method for testing certain theories by examining the relationship between variables. These variables were measured and the data which consists of numbers were analyzed according to statistical procedures.

This study was conducted at the UINSU Medan (State Islamic University of North Sumatra), Indonesia during the pandemic COVID-19 from March to October 2020. Data was obtained through the use of closed questionnaires. Therefore, the respondents only gave a checkmark in the column provided. The data was measured using the *Likert* scale which is one of the most frequently used attitude measurement technique. Furthermore, when making a *Likert* scale, several statements related to an issue or object are proposed, and the respondents are asked to identify their level of agreement or disagreement with each statement.

The *Likert* scale variable to be measured was translated into an indicator which is used as a benchmark for arranging instrument items in the form of statements or questions. Furthermore, the *Likert* scale procedures was used in determining the score for each statement in the distributed questionnaire. The answers from the respondents were divided into five assessment categories and each statement was given a score of one to five.

**Table 1**

*Five Assessment Categories*

Alternative Answers	Score
Strongly Agree	5
Agree	4
Neutral	3
Disagree	2
Strongly Disagree	1

Data were analyzed using descriptive statistics and simple linear regression techniques and was processed with the SPSS Version 23 software.

### Sampling and data collection

The target population were students of the Library Science program which had semester 2, 4, 6 and 8 consisting of 4, 4, 3 and 2 classes, respectively. In addition, the total population was 497 students. The sampling technique used was probability sampling because it was the simplest, and it takes random samples from the existing population without paying attention to the level in the population. The determination of the number of elements / members of the sample from the population are as follows:

Using the Slovin formula:

$$n = \frac{N}{1+(N \times e^2)}$$

Where:

n = Number of sample elements / members

N = Number of elements / members of the population

e = Error level

The number of samples can be determined through the following calculations:

$$n = \frac{N}{1+(N \times e^2)}$$

$$n = \frac{497}{1+(497 \times 10\%^2)}$$

n = 83.2 which is approximately 83

The number of samples after being approximated was 83 respondents that were randomly chosen.

## Research results and discussion

### Research result

The SPSS version 23 software was used for the statistical analysis of hypothesis measurement. The hypothesis was measured based on the validity and reliability, coefficient of determination, and the magnitude of the effect of e-learning on the quality of student learning.

### Instrument Validity Test

The validity test was conducted to determine whether the existing data is valid or not. The research sample consist of 83 participants with 28 statements for the e-learning variable (X), 17 questions, and 11 statements for the learning quality variable (Y).

**Table 2**

*Instrument Validity Test of the Use of E-learning*

Number	r <sub>count</sub>	r <sub>table</sub>	Description
1	0.517		Valid
2	0.542		Valid
3	0.120		Not Valid
4	0.631		Valid
5	0.569		Valid
6	0.683		Valid
7	0.577		Valid
8	0.711		Valid
9	0.544		Valid
10	0.138		Not Valid
11	0.536		Valid
12	0.533		Valid
13	0.534		Valid
14	0.618		Valid
15	0,650		Valid
16	0,713		Valid
17	0,582		Valid

The instrument is valid when r<sub>count</sub> is greater than r<sub>table</sub> with n = 83 at a significant level of 5 % (0.05). Therefore, the r<sub>table</sub> value obtained equals 0.2159

According to the results of the e-learning validity test in the table above, it was concluded that 15 statement items including 1, 2, 4, 5, 6, 7, 8, 9, 11, 12, 13, 14, 15, 16, and 17 were valid, while 2 items of question 3 and 10 were not valid. Based on r<sub>count</sub> > r<sub>table</sub> where r<sub>table</sub> for n = 83 with the degree of freedom (df) = n-2. Therefore, 81 equals 0.2159, while the r<sub>count</sub> values are seen in the results of the corrected item-total correlation.

Furthermore, the test for the validity of the Y variable on the quality of learning of Library Science students at UINSU Medan are as follows:

**Table 3**

*Results of the Validity Test of Quality Variables (Y)*

Number	r <sub>count</sub>	r <sub>table</sub>	Description
1	0.628		Valid
2	0.646		Valid
3	0.166		Not Valid
4	0.618		Valid
5	0.553	The instrument is valid when r <sub>count</sub> is greater than r <sub>table</sub> with n = 83 at a significant level of 5% (0.05). Therefore, the r <sub>table</sub> value obtained equals 0.2159	Valid
6	0.675		Valid
7	0.774		Valid
8	0.511		Valid
9	0.776		Valid
10	0.818		Valid
11	0.661		Valid

According to the results of the validity test on the quality of learning of the Library Science students at UINSU Medan, it can be concluded that 10 statement items, including statements 1, 2, 4, 5, 6, 7, 8, 9, 10, and 11 were valid, while 3 was not. Based on the above data, r<sub>count</sub> is greater than r<sub>table</sub>, where r<sub>table</sub> for n = 83 with the degree of freedom (df) = n-2. Therefore, 81 equals 0.2159, while r<sub>count</sub> is seen in the results of the corrected item-total correlation.

**Normality test**

The method used to test for normality was the Kolmogorov-Smirnov test with a significant level of 0.05. Data is normally distributed when the significant value is greater than 0.05 and vice versa. Furthermore, the normality test was also carried out based on the graphical method. Below are the results from the Kolmogorov-Smirnov test:

**Table 4**

*The Kolmogorov-Smirnov Test*

One-Sample Kolmogorov-Smirnov Test		
		Unstandardized Residual
N		83
Normal Parameters <sup>a</sup>	Mean	.0000000
	Std. Deviation	4.32244154
Most Extreme Differences	Absolute	.063
	Positive	.063
	Negative	-.031
Kolmogorov-Smirnov Z		.575
Asymp. Sig. (2-tailed)		.896

**Reliability Test**

The reliability test was carried out using the SPSS Version 23 application along with the *Cronbach's Alpha* formula. When the value of r is greater than 0.6 the instrument was declared reliable, and when less than 0.6 was unreliable. The results of the reliability test are in the table below. E-learning Variable Reliability Test Results (X).



**Table 5**  
*Reliability Statistics*

Cronbach's Alpha	N of Items
.876	15

## Results of Data Analysis and Hypothesis Testing

### Data Analysis

#### *Descriptive Statistical Analysis*

This was carried out by providing an overview of the amount of drinking data, maximum, mean, and standard deviation.

**Table 6**  
*Statistical Analysis*

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Total_X	83	42	81	61.51	8.724
Total_Y	83	26	55	40.54	5.892
Valid (listwise)	N 83				

The table above shows that the e-learning variable (X), the learning quality variable (Y) and the amount of data (N) are 83. The e-learning variable (X) had a mean value of 61.51, with a maximum and minimum value of 81 and 42, while the standard deviation was 8.724. In the learning quality variable, the mean value was 40.58 with a maximum and minimum value of 55 and 26, while the standard deviation was 5.892.

#### *Hypothesis testing*

The t-statistical test shows how much the (own) partial effect of the independent variable (e-learning) has on the dependent variable (quality). When the  $t_{count}$  value is greater than the  $t_{table}$ ,  $H_0$  is rejected and  $H_a$  is accepted and vice versa.

**Table 7**  
*T-Test Results*

Coefficients <sup>a</sup>					
		Unstandardized Coefficients	Standardized Coefficients	t	Sig.
Model		B	Std. Error	Beta	
1	(Constant)	12.314	3.420		3.601 .001
	E-learning	.459	.055	.680	8.337 .000

a. Dependent Variable: Learning quality

Based on the results above, it was revealed that the t-value of the e-learning variable was greater than the t-table value or  $8.337 > 1.989$  with a significant level below 0.05, namely 0.000. Therefore, it is concluded that  $H_0$  is rejected and  $H_a$  is accepted, meaning that there is a positive and significant influence between the e-learning variables on the quality of learning of the Library Science students. Furthermore, the coefficient of determination ( $R^2$ ) was used to measure how capable the model is in explaining the variation in the dependent variable.

**Table 8**  
*Model Summary*

Model	R	R Square	Adjusted Square	R Std. Error of the Estimate
1	.680 <sup>a</sup>	.462	.455	4.349

a. Predictors: (Constant), *E-learning*.  
b. Dependent Variabel: Quality

According to the results of the coefficient of determination (R<sup>2</sup>), it was revealed that the R<sup>2</sup> value is 0.462 = 46.2%. This shows that the percentage of the contribution of e-learning to the learning quality learning of Library Science students is 46.2%. Furthermore, the remaining 53.8% is influenced by other independent variables outside of this study.

## Discussion of Research Results

The use of e-learning strategy in Library and Information Science program has been in existence for a quite long time (Kumbhar, 2009). Based on the results obtained, it shows that e-learning has a strong and positive influence on the quality of learning of the Library Science students at UINSU Medan. A research by Khan & Ahmad (2006) found that e-learning has a positive and significant effect on the quality of learning in student. Furthermore, the more e-learning is used, the better the quality of learning in students.

A research conducted by Islam et.al. (2009) stated that student learning outcomes are influenced by how they make use of the e-learning methods and in optimizing discussion spaces in communities that are directly related to learning. Problems in lectures are usually discussed among students and their lecturers. Therefore, the lecturing process is carried out more effectively with the use of e-learning.

The use of e-learning as a medium for carrying out learning activities has been effective. This was researched by Al-Rahmi & Yusuf (2010) by measuring e-learning acceptance from 7 dimensions which include: perceived usefulness, self-efficacy, learner interface, learning community, students satisfaction, the intention to use e-learning, and its effectiveness. The use of an e-learning media increases student satisfaction in learning and the desire to continue using it. Furthermore, it assists students in lecturing activities such as easiness in obtaining information about lectures, accessing lecture modules or slides, and submitting assignments. Students agreed with the online quiz because it was efficient, while for the e-learning display, they agreed that the design was attractive.

E-learning has a positive influence on the quality of learning of the Library Science students at UINSU Medan. This is in line with the research carried out by Ahmad & Al-Khanjari (2011) which states that the students taught using e-learning media had courage, optimistic and positive attitude which increased their understanding of lecture materials. Furthermore, it improved their quality of learning compared to other students that were taught using conventional learning systems. This system is no longer effective, because the lack of creation in the art of teaching makes students feel bored (Shrivastava et al., 2013)

A positive attitude towards using the e-learning media is formed because students have confidence that this model connects various sources of information that are obtained through the Internet. Furthermore, through the usage of e-learning, access to learning resources have become easier. Quality materials in support of independent learning in the Covid 19 pandemic are an integral part of every teaching process in creating quality learning outcomes (Ferdíánová, 2017).

Based on the results obtained from the coefficient of determination test, e-learning as an independent or influencing variable with a 46.2% level of influence. While the remaining 53.8% is influenced by other independent variables outside of this study. This shows that all e-learning indicators need to be optimized, because they have a positive influence on the quality of learning of the Library Science students at UINSU Medan. In addition, when using e-learning applications, students learn more effectively and efficiently (Ghareb & Mohammed, 2016; Harandi, 2015).

## **Conclusion**

Based on the above results and discussions, it can be concluded that E-learning has a positive and significant effect on the quality of learning.

During the pandemic COVID-19, e-learning has been the main media used in teaching and learning process that allows offside of the campus instruction.

An increase in the quality of the teaching and learning process when using e-learning, actively involves lecturers and students. This means that it is not only students need to be active in using the e-learning media, but teachers also need to be creative in designing the learning process. Students' activity on e-learning media depends very much on teachers' creativity in providing teaching materials, tasks, and other learning activities. Only in such a way will the learning effective for students. Therefore, lecturers and students play an active role in implementing e-learning in the teaching and learning process. It has helped in motivating students to learn and they are capable of studying anywhere at anytime based on how it suits them.

In order to support the effectiveness of learning activities, the university authority needs an in-depth study and design in utilizing e-learning system by setting up policies and regulations to be followed by all academic elements, including faculties, students, and education supporting units. In addition, the university must provide reliable infrastructure and stable Internet connections to maintain the sustainability of the instructional process.

## **List of Abbreviations**

CD-ROM: Compact Disc Random Operating Memory; COVID-19: Corona Virus Desease 2019; DVD: Digital Video Disc; ISO: The International Standards Organization; LMS: Learning Management System; Moodle: **Modular Object-Oriented Dynamic Learning Environment**; UINSU: Universitas Islam Negeri Sumatera Utara Medan, Indonesia

## References

- Ahmad, N., & Al-khanjari, Z. (2011). Effect of Moodle on learning : An Oman perception. *International Journal of Digital Information and Wireless Communications (IJDIWC)*, 1(4), 746–752.
- Ahmad, N., & Al-Khanjari, Z. (2012). Effect of Moodle on learning: An Oman perception. *International Journal of Digital Information and Wireless Communications (IJDIWC)*, 4, 782–788.
- Al-rahmi, W. M., Othman, M. S., & Yusuf, L. M. (2010). The Effectiveness of Using E-Learning in Malaysian Higher Education: A Case Study Universiti Teknologi Malaysia. *Mediterranean Journal of Social Sciences*, 6(5), 625.
- Alifia, U., Barasa, A. R., Bima, L., Pramana, R. P., Revina, S., & Tresnatri, F. A. (2020). *Learning from home: a portrait of teaching and learning inequalities in times of the COVID-19 pandemic*.
- Andersson, A., & Grönlund, Å. (2009). A Conceptual Framework for E-Learning in Developing Countries: A Critical Review of Research Challenges. *The Electronic Journal of Information Systems in Developing Countries*, 38(1), 1–16. <https://doi.org/10.1002/j.1681-4835.2009.tb00271.x>
- Axelsson, J. (2017). *6 Reasons Why eLearning Development Costs Less Than Traditional Training - eLearning Industry*. ELearning Industry.
- Clark, R.C. & Mayer, R. E. (2008). Learning by Viewing Versus Learning by Doing: Evidence-Based Guidelines for Principled Learning Environments. *Performance Improvement*, 47(9), 5–13. <https://doi.org/https://doi.org/10.1002/pfi.20028>
- Clark, R. C., & Mayer, R. E. (2008). e-Learning and the Science of Instruction: Proven Guidelines for Consumers and Designers of Multimedia Learning. In *Learning*. <https://doi.org/10.1002/9781118255971>
- Ferdíánová, V. (2017). GeoGebra Materials for LMS Moodle Focused Monge on Projection. *The Electronic Journal of E-Learning*, 15(3), 259–268.
- Ghareb, M. I., & Mohammed, S. A. (2016). The Effect of E-Learning and the Role of New Technology at University of Research Article The Effect of E-Learning and the Role of New Technology at University of Human Development. *International Journal of Primatology*, 4(April).
- Harandi, S. R. (2015). Effects of e-learning on Students' Motivation. *Procedia - Social and Behavioral Sciences*, 181(October), 423–430. <https://doi.org/10.1016/j.sbspro.2015.04.905>
- Heinich, R., Molenda, M., Russel, J. D., & Smaldino, S. E. (2002). *Instructional Media and Technologies for Learning* (Seventh). Merrill Prentice Hall.
- Islam, M. S., Chowdhury, S., & Islam, M. A. (2009). Lis Education in E-Learning Environment : Problems and Proposal for Bangladesh. *Asia-Pacific Conference on Library & Information Education & Practice*, 519–529.
- Kamsin, A. (2005). Is E-Learning the Solution and Substitute for Conventional Learning? *International Journal of The Computer*, 13(3), 79–89.
- Khan, A. M., & Ahmad, S. (2006). Role of E-Learning in Library and Information Science. *NCIMDiL 2006, December*.
- Kumbhar, R. (2009). Use of E-learning in Library and Information Science Education. *DESIDOC Journal of Library & Information Technology*, 29(1), 37–41. <https://doi.org/10.14429/djlit.29.228>
- Lira, R. P. C., Felix, J. P. F., Chaves, F. R. P., Fulco, E. A. M., de Carvalho, K. M. M., & Zimmermann, A. (2013). E-learning as a complement to presential teaching of blindness prevention: A randomized clinical trial. *Revista Brasileira de Oftalmologia*, 72(1), 34–37. <https://doi.org/10.1590/S0034-72802013000100008>
- Mehta, A., Morris, N. P., Swinnerton, B., & Homer, M. (2019). The Influence of Values on E-learning Adoption. *Computers and Education*, 141. <https://doi.org/10.1016/j.compedu.2019.103617>
- Moule, P. (2007). Challenging the five-stage model for e-learning: a new approach. *Alt-J*, 15(1), 37–50. <https://doi.org/10.1080/09687760601129588>
- Naidu, S. (2006). E-Learning: A Guidebook of Principles, Procedures and Practices. In *E-learning*. Commonwealth Educational Media Center for Asia.
- Prasetyo, S. E. (2019). Pengaruh E-Learning sebagai Pelengkap Pembelajaran terhadap Kepuasan Belajar Mahasiswa di Kota Batam. *Journal of Informatics and Telecommunication Engineering*, 3(1), 94–104.

- Qin, J., Zheng, Q., & Li, H. (2014). A study of learner-oriented negative emotion compensation in e-learning. *Educational Technology and Society*, 17(4).
- Quattrone, F., Borghini, A., Emdin, M., & Nuti, S. (2020). Protecting higher education institutions from COVID-19: insights from an Italian experience. *Journal of American College Health: J of ACH*, 0(0), 1–2. <https://doi.org/10.1080/07448481.2020.1791885>
- Rabinowitz, M., Blumberg, F. C., & Everson, H. T. (2004). The design of instruction and evaluation: Affordances of using media and technology. In *The Design of Instruction and Evaluation: Affordances of Using Media and Technology*. <https://doi.org/10.4324/9781410611376>
- Shrivastava, R., Jain, Y. K., & Sachan, A. K. (2013). Designing and Developing e-Learning Solution: Study of Moodle 2.0. *International Journal of Machine Learning and Computing*, 3(3), 305–308.
- Smaldino, Sharon E.; Russel, James D.; Heinich, Robert; Molenda, M. (1997). *Instructional Technology and Media for Learning*. Pearson Merrill Prentice Hall.
- Syamsuddin, I. A. (2014). Assessing Moodle as Learning Management System Platform for English Course Based TOEFL. *International Journal of Computer Trends and Technology*, 18(6).
- Talidong, K. J. B., & Toquero, C. M. D. (2020). Philippine Teachers' Practices to Deal with Anxiety amid COVID-19. *Journal of Loss and Trauma*, 0(0), 1–7. <https://doi.org/10.1080/15325024.2020.1759225>
- Yaman, S., & Ph, D. (2010). Technology Supported Learning Platform: Moodle Integrated Academic Course. *Turkish Online Journal of Distance Education-TOJDE*, 11(2, April), 146–160.