The Influence of Online Learning in Improving The Literacy Competence of Primary Teacher Education (PGSD) Students in Universitas Negeri Semarang During The Epidemic Crisis

Barokah Isdaryanti✉, Farid Ahmadi, Sri Sulistyorini, Desi Wulandari

Primary Teacher Education Department, Faculty of Education, Universitas Negeri Semarang, Indonesia

Abstract

Online learning is one of the innovations in education in respond to the development of technology nowadays that is to provide innovative learning source. It allows students to have more flexibility in learning since it can be done whenever and wherever they want it to be. They could interact with the lecturer through applications like e-classroom, video conference, zoom or even chat in whatsapp group. Online learning is also an innovation in education to imprve the literacy competence of students and encourages students to be able to do three critical analysis such as conducting interview, examining the environment, writing report, and doing observation well.This study aims at analyzing the proses of online learning conducted for the PGSD Unnes students and analyzing the influence of the learning on the improvement of their literacy competence throughout the pandemic crisis. The method implemented is mixed method that is conducting both parametric and non-parametric statistic analysis. It is started from quantitative data that is processed and tested using statistics test, continued by analyzing the data using descriptive qualitative method to portray the process and influence of online learning on the improvement of literacy competence of PGSD students during the pandemic. Based on the observation and questionnaire, it could be analyzed how much the students participate in the online larning process and literary activity during the pandemic. The samples in this research are the students of PGSD Universitas Negeri Semarang (UNNES). The data collected from the samples then being analyzed using statistics and descriptive test, presented and concluded.

✉ Correspondence Address :
Kelud Utara 3 kampus Pascasarjana UNNES Semarang, Indonesia
E-mail: barokahisdaryanti@mail.unnes.ac.id

INTODUCTION

In the beginning of 21st century, education was faced with industry 4.0 to 5.0 era when Information Technology was rapidly developed that learning activity was deemed to involve. The biggest influence that IT has contributed to education is the breakthrough on utilizing computer or internet connection to conduct e-learning or online learning (Jusmawati et al., 2020). Learning is the process of interaction and communication between lecturer and the students where the lecturer act as the educator and students as the learner.

According to Gagne, learning is a set of external events designed to support internal learning process, (Gore et al., 2017). Learning activity is an innovation in education to respond to the challenge of providing innovative and variative learning sources.

Work from home (WFH) and learning from hme policy in 2020 or precisely starting on 02 March 2020, Indonesian citizen has experience what they have never expected to happen as the effect of Corona Virus Epidemy (Covid-19). It was due to the announcement issued by the World Health Organization/WHO that Covid 19 is Global Pandemic and demand all governmental institution to Work from Home/WFH as the attempt of Covid 19 Preventing Action in Government Institution Environment. Furthermore, a study by Iwahoni, et al (2017) stated that the role of non-experts in preventing this natural disaster is inevitable. One of the attempts taken is by turning the seismology observatorium into the Museum of Disaster Science through the collaboration between seismologist (expert) and volunteer (non-expert). This attempt also involved elementary school students in the research by installing the miniature of seismometer and socializing LPP theory to expose students to disaster science and discuss the context of "community practice" specifically and substantively.

Education observer from Center of Education Regulations and Development Analysis, Indra stated that based on the findings of international journal by Harvard University, learners who undergo online learning have good literacy and numeracy rate. However, learners in Indonesia is not being used to online learning although based on the research by Harvard University confirmed that students from schools that implement virtual classes have better literacy and numeracy than those with conventional classes. Therefore, the implementation of online learning in Indonesia need to be improved, especially on the three keyfactors of online learning such as infrastructure, infostructure, and infoculture.

Ideally, this change of policy on learning paradigm could serve as the momentum for college students to freely and critically search for information digitally. College students may set their own time in completing their learning target. As the effect, they are expected to be more literate on their own academic needs and more. Yet the reality is different. With the change of learning paradigm, students frequently complain since they are not internally capable in terms of the value, attitude, knowledge, and skill to gain, evaluate, and organize information. The students' internal readiness is also affected by external aspects, facilities of online learning, that require compatible electronic devices. These statements are supported by the research conducted by Ervina Nurjanah confirming that there is a high correlation between digital literacy and e-resources (Nurjanah, Rusmana, & Yanto, 2017).

This research studies anout information literacy, as the essential part of academic culture. Due to the reality of information literacy among college students, the stakeholders in education are required to establish proper policy to develop academic culture that could meet the future challenges. According to Jusmawati et al., (2020) online based learning influenced the learning motivation of students in Elementary School Study Program, Megaresky Unversity. While Fitriyani et al., (2020) stated that Covid 19 pandemic may not help to increase the students' learning motivation however, despite of the lacknesses that is found, online learning the the only option in this situation. Since in such emergency, technology is the only alternative to transfer knowledge from lecturer to college students.

According to Alwasilah (2012:177) literacy learning allows human to functionally read and write, be educated, bright, and able to appreciate literary work. Indeed, the education in Indonesia manages to create educated graduates yet the appreciation ti literary work is still lacking. Meanwhile, the literary competence required in

Higher Education is critical analysis that is conducting interview, examining the environment, observing the environment, writing report or assignment, and conducting observation well. (Widodo, et al 2015:60). While based on the study by Nakayama, et al (2014) not every students will be successful in literacy during online learning, it may be caused by the difference in environment factor and characteristic of learners. One the indicators of success in learning could be seen from the students' motivation in learning (Schunk et al., 2014). The type of media used in online learning could also give positive influence in the literacy competence of students, (Paseleng,2015).

Based on the happening phenomenon and literary study as explained above, it is important for researchers to further study about the improvement of students' literary competence throughout the learning process during the pandemic. This study aims at identifying the online learning process for students of PGSD (Primary Teacher Education) in Universitas Negeri Semarang (UNNES) during the pandemic. The study is expected to provide explanation on how online learning influences the improvement of literacy competence of students as the reference for future studies.

METHOD

The method used in this research is mixed method, since it combines both quantitative and qualitative research. In the first stage, the quantitative data are collected and processed and tested using statistics test. Later, it is continued by collecting and analyzing qualitative data descriptively based on the result of the quantitative data earlier by describing the influence of Online Learning on the Improvement of Literacy Competence of Students in PGSD during the Pandemic Crisis. Based on the observation and questionnaire on the participation and response of students in the process of online learning during the pandemic, howmany students find it difficult throughout the literary process in online learning either when using elena, zoom and whatssapp. Besides, Selain itu, it is also needed to see how many and how difficult are the assignments administered to PGSD students during the pandemic, as well as how big is the influence of online learning on the improvement of literacy competence during the pandemic.

The next stages is collecting data by distributing questionnaire to students, the data were analyzed, presented, and concluded. The technique implemented in collecting the data is survey method that is collecting data or information from the subject lecturer and students.

RESULT AND DISCUSSION

This research used miced method by combining the quantitative and qualitative research. On the initial step, data collection analysis are done for the quantitative data from the statistitcal test, then the data collection and analysis towards the qualitative data, based on the initial result of the quantitative by describing The Influence of Online Learning in Improving The Literacy Competence Of Pgsd Students in Universitas Negeri Semarang During The Epidemic Crisis. Through the observation and questionnaires of how enthusiastic the students in following the online teaching process in the literacy activity during the epidemic crisis. With various questions such as how many students that experienced difficulties in the literacy process in the online teaching using Elena, Zoom and WhatsApp; how many assignments given to the students of PGSD in the epidemic crisis, as well as how much influences of the online teaching on the improvement of literacy competence of the students during the epidemic crisis.

The next phase of the research is done using the data collecting technique through the questionnaire filling that is given to the students. The sample of this research are the students of PGSD of State University of Semarang, then the data analysis, presentation and conclusion drawing are done. The data collecting technique is by the documentation survey, that is sourced or the information is gained from the subject lecturer and the students.

The Online Teaching Process that is Conducted on the Students of PGSD in the Epidemic Crisis

The quality of a teaching process is seen based on three phases, those are planning, conducting, and evaluating. The phases are explained as follow:

Planning

The planning phase is the phase of testing the validity of the teaching teaching resource. The teaching resource that is validated by the expert are the questionnaires, test questions for the literacy competence, the result of the validation recapitulation are:

Table 1. The Result of the Recapitulation for the Validation Test

No	Instrument	Average Score	Category
1	Question of Literacy Competence Test	4.3	Very Good
2	Response from the Questionnaires	4	Good
3	Online Media	3.9	Good

From the Table 1. above, the result of the validity test gained the score of the minimum of good with the lowest average score of 3.9 and the highest of 4.3. Thus, the teaching resource is good to be used for the research.

Conducting

The phase of conducting is seeing the learning accomplishment. The observer fills the form of learning accomplishment by scoring the teaching process. The learning accomplishment is in the score of the minimum category of good. The scoring were conducted in for meetings. The summary of the result of conduct for the online teaching process can be observed on the Table 2 below:

Table 2. Summary of the Scoring for the Conduct of Online Teaching Process

Meeting of Online Teaching	Average Score	Category
1	4	Good
2	4.2	Good
3	4.3	Very Good
4	4.1	Good
5	4.6	Very Good

Table 2 above indicated that the average score that is gained during the online teaching for every meeting. Based on the result of the research, the conduct of teaching for every meeting is in the ategory of good.

Table 3. Recapitulation for the Response from the Students towards the Online Teaching Process

Observation	Average	Category
Response of the Students	88	Very Good

On the Table 3 above, it indicated that the researcher has done the teaching very well and the response of the students seen from the 20 questions using the scale of five with the average score of 88. The evaluation for the online teaching conduct as well as the response of the students is in the category score of very good, so that the conduct phase is classified as qualified.

Evaluating

The evaluating phase is the phase when measuring the literacy competence skill of the students. The literacy competence of the students in the evaluating phase can be observed in the following.

Description for the Result of the Literacy Competence of the Students

The result of the competence is summarized on the table as follow:

Table 4. The Result of Students Literacy

No	Aspect	Result
1	Average	70.39
2	Variances	54.98
3	Standard of Deviation	7.42

On the table above, with the many students that gained the average score for the literacy skill of 70.39, then average score of the class has passed that is 61.5.

The Influence of Online Learning in Towards The Literacy Competence of the Students During The Epidemic Crisis

a. Normality Test

This research used the normality test of Kolmogorov-Smirnov. The summary of the calculation result for the normality test is as follows:

Table 4. Result of Normality Test

Mean	StDev	N	KS	*P-Value*
60,49	7.975	63	0.060	>0,150

From the table above, it is seen that the score of P-Value >0.150>0.05 then the H_0 is accepted. So that it indicated that the literacy skill of the students on the epidemic crisis is normally distributed.

b. Homogeneity Test

The phase of the homogeneity test is done to find out whether the data have the same variances or not. The homogeneity test used is of Levene with the acceptance criteria if the P-Value $\geq$ 0.05, then the H_0 is accepted. The result of the homogeneity test can be observed in the following table.

Table 5. Homogeneity Test

	P-Value Test Equal for Variences	
	Levene's Test	Multiple Comparasions
Data	0.860	0.990

Based on the Table 5 above, on the column of Levene's Test for the Equality of Variances indicated that the P-Value score of 0.860 > 0.05, then the H_0 is accepted. So that the variances of the data is stated to be the same or homogeneous.

Average Similarity Test

The similarity test on the average is taken from the questionnaire of the Google Form that is used to find out whether there is any difference or not. The similarity test used 2 samples t test on the Minitab with the criteria if the score of P-Value $\geq$ 0.05, then the H_0 is accepted. The result of the similarity testing on the average score is as follow:

Table 6. The Summary of Average Similarity Test

	2 sample T-test	
Data	T-Value	P-Value
	0.49	0.643

The result of the similarity test on the average indicated that the score of P-Value of 0.643 > 0.05 so that the H_0 is accepted and the H_a is refused. From the score, it indicated that the presence of The Influence of Online Learning in Improving The Literacy Competence Of PGSD Students During The Epidemic Crisis.

Data Analysis of Qualitative and Quantitative

On the phase of analysis for the mixed data between the qualitative and the quantitative here is done by comparing the qualitative and quantitative result of the research.

The result of the analysis is presented on the following table:

Table 7. The Result of the Analysis for the Quantitative and Qualitative Data of the The Influence of Online Learning in Improving The Literacy Competence of Pgsd Students in Universitas Negeri Semarang During The Epidemic Crisis.

Quantitative	Qualitative	Conclusion
Literacy Competence of the Students	The students with high literacy competence fulfil all aspects for the skill of creative thinking and reading although there is a difference on one of the subjects that is failed to fulfill.	Qualitative data is used to prove, explore, and expand the quantitative data.
The improvement of the literacy competence for the students that passed the KKM (Minimum Score))is higher than 75%.	The students with the literacy competence with the online teaching process only fulfil several aspects of literacy skills, those are fluency, flexibility, and elaboration.	

| Online teaching on the literacy competence of the students of PGSD is better than the one usiong the conventional teaching | The students that followed the online teaching have fulfilled two aspects of the literacy competence of fluency and flexibility. The students in this category are already able to achieve the aspect of detail and authenticity. |
| The influence of online teaching upon the improvement of literacy competence of the students. | The online teaching has the influence towards the literacy competence of the students. |

Teaching is a set of activity that is expected in improving the competence of the students, be it the cognitive, affective, as well as the psychomotoric. According to Hightower (2011), a qualified teaching is a set of activity that can improve the achieved level of the students' competence. In this research, to determine the quality of the online teaching and the influence of online teaching upon the literacy competence of the students in the epidemic crisis, that is through 3 phases of planning, conducting, and evaluating.

The quality of the online teaching process in this research is gained from (1) planning phase that covers the scoring of the teaching resource, (2) the conducting phase that covers the activity process during the online teaching, and (3) the evaluating phase that covers the analysis of the influence of online teaching and the result of the students responses about their opinion towards the online teaching.

Based on the research done by the Iwahori et al., (2017) stated that now is the more important the role of the non-expert in the action of prevention. The education with the base of the theory of the participation of officials when the expert of disaster and the non-expert interacted tightly in mitigating the obstacle. The attempt to alter the seismology observatorium into a museum of disaster science with the collaboration between the seismologist (expert) and the volunteer staffs (non-expert). The attempt to involve the elementary school students in the research of modern seismology by installing the miniature of seismometer in their school. The perspective of mitigating the disaster has entered the new paradigm, from the previous that focused on the activity of emergency responses for the approach of the mitigation and the readiness.

Mitigation and readiness are done on the moment when disaster does not begin. The mitigation of risk of disaster indeed require the involvement and the active participation of the society, especially in planning the construction related to the disaster. So far, most of it are passive object in the construction program that only accept any initiative possible, instead everyone has the right to actively involve in the attempt of mitigating the disaster in their environment (Hidayat & Rasadi, 2020)

CONCLUSION

Online learning process participated by the students of PGSD Unnes during the pandemic crisis is deemed good. The students who give positive responses on the online learning process is reached 75%. In other words, most of the students agree that the online learning is conducted well. Qualitatively, it can be concluded that the proportion of students who achieved the required literacy is more than 75%, online learning is proved to influence the improvement of literacy rate of PGSD Unnes students during the pandemic. Besides, the students manage to achieve the four aspects of literacy competence such as fluency, flexybility, originality and elaboration.

REFERENCES

Alwasilah,A. Chaedar. (2012). Pokoknya Kualitatif. Bandung : PT Dunia Pustaka Jaya.

Azadli & Habibillahi. 2014. "Impact of Teaching critical thinking skills on self-efficacy of nursing and midwifery students".

International journal of psycology and behavioral reseach, 3(2): 96-101.

Aziz, M., Rochmad, & Wijayanti, K. 2015. "Kemampuan Berpikir Kreatif dan Dewi, N. R. & Masrukan. 2018. "Peningkatan Kemampuan Berpikir Kreatif Mahasiswa Program Magister". PRISMA , 1: 539-546.

Bailey, B., T. E. Cooper & K. Briggs. 2012. "The effect of a modified Moore method on attitudes and beliefs in Precalculus". School Science and mathematics, 112(6): 337-383.

Dewi & Masrukan. 2018. "Peningkatan Kemampuan Berpikir Kreatif Mahasiswa Program Magister". PRISMA, 1 : 539-546.

Dwi, P. H., A. M. Akhdiyat, E. P. Setiany & M. Andiarani. 2018. "Kemampuan Berpikir Kreatif Matematik Siswa SMP di Cimahi". Kreano, 9(1): 47-53

E.Nurjana,A.Rusmana,&Yanto. (2017) "Hubungan Literasi Digital dengan Kualitas Penggunaan E-Resources,"Lentera Pustaka:Jurnal Kajian Ilmu Perpustakaan,Informasi dan Kearsipan, Vol 3 (2) : 117-140.

Gore, J., Lloyd, A., Smith, M., Bowe, J., Ellis, H., & Lubans, D. (2017). Effects of professional development on the quality of teaching: Results from a randomised controlled trial of Quality Teaching Rounds. Teaching and Teacher Education, 68, 99–113. https://doi.org/10.1016/j.tate.2017.08.007

Hardyanto, R. H., & Surjono, H. D. 2016. "Pengembangan Dan Implementasi E - Learning Menggunakan Moodle Dan Vicon Untuk Pelajaran Pemrograman Web Di Smk". Jurnal Pendidikan Vokasi, 6(1), 43–53.

Hidayat, B., & Rasadi, A. (2020). *Disaster-based participatory development planning*. *01010*, 2–7.

Hidayat, B., & Rasadi, A. (2020). Disaster-based participatory development planning. 01010, 2–7.

Iwahori, T., Yamori, K., & Miyamoto, T. (2017). Disaster Education Based on Legitimate Peripheral Participation Theory : A New Model of Disaster Science Communication. 38(1), 1–15.

Jusmawati, J., Satriawati, S., Sabillah, B. M., Guru, P., Dasar, S., & Megarezky, U. (2020). Pengaruh Pembelajaran Berbasis Daring Terhadap Minat.

Paseleng, M,C, Arfiyani R. (2015). " Pengimplementasi Media Pembelajaran Berbasis Multimedia Interaktif Pada Mata Pelajaran Matematika di Sekolah Dasar". Sholaria : , Jurnal Pendidikan dan Kebudayaan., 5(2), 131-149.

Penelitian, J. H., Kepustakaan, K., & Pendidikan, B. (2020). Jurnal Kependidikan: 6(2), 165–175.