



Analysis Distance Learning System with Quantitative Descriptive Methods

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ABSTRACT

The COVID-19 pandemic is currently very influential in all fields. One of them is in the field of education, where learning is usually carried out with a Face-to-Face Learning System must be changed to a Distance Learning System (DLS). To solve this problem, you can use various applications such as: Zoom, Google Classroom, Go To Meeting, Cisco Webex Meetings, Google Meet, and others. However, in the implementation of this activity there are still many problems. This study aims to analyze the Distance Learning System using quantitative descriptive methods. Based on the research results, it can be seen how effective the distance learning system that is being carried out now.

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1. Introduction

At the end of 2019 a viral infection was spreading rapidly, the virus is called COVID-19. This virus was first discovered in Wuhan, China. This virus spread rapidly throughout the world. On 11 March 2020 the World Health Organization (WHO) declared COVID-19 a global pandemic [1]. WHO recommends that steps to reduce the spread of Covid-19 are to implement Large-Scale Social Restrictions (LSSR) such as travel restrictions, quarantine, curfew restrictions, limitation of working hours, and closure of public facilities. This pandemic had a negative impact on the social and economic sectors. The education sector is also experiencing significant disruption [2]. In Indonesia, through the Ministry of Education and Culture the government has implemented a Distance Learning System since March 24, 2020. This Distance Learning System is expected to reduce the spread of the COVID-19 Virus [3] - [6].

This research on Distance Learning Systems has been done before with the title "Effectiveness of Online Learning in Pandemic of Covid-19". This research was conducted using a survey method which was conducted online. The results of this study concluded that the Distance Learning System implemented during the pandemic was inefficient because the costs incurred were quite large compared to face-to-face learning [7]. Research on Distance Learning Systems was also conducted under the title "Advantages, Limitations and Recommendations for Online Learning During the Covid-19 Pandemic Era". This study was conducted using a qualitative method using a maximum sampling variation by 12 students of the Faculty of Medicine in Lahore. The results of this study indicate that distance learning is sufficient to provide comfort in the flexibility of learning hours, however, it will reduce students' interactive learning time [8]. Another research entitled "Online Learning Amid the COVID-19 pandemic". This research was conducted using a qualitative method by conducting a survey of students. The results of this study indicate that distance learning is also effective in reducing the spread of the COVID-19 virus. However, in this distance learning, the lecturer cannot properly supervise his students during the learning process. Sometimes there is a weak internet signal interference and internet quota fees are quite expensive [9].

In implementing the Distance Learning System in Indonesia, there are still many obstacles, One of the obstacles faced by Indonesia is the unequal technology facilities in Indonesia. Some remote areas in Indonesia still do not have good internet access [10]. Other than that, teachers also cannot control their students directly at the time of learning, resulting in a lack of communication between teachers and students [11]. The purpose of this study is to analyze the effectiveness of the implementation of the Distance Learning System at the Senior High School / Vocational School level.



2. Methods

This research uses quantitative descriptive method by distributing questionnaires online to 76 Senior High School / Vocational School teachers. The questionnaire was made with several variables for analysis of the Distance Learning System which includes: (1) Teachers' perceptions of the Distance Learning System; (2) Teachers' readiness in terms of ability to use technology; (3) Student interest in learning in Distance Learning Systems; (4) Student readiness in terms of ability to use technology; (5) The efficiency of the Distance Learning System; and (6) Readiness of the school and government in Distance Learning Systems [12]. Then from the results of the questionnaire obtained will be explained descriptively based on the results of the average score of each variable.

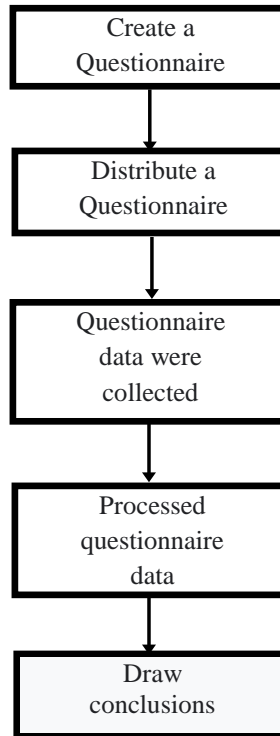


Fig 1. Research Data Analysis Stages

The results of the assessment score on the questionnaire with an average value of 1.00-1.99 are classified as poor interpretation, the average value of 2.00-2.99 is classified in sufficient interpretation, the average value of 3.00-3.99 is classified as good interpretation, the average value of 4.00-5.00 is classified as very good interpretation.

3. Result and Discussion

Based on the results of the questionnaires that have been distributed, the results are shown in Table 1.

TABLE 1

QUESTIONNAIRE ANALYSIS TABLE

Questions	Minimum Score	Maximum Score	Average Score
X1	1	5	3,72
X2	1	4	2,38
X3	1	5	2,47
X4	1	5	2,93
X5	2	5	3,49
X6	1	3	2,05
X7	1	5	2,84
X8	2	5	3,45
X9	2	5	2,97
...
X45	1	4	2,76

The questionnaire was tested for reliability using Alpha Cronbach technique. Obtained an alpha value of 0.91, it can be concluded that the questionnaire data obtained are very consistent [13].

Case Processing Summary			
		N	%
Cases	Valid	76	100.0
	Excluded ^a	0	.0
	Total	76	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.911	.912	45

Fig 2. Reliability Test Results

The data obtained from the first variable is divided into seven indicators, which includes how the perception is in distance learning, how the teacher communicates with students and parents during the distance learning process, the teaching process in testing student understanding and supporting distance learning activities, and guide students to easily understand problems during distance learning. Changing the face-to-face system into a Distance Learning System raises many perceptions among teachers, because previously this system was still very foreign to teachers. By knowing the teacher's perceptions, we can assess the quality of the learning process that is carried out in the Distance Learning System [14]. This first variable has an average value of 3.31 which belongs to the "good" interpretation. So from these results its can be concluded that the teacher's perception of the Distance Learning System is already in a good category.

The data obtained from the second variable is divided into eleven indicators, which include difficulties teachers with distance learning in making learning videos and poor internet connection. Distance Learning Systems require teachers to have good skills in using technology. Because this is very important to make teachers able to guide and maintain student learning achievement does not decline during the Distance Learning System [15]. This second variable has an average value of 3.02 which belongs to the "good" interpretation. So from these results its can be concluded that the readiness of the teacher in terms of the ability to use this technology is already in a good category.

The data obtained from the third variable is divided into seven indicators, which includes the results of the evaluation of student learning in distance learning, how effective the distance learning process is, how many obstacles that the students face in distance learning. Students' interest in learning is a major factor in determining student achievement. Here, good cooperation between parents and teachers are needed to motivate and maintain students' interest in learning in the distance learning process [16]. This third variable has an average value of 2.85 which is classified in the "adequate" interpretation. So from these results its can be concluded that the students' interest in learning in Distance Learning Systems is still in the sufficient category.

The data obtained from the fourth variable is divided into five indicators which include student barriers in following the online learning process and online assignment collection. Students must have the ability to use technology well in the Distance Learning System.

This fourth variable has an average value of 2.79 which is classified in the "adequate" interpretation. So from these results its can be concluded that the readiness of students in terms of ability to use this technology is still in the sufficient category.

The data obtained from the fifth variable is divided into 12 indicators, which includes the ease of delivery of material, assignment, is done the regular tests, as well as conducting inter-teacher discussions with parents of students through the distance learning process. distance Learning Systems have the advantage of being very flexible in terms of time and location, this system is also very useful in reducing the spread of the COVID-19 virus [17] [18]. This fifth variable has an average value of 3.30 which belongs to the "good" interpretation. So from these results its can be concluded that the efficiency of the Distance Learning System is already in a good category.

The data obtained from the sixth variable is divided into three indicators which include training,

monitoring and evaluation from the school and government. This sixth variable has an average value of 3.96 which belongs to the "good" interpretation. So from these results it can be concluded that the readiness of the school and government in the Distance Learning System is already in a good category.

This shows that Senior High School / Vocational School teachers are very ready to implement the Distance Learning System. The school and government are also very ready to implement this Distance Learning System. This Distance Learning System is also considered to be very efficient in its use. However, students' interest in implementing Distance Learning Systems must receive attention from the school and government. This lack of students' interest is caused by the students' poor ability to use technology. A learning system that is simple and attractive must be made so that students do not feel complicated in carrying out distance learning.

4. Conclusion

From the research that has been done, there are four variables that have an average score of ≥ 3.00 which are classified as good interpretations. This variable is the teacher's perception of the Distance Learning System, the readiness of teachers in terms of ability to use technology, The efficiency of Distance Learning Systems, readiness of the school and government in the Distance Learning System. The two variables have an average score below 3.00 and have not shown good results, these variables are students' interest in learning in Distance Learning Systems and readiness of students in terms of ability to use technology.

5. References

- [1] M. Suryaman *et al.*, "COVID-19 pandemic and home online learning system: Does it affect the quality of pharmacy school learning?," *Syst. Rev. Pharm.*, vol. 11, no. 8, pp. 524–530, 2020, doi: 10.31838/srp.2020.8.74.
- [2] I. C. Technology, "唐跃桓 1 杨其静 1 李秋芸 2 朱博鸿 3," vol. 1, no. 2, pp. 75–94, 2020.
- [3] A. Lie, S. M. Tamah, I. Gozali, K. R. Triwidayati, T. S. D. Utami, and F. Jemadi, "Secondary School Language Teachers' Online Learning Engagement During the Covid-19 Pandemic in Indonesia," *J. Inf. Technol. Educ. Res.*, vol. 19, pp. 803–832, 2020, doi: 10.28945/4626.
- [4] Rasmitadila *et al.*, "The perceptions of primary school teachers of online learning during the covid-19 pandemic period: A case study in Indonesia," *J. Ethn. Cult. Stud.*, vol. 7, no. 2, pp. 90–109, 2020, doi: 10.29333/ejecs/388.
- [5] R. S. Putri, A. Purwanto, R. Pramono, M. Asbari, L. M. Wijayanti, and C. C. Hyun, "Impact of the COVID-19 pandemic on online home learning: An explorative study of primary schools in Indonesia," *Int. J. Adv. Sci. Technol.*, vol. 29, no. 5, pp. 4809–4818, 2020.
- [6] A. N. Bahasoan, Wulan Ayuandiani, Muhammad Mukhram, and Aswar Rahmat, "Effectiveness of Online Learning In Pandemic Covid-19," *Int. J. Sci. Technol. Manag.*, vol. 1, no. 2, pp. 100–106, 2020, doi: 10.46729/ijstm.v1i2.30.
- [7] O. Learning and I. Technology, "Online Learning amid the COVID-19 Pandemic : A Case Study of the State Islamic University of," vol. 14, no. 2, pp. 265–277, 2021, doi: 10.21580/nw.2020.14.2.6639.
- [8] K. Mukhtar, K. Javed, M. Arooj, and A. Sethi, "Advantages, limitations and recommendations for online learning during covid-19 pandemic era," *Pakistan J. Med. Sci.*, vol. 36, no. COVID19-S4, pp. S27–S31, 2020, doi: 10.12669/pjms.36.COVID19-S4.2785.
- [9] A. Sadikin and A. Hamidah, "Pembelajaran Daring di Tengah Wabah Covid-19," *Biodik*, vol. 6, no. 2, pp. 109–119, 2020, doi: 10.22437/bio.v6i2.9759.
- [10] B. M. Batubara, "The Problems of the World of Education in the Middle of the Covid-19 Pandemic," pp. 450–457, 2020.
- [11] H. Haiyudi and S. Art-In, "Challenges, Strategies, and Solutions of Teaching Bahasa Indonesia in Covid-19 Crises: Case in Khon Kaen University," *Indones. J. Learn. Adv. Educ.*, vol. 3, no. 2, pp. 142–152, 2021, doi: 10.23917/ijolae.v3i2.12369.
- [12] S. Y. Simanjuntak, I. H. Dwimawanti, and M. A. Hidayatullah, "Respons Guru Terhadap Kebijakan Pembelajaran Jarak Jauh Selama Pandemi Covid-19," *J. Ilm. Pendidik. Citra Bakti*, vol. 7, no. 2, p. 135, 2020.
- [13] L. Amanda, F. Yanuar, and D. Devianto, "Uji Validitas dan Reliabilitas Tingkat Partisipasi Politik Masyarakat Kota Padang," *J. Mat. UNAND*, vol. 8, no. 1, p. 179, 2019, doi: 10.25077/jmu.8.1.179-188.2019.
- [14] Marzoan, "Studi Eksploratif Persepsi Guru Terhadap Kebijakan Belajar Dari Rumah Pada Masa Pandemi Covid-19," *J. Ilm. Mandala Educ.*, vol. 6, no. 2, pp. 200–207, 2020, [Online]. Available: <http://ejournal.mandalanursa.org/index.php/JIME/index>.
- [15] Purnamawati and A. Arfandi, "Teachers Ability on Information and Communication Technology in Industry 4.0 Era," vol. 481, no. Icest 2019, pp. 161–164, 2020, doi: 10.2991/assehr.k.201027.034.
- [16] S. Maulidina and Y. B. Bhakti, "Pengaruh Media Pembelajaran Online Dalam Pemahaman Dan Minat Belajar Siswa Pada Konsep Pelajaran Fisika," *ORBITA J. Kajian, Inov. dan Apl. Pendidik. Fis.*, vol. 6, no. 2, p. 248, 2020, doi: 10.31764/orbita.v6i2.2592.
- [17] R. Andrianto Pangondian, P. Insap Santosa, and E. Nugroho, "Faktor - Faktor Yang Mempengaruhi Kesuksesan Pembelajaran Daring Dalam Revolusi Industri 4.0," *Sainteks 2019*, pp. 56–60, 2019, [Online]. Available: <https://seminar-id.com/semmas-sainteks2019.html>.

- [18] M. Turnip, Pipin, S. Aisyah, A. C. Sembiring, and E. Murniarti, "Decision Support System of Teacher Performance Assessment with Smart Method," *J. Phys. Conf. Ser.*, vol. 1361, no. 1, 2019, doi: 10.1088/1742-6596/1361/1/012066.

