



## **Indonesia University Student's Perception about Electronic Learning in Covid-19 Era: Literature Systematic Analysis**

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### **ABSTRACT**

This article aims to measure the student's perception about electronic learning in Covid-19 era, causing apprehension, deep changes in education policy. This article used the literature systematic review as the approaches. Searching for literature articles, researchers were primarily collected from Google scholar and Scopus during 2020 to 2021. The research gap highlighted by VOS-viewer software. Matching articles consist of 2 qualitative literature studies with thematic analysis, 1 article used mixed method analysis study, 1 modified pre and post-test experimental control group design paper, and also 1 descriptive research article study through google form link study. The review concluded that electronic learning should have been done by various kinds of supporting application platforms, various learning methods and various self-motivations. The supporting application platforms such as Zoom, Google Classroom, university web, WhatsApp group and virtual libraries. The supporting learning methods such as e-conferences, e-games, e-writing contests and e-libraries action. Some of these self-motivations are self-development and continuous maintenance, self-study, self-awareness, independent learning achievements, as well as blended learning initiatives.

**Keywords :** Learning; Covid-19; Systematic Literature Review.

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### A. Introduction

Spread of the *Covid-19* pandemic is causing apprehension and deep changes for nearly people around the world, the government creates some strategies e.g. doing lockdown and bodily distancing in some Indonesia region (Argaheni, 2020; Setiaji, B., & Dinata, 2020; Shofa, F. M., & Hanik, 2020). This policy has a life impact, including in the education sector (Sakkir, G., Dollah, S., & Ahmad, 2020). It requires full online learning and transforming procedures in learning models from the lecturers. E- learning or electronic educational alternative method is the best key study in the pandemic era (Utama, M. R., Levani, Y., & Paramita, 2020). It uses electronic based learning or device electronic or technology as an assistant with computer and internet based to provides chances for university students to learn productively, and understand the material from lecturers (Indrayana, B., & Sadikin, 2020; Siswati, S., Astiena, A. K., & Savitri, 2020; Walter, A., Hölzle, K., & Ritter, 2002; Yuliafitri, I., & Rivaldi, 2017).

It must run even though in a different way (Sumarliyah, E., Rofiqi, E., & Hamsia, 2021). One of the various *Covid-19* online learning methods conducted by (Hidayah, M. & Hadiyanto, 2021) is virtual learning. It can improve and maintain effective teaching and effective learning activities. Another study concluded that the practice of appropriate technology in learning can increase the effectiveness of the educational process (Limilia, P., & Pratamawaty, 2020). How the Indonesian college student’s perspective about the educational process in the pandemic era is the research questions point in this systematic literature study.

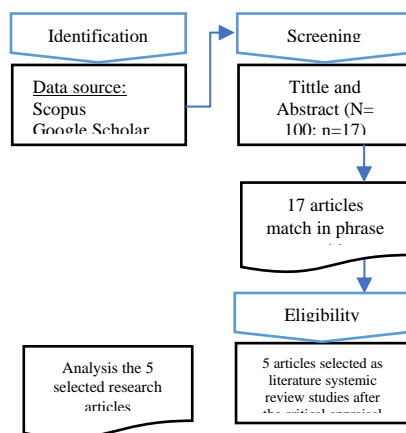
### B. Research Method

The research approach used in this study is a literature systematic review through multiple article literature analysis (Savira, F., & Suharsono, 2020; Sumarliyah, E., Rofiqi, E., & Hamsia, 2021). It was conducted to provide a comprehensive literature (Hidayah, M. & Hadiyanto, 2021; Shofa, F. M., & Hanik, 2020).

The step in this systematic literature review study starts from a checklist of VOS-viewer software. To control the various papers that have been recognized, researchers used two data, Scopus and Google Scholar. A search was conducted from 2020 to 2021 to classify 100 corresponding articles and typed "Indonesian electronic learning in the pandemic era" by way of phrase search. Next, the inclusion criteria in the researchers were all 17 articles that discussed the e-learning method that can be carried out during the Covid-19 pandemic era. The exclusion criteria are articles with the same design, namely literature systematic review. Furthermore, searching for 100 papers was not only restricted to paper journals in language English but also in Indonesia.

### C. Result and Discussion

The result of the articles analysis obtained a total of 17 articles that consisted of five selected article papers. After the life-threatening assessment, the researcher was approved the literature review analysis so that this literature systematic review could be carried out bellow:



**Figure 1.** Article selection for literature systematic review

Figure 1 explained that the step search result for articles based on two data sources, Scopus and Google Scholar found the 100 match articles in title and abstract by PoP screening. Next, the 17 articles were obtained from 100 articles that match in the phrase searching. The result from the VOS-viewer phrase searching of 17 electronic learning in pandemic era found the 17 articles that could be carried out in Figure 2:

id	label	x	y	cluster	weight<Links>	weight<Total link strength>	weight<Occurrences>	score<Avg. pub. year>	
1	di era pandemi	-0.557	-0.0553	1	3	3	4	2020.5	
2	effectiveness	-0.7131	0.0574	4	4	6	4	2020.25	
3	impact	0.7558	-0.0352	2	3	3	4	2020.25	
4	implementation	-0.5448	-0.0139	1	6	7	3	2020.3333	
5	keefektivan kebijakan e learning	1.0645	0.1062	3	1	3	3	2020.6667	
6	learner	0.207	-0.0631	2	2	3	3	2020	
7	masa pandemi covid	0.9156	0.0599	3	5	9	11	2020.5455	
8	model	-0.9254	0.018	1	5	8	7	2020.2857	
9	pandemic	-0.4451	0.0638	4	5	8	6	2020.3333	
10	pandemic era	-0.0483	-0.0565	2	4	6	4	2020.25	
11	pembelajaran online	1.0534	-0.01	3	3	3	4	2020.2	
12	persepsi mahasiswa pialud terhadap kuliah online	-1.248	0.022	1	1	1	1	3	2020.3333
13	problem	-0.0924	-0.0263	1	3	5	4	2020.25	
14	research	-1.0604	0.0174	1	6	9	5	2020.2	
15	teaching	0.8115	-0.0409	2	3	3	3	2020.3333	
16	tengah pandemi covid	1.1172	0.0094	3	2	4	8	2020.375	
17	use	0.5175	-0.0531	2	4	4	5	2020.6	

Figure 2. VOS-viewer articles selection for literature systematic review

Consequently, from 17 articles, the eligible final five articles selected as literature studies after the critical appraisal done by the researcher. The final five articles determine the research literature systematic review analysis. Total of five articles consist of 2 qualitative literature studies with thematic analysis, 1 article used mixed method analysis study, 1 modified pre and post-test experimental control group design paper, and 1 descriptive study through Google Form link study with a total of 362 students as respondents. These several learning methods that were carried out during the Covid-19 Pandemic era had a total of 708 university students as respondents.

The next section, Table 1 will describe the summary of results for literature systematic review analysis. First column contains the author and year. Second column describes the article’s method. The last, the third column describes the summary result. It could be carried out below:

Table 1. Summary of result for literature systematic review

No	Author and year	Study design	Summary result
1	Utama et al., (2020)	Qualitative study with thematic analysis	The result showed that students have a positive perspective associated with performance expectancy of several e-learning platforms. The utilization of e-learning can be done by increasing the cognitive involvement in the learning process. College students who use experiences must be developed and maintained continuously during this Covid-19 Pandemic era. Longitudinal investigations for long-term impact of various specific e-learning methods, assessment and platforms used are also needed.
2	Sakkir et al., (2020)	Mixed method analysis studies Sample: 20 university students Likert Scale to categorized agree or disagree in e-learning process	The current e-learning process is moderate (55%). The use of e-learning media is an absolute necessity. The preferred electronic media, for example WA, Zoom, LMS, Quizizz and Google Classroom were chosen.

No	Author and year	Study design	Summary result
3	Winata et al., (2021)	Literature and documentary reviews  The review was approved by connecting 126 college university bibliognosts merged in the University Public library opportunity	Education in the pandemic era supported Indonesian libraries. They should have experienced a service transformation implementing the well-being procedures, similarly all university public library facilities became cybernetic. There were various tests handled by bibliognosts and operators in resounding the cybernetic actions in the public library.
4	Atmojo et al., (2020)	Modified experimental pre and post-test experimental control group design paper.  Analysed 200 research articles divided four classes  Sample: 200 university students	The e-learning process used the application such as Zoom, Google Classroom, e-learning university web and WhatsApp group supported by self-regulated learning or independent learning (74,59%), self-awareness (75,75%), and learning achievement (74,59%) factor. It concluded that the e-learning process was useful, good categories or maximum.
5	Siswati et al., (2020)	Descriptive research through the google form link  Sample: 362 university students	Cybernetic learning in the pandemic era is very helpful in the education sector. In addition, university students also feel less effective, caused by assignments complaints (55,5%); cost complaints (78,6%); and anxiety (98,6%). The students expect blended learning namely face-to-face and e-learning (80%) for the emotional relationship between students and lecturer. Blended learning for non-formal education needed to be carried out with the discipline of health protocols.

Source data: Scopus and Google Scholar

### **E-learning with suitable application platforms**

Suitable application in e-learning was the most common choice using application platforms such as zoom cloud (Atmojo, S. E., Muhtarom, T., & Lukitoaji, 2020; Sakkir, G., Dollah, S., & Ahmad, 2020; Siswati, S., Astiena, A. K., & Savitri, 2020; Utama, M. R., Levani, Y., & Paramita, 2020; Winata, A. P., Fadelina, R., & Basuki, 2021). The application used requires internet quota which is one of the problems for students who come from underprivileged groups (Rahmawati, A., & Sujono, 2021). Based on the research, e-learning with the application Google classroom also helps students get material even though it is not as good as direct learning (Indrayana, B., & Sadikin, 2020). There were several things that universities needed to consider regarding the use of internet quotas that students must have. They can participate in e-learning application WhatsApp group properly (Mukhalafatun, S., & Hanan, 2020)

### **E-learning with virtual activities**

Virtual learning can be carried out by agencies, especially in terms of university student practice and training that they can improve their skill and psychomotor skill (Siswati, S., Astiena, A. K., & Savitri, 2020; Utama, M. R., Levani, Y., & Paramita, 2020; Winata, A. P., Fadelina, R., & Basuki, 2021). From several research, the result and discussion were found that the use of virtual activities in e-learning can significantly improve

universities student's abilities and skill even though it was done by electronic based learning or using device electronics or technology as an assistant with computer and internet network based (Atmojo, S. E., Muhtarom, T., & Lukitoaji, 2020). Cybernetic discussions, various cybernetic competitions, and cybernetic public library acts to limit bodily physique meetings in one event were considerably wanted. Inappropriately, more than a few of bibliognosts were unskilled to accompany cybernetic actions in the public library (Siswati, S., Astiena, A. K., & Savitri, 2020).

### **E-learning with simulation and self-awareness**

The method to improve communication skill, namely the simulation method provides a good stimulus and a good response to skill changes. It was two types of simulation method (Savira, F., & Suharsono, 2020). The arrangement of mutually cybernetic and offline teaching and replication models (Atmojo, S. E., Muhtarom, T., & Lukitoaji, 2020). Offline and online training simulation can help university students improve their skill according to the expected competencies. The offline simulation method can be used because the students were also not required on standby with internet networks. They also need self-awareness to be more applicable and adaptive students during the *Covid-19* Pandemic era.

### **E-learning with self-motivation**

The level of self-motivation in each student analysed by their self-developed and maintained continuously, independent for learning, self-awareness, self-learning achievement, and so initiative blended learning (Atmojo, S. E., Muhtarom, T., & Lukitoaji, 2020; Sakkir, G., Dollah, S., & Ahmad, 2020; Utama, M. R., Levani, Y., & Paramita, 2020; Winata, A. P., Fadelina, R., & Basuki, 2021). How they can adapt to change the method of educational cybernetics in the pandemic era and still be able to achieve the expected university competencies are the main objective of learning with self-motivation.

## **D. Conclusion**

The literature systematic review concluded that electronic learning should have been done by various kinds of supporting application platforms, various methods and also various self-motivations. The supporting application platforms such Zoom, Google Classroom, university web, WhatsApp group and virtual libraries. Those are various self-motivational tasks handled by students in running the *Covid-19* virus such as self-development and continuous maintenance; self-study, self-awareness, and self-study achievements; and hence the blended learning initiative.

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