

The Effect of Distance Learning in an Online Learning Framework on Student Learning Independence during the Covid-19 Pandemic

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Abstract—This study aims to determine whether or not distance learning affects the independence of students during a pandemic to reduce the spread of the Covid-19 virus in Indonesia which uses quantitative research. The subjects of this study were upper-class elementary school students in the coastal and mountainous areas of Malang Regency, Indonesia. Data collection using a questionnaire instrument which analysis with descriptive data analysis and regression with IBM SPSS Statistic 20. The result of this study shows that there is a significant effect of distance learning on the learning independence of students in public elementary schools in the coastal and mountainous areas of Malang Regency, Indonesia.

Keywords—distance learning, independent learning, online learning, Covid-19 pandemic

I. INTRODUCTION

The Covid-19 pandemic that has lasted several months in Indonesia has changed the order of life in the country from before, including the process of providing education. Following the Circular of the Minister of Education and Culture Number 2 of 2020 and Number 3 of 2020 concerning the Prevention and Management of Corona Virus Disease (Covid-19), learning is carried out online and working from home [1]. This policy is intended to prevent and reduce the spread of Covid-19. This condition requires that many educational institutions at the primary, secondary and tertiary levels be responsive to this phenomenon [2].

Especially for basic education which is carried out in a guided manner where students are not yet fully able to learn independently, it will certainly have a certain impact both in the process and on learning outcomes. Following the policies discussed earlier, one of the ten points formulated from the learning policy during the pandemic is an instruction to convert face-to-face learning into distance learning [3]. This policy is also based on suggestions from the World Health Organization (WHO) to temporarily stop activities that have the potential to cause crowds. These various considerations then become the basis for making "temporary scenarios" of learning in Indonesia related to the application of conventional education (face to face) to distance learning (learning from home), which means that there will be no crowds and physical contact between individuals [4].

Regarding the use of technology and the expected results, the process of working on distance education also has advantages and disadvantages. The weaknesses include the readiness of human resources, both educators and students, the facilities or infrastructure used are inadequate, namely the incomplete internet network, high internet quota which is a burden to many parties, many teachers or students do not have smartphones, and others [5]. While the advantages are the flexibility of learning, that is, there is no limit to space and time, students can learn anytime and anywhere, as well as the use of IT with various learning facilities that have been developed in the form of learning management systems, forms or online quizzes from complex to simple applications. according to the characteristics of today's digital generation [6].

Online distance learning is expected to emphasize more students' thoroughness and foresight in receiving, processing, and implementing information presented online (based on technology and communication). Accuracy and foresight are defined as forms of student independence in carrying out the learning process. Independent learning is a learning activity that does not depend on others where these students have their ideas and initiatives to determine goals, methods, learning resources, and evaluation of learning outcomes, and are responsible for themselves [7]. On the other hand, it was also stated by Panen that students who can learn independently are students who can control themselves, have high learning motivation, and believe that they have broad and flexible insights [8]. Apart from having the ability to control themselves well, students must also have a high motivation to learn to have good independence.

This distance learning is indeed a challenge for education practitioners and the government regarding readiness to carry out the distance education process online. Especially the geographical condition of Indonesia which consists of thousands of islands, of which thousands of them also have difficulty accessing online materials. Likewise for elementary school-age students whose learning must be guided so that educational institutions must implement various strategies and media so that students learn online. This is a must for schools of all levels [9]. Seeing this fact, researchers are interested in

researching the coastal and mountainous areas of Malang Regency regarding the relationship of distance learning with students' independent learning during a pandemic in the coastal and mountainous areas of Malang Regency.

II. METHOD

This research was conducted in coastal and mountainous areas in Malang Regency. The coastal areas of the research location are Tambakasri 3 State Elementary School and Tambakasri 9 State Elementary School Sumbermanjing South Malang. While the mountainous areas are Wiyurejo 1 Public Elementary School and Wiyurejo 2 Public Elementary School, Pujon District, Malang Regency. The number of samples used in this study was 150 students using the random sampling method. Based on the research objectives, this study uses a quantitative approach to determine the effect of two variables in this study, namely distance learning and student learning independence.

To determine the effect of these two variables, a questionnaire data collection technique was used in the form of research instruments for respondents. The research data were analyzed using descriptive analysis and regression [10]–[12]. Descriptive analysis is used to describe the mean, standard deviation, range, minimum and maximum scores. Meanwhile, regression analysis is used to determine the effect between variable *x* (distance learning) and variable *y* (independent learning). The data analysis process of this research uses the assistance of the IBM SPSS Statistic 20 program.

III. RESULT

Based on the research design, it was obtained data related to measuring the effect of distance learning (*X1*) with the learning independence of elementary school students (*Y*). Distance learning variable frequency data (*X1*) is presented as follows in Table 1.

TABLE I. VARIABLE FREQUENCY DISTRIBUTION *X1*

Category	Interval	Frequency	Percentage
Very Low	4 – 9	8	5.3
Low	9.01 – 14.01	100	66.7
High	14.02 – 19.02	36	24.0
Very High	19.03 – 24.02	6	4.0
N (Total)		150	100

Based on the description of the distance learning variable frequency (*X1*), a descriptive analysis was carried out with the following results. First, the mean distance learning variable data was obtained at 13.56. Second, the standard deviation of distance learning variable data obtained at 2.76. Third, the range of distance learning variable data was obtained at 16 with a maximum score is 22 and a minimum score is 6. Next, the results of the data description of the student learning independence variable (*Y*) is presented as follows in Table 2.

Based on the description of the student learning independence variable (*Y*), a descriptive analysis was carried out with the following results. First, the mean student learning independence variable data was obtained at 23.57. Second, the standard deviation of student learning independence variable

data obtained at 3.03. Third, the range of distance learning variable data was obtained at 16 with a maximum score is 32 and a minimum score is 16. From the data descriptions described, regression analysis was carried out to determine the effect and magnitude of the effect caused by one predictor variable (*X1*) on one criterion variable (*Y1*).

TABLE II. VARIABLE FREQUENCY DISTRIBUTION *Y*

Category	Interval	Frequency	Percentage
Very Low	8 – 14	0	0
Low	14,01 – 20,01	15	10,0
High	20,02 – 26,02	119	79,3
Very High	26,03 – 32,02	16	10,7
N (Total)		150	100

TABLE III. REGRESSION ANALYSIS RESULT

Model	Sum of Squares	df	Mean Square	F	Sig.	
1	Regression	129.430	1	129.430	15.356	.000a
	Residual	1247.403	148	8.428		
	Total	1376.833	149			

a. Predictors: (Constant), *X*

Based on the results of regression analysis at Table 3, the significance value of the correlation test is $0.000 < 0.050$, so that the hypothesis which states that there is a significant effect of distance learning on the learning independence of elementary school students in coastal and mountainous areas of Malang Regency is accepted. The results of the study concluded that there was a significant effect of distance learning on the learning independence of students in State Elementary Schools in the coastal and mountainous areas of Malang Regency.

IV. DISCUSSION

Distance learning during the Covid-19 emergency was carried out online. This online learning is a system that can facilitate students to learn more widely [13]. Through online learning, it is hoped that students can learn anytime and anywhere. Learning material can also be conveyed in a variety of ways, not only verbally but also visually and in motion. On the other hand, online learning is instructional content or learning experiences that make it possible to take advantage of electronic technology [14]. Distance learning is also more flexible to implement because it is not limited to distance, space, and time as previously stated.

This system has several characteristics, namely the dimensions of learning, namely: (1) it can be implemented anywhere and anytime; (2) students can find out whatever they want; (3) learning resources can come from the teacher directly or can be obtained from any electronic media source; (4) the teacher has flexibility in determining the schedule for implementing learning; and (5) learning outcomes are more flexible [15]. This dimension is a supporting explanation that shows the influence between distance learning and student independence because it is more flexible for students to manage their learning activities.

Students as individuals who learn besides focusing on their learning outcomes also need to be involved in the learning process. Student involvement will form learning habits with their respective characteristics to achieve learning efficiency and effectiveness. One indicator of this habit is the independence of students in learning. More specifically for elementary school-aged students in the range of 7-12 years according to their development period in concrete operations [16], students need to be guided through examples and habituation in building themselves. Learning independence needs to be instilled from an early age [17], especially in online distance learning, which pre-empts students' awareness to learn even though it is still accompanied by teachers and parents or commonly called guided learning for elementary school-age [18].

Regarding the results of this study, previous research also shows that independent learning is one of the main responsibilities of students in making plans, implementing things, and providing an evaluation of the efforts that have been made [19]. The same thing was expressed that learning independence needs to be given to students so that students have the responsibility to manage and train self-discipline to develop learning abilities on the initiative and willingness of students themselves [20]. Apart from fostering a sense of responsibility, independent learning also contributes to fostering students' internal motivation.

Motivation plays a very important influence in the implementation of distance education for each individual, both from the teacher and student side. This motivation will have an impact on the material presented by the teacher to be maximally absorbed by these students [21]. As the advantages of online learning itself in distance. This is also related to different viewpoints related to the factors that affect the learning independence of students, namely internal factors and external factors [22]. Internal factors such as hereditary conditions and body structure from birth with all the equipment that accompanies them. While external factors, namely all conditions or influences that come from outside such as values, habits, and surrounding social conditions. In this study, distance learning with its various facilities acts as an external factor of students that affects learning independence as an internal factor of students as learning individuals.

From this research, it is concluded that there is a significant effect of distance learning on students' learning independence. Apart from the discussion of various factors that influence student learning, the results of this study are in line with Kuo's research which states that online distance learning is more student-centered so that it can create student responsibility and independence in learning [23]. Online learning requires students to prepare their learning, organize, and evaluate as well as maintain their learning motivation and can eliminate the feeling of nodding so that students can express their thoughts and ask questions freely [24]. The results of other research from Sudiana, Fatah, and Khaerunnisa also found that students in classes who use virtual classes have a better tendency towards indicators of learning initiatives, diagnosing learning needs, selecting and implementing learning strategies, monitoring, managing, and controlling, viewing difficulty as a challenge, utilizing and finding relevant sources, evaluating the process and learning outcomes, and self-concept which is a sub-indicator of student learning independence [25].

These advantages of online learning are used as a reference for research conducted to explore the effects of distance learning on student learning independence. Following the results of research by Nugraheni & Dina which explains that there is a significant influence between the application of e-learning on independence and student interest in natural sciences learning insight and learning [26]. This influence more clearly shows that the characteristics of e-learning allow students to no longer depend on lecturers but can learn from various sources so that it is hoped that student learning independence will increase. This independent learning is then expected to have a positive impact on elementary school-age students from an early age in building processes and creating effective and efficient learning outcomes.

The challenge of online learning is how teachers instill in students the hidden curriculum values [27], such as teamwork, honesty, responsibility, and mutual respect [28]. It takes reliable learning leadership in the principal, as the education leader in the school [29], [30]. Effective learning management is the key to successful online learning [31], [32]. The teacher in giving assignments to students must also pay attention to the condition of the students so that the assignments given are proportional, there are not many assignments, also not a few assignments. Professional teachers can design useful and meaningful learning for their students [33].

V. CONCLUSION

The results showed that there was a significant influence between distance learning and independent learning of State Elementary School students in the coastal and mountainous areas of Malang Regency. Distance learning has the advantage of being flexible so that it is easier for students to learn with the guidance of teachers and parents. Online distance learning requires student learning independence as a predictor variable which is proven to have an influential relationship in the student learning process.

REFERENCES

- [1] R. 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, p. 90, Jul. 2020, doi: 10.29333/ejecs/388.
- [2] I. Fauzi and I. H. Sastra Khusuma, "Teachers' Elementary School in Online Learning of COVID-19 Pandemic Conditions," *ji*, vol. 5, no. 1, pp. 58–70, Jun. 2020, doi: 10.25217/ji.v5i1.914.
- [3] M. Mailizar, A. Almanthari, S. Maulina, and S. Bruce, "Secondary School Mathematics Teachers' Views on E-learning Implementation Barriers during the COVID-19 Pandemic: The Case of Indonesia," *EURASIA J Math Sci Tech Ed*, vol. 16, no. 7, p. em1860, May 2020, doi: 10.29333/ejmste/8240.
- [4] S. Kushner Gadarian, S. W. Goodman, and T. B. Pepinsky, "Partisanship, Health Behavior, and Policy Attitudes in the Early Stages of the COVID-19 Pandemic," *SSRN Journal*, 2020, doi: 10.2139/ssrn.3562796.
- [5] A. Latip, "Peran Literasi Teknologi Informasi Dan Komunikasi Pada Pembelajaran Jarak Jauh di Masa Pandemi Covid-19," *EduTeach: Jurnal Edukasi dan Teknologi Pembelajaran*, vol. 1, no. 2, Jun. 2020.
- [6] A. D. Dumford and A. L. Miller, "Online learning in higher education: exploring advantages and disadvantages for engagement," *J Comput High Educ*, vol. 30, no. 3, pp. 452–465, Dec. 2018, doi: 10.1007/s12528-018-9179-z.
- [7] A. Susilowati, "Pengaruh PBL terhadap Kemandirian Belajar Siswa SD," *IJPE*, vol. 2, no. 1, p. 72, Sep. 2018, doi: 10.17509/ijpe.v2i1.9392.
- [8] P. P. Belajar Mandiri (Mengajar di Perguruan Tinggi). Jakarta: PAU-PPAI Dirjen Dikti Depdikbud., 2000.

- [9] J. Weidlich and T. J. Bastiaens, "Technology Matters – The Impact of Transactional Distance on Satisfaction in Online Distance Learning," *IRRODL*, vol. 19, no. 3, Jul. 2018, doi: 10.19173/irrodl.v19i3.3417.
- [10] J. W. Creswell, *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. Thousand Oaks, CA: Sage publication, 2017.
- [11] I. Gunawan, *Metode Penelitian Kualitatif: Teori dan Praktik*. Jakarta: PT Bumi Aksara, 2004.
- [12] I. Gunawan, *Pengantar Statistika Inferensial*. Jakarta: Rajawali Pers, 2017.
- [13] C. Riyana, *Konsep Pembelajaran Online*. Bandung: Rineka Cipta, 2020.
- [14] N. Capdeferro and M. Romero, "Are online learners frustrated with collaborative learning experiences?," *IRRODL*, vol. 13, no. 2, p. 26, Apr. 2012, doi: 10.19173/irrodl.v13i2.1127.
- [15] Z. Zaharah and G. I. Kirilova, "Impact of Corona Virus Outbreak Towards Teaching and Learning Activities in Indonesia," *SJSBS*, vol. 7, no. 3, Mar. 2020, doi: 10.15408/sjsbs.v7i3.15104.
- [16] J. W. Santrock, *Psikologi Pendidikan*. Jakarta: Salemba Humanika, 2014.
- [17] L. Darling-Hammond, L. Flook, C. Cook-Harvey, B. Barron, and D. Osher, "Implications for educational practice of the science of learning and development," *Applied Developmental Science*, vol. 24, no. 2, pp. 97–140, Apr. 2020, doi: 10.1080/10888691.2018.1537791.
- [18] I. Hidayah and Sugiarto, "Model of Independent Working Group of Teacher and its Effectiveness towards the Elementary School Teacher's Ability in Conducting Mathematics Learning," *Procedia - Social and Behavioral Sciences*, vol. 214, pp. 43–50, Dec. 2015, doi: 10.1016/j.sbspro.2015.11.591.
- [19] D. Dewantara, M. Wati, Misbah, S. Mahtari, and S. Haryandi, "Blended Learning to Improve Learning Outcomes in Digital Electronics Courses," presented at the 1st South Borneo International Conference on Sport Science and Education (SBICSSE 2019), Banjarmasin, Indonesia, 2020, doi: 10.2991/assehr.k.200219.054.
- [20] A. Ana and Y. Achdiani, "Penerapan Self Regulated Learning Berbasis Internet Untuk Meningkatkan Kemandirian Belajar Mahasiswa," *INVOTEC*, vol. 11, no. 1, Jan. 2017, doi: 10.17509/invotec.v11i1.4835.
- [21] E. Warti, "Pengaruh Motivasi Belajar Siswa terhadap Hasil Belajar Matematika Siswa di SD Angkasa 10 Halim Perdana Kusuma Jakarta Timur," *Mosharafa*, vol. 5, no. 2, pp. 177–185, Aug. 2018, doi: 10.31980/mosharafa.v5i2.273.
- [22] S. E. Haryono, H.- Anggraini, and S.- Muntomimah, "Pengaruh Pola Asuh Orang Tua Terhadap Kemandirian dan Kemampuan Regulasi Emosi Anak Usia Dini," *j. warn. j. pendidik. dan. pembelajaran.*, vol. 3, no. 1, pp. 1–10, Apr. 2018, doi: 10.24903/jw.v3i1.204.
- [23] Y.-C. Kuo, A. E. Walker, K. E. E. Schroder, and B. R. Belland, "Interaction, Internet self-efficacy, and self-regulated learning as predictors of student satisfaction in online education courses," *The Internet and Higher Education*, vol. 20, pp. 35–50, Jan. 2014, doi: 10.1016/j.iheduc.2013.10.001.
- [24] S. Y. H. Sun, "Learner perspectives on fully online language learning," *Distance Education*, vol. 35, no. 1, pp. 18–42, Jan. 2014, doi: 10.1080/01587919.2014.891428.
- [25] R. Sudiana, A. Fatah, and E. Khaerunnisa, "Kemandirian Belajar Mahasiswa Melalui Pembelajaran Berbasis Virtual Class," *JPPM*, vol. 10, no. 1, 2017.
- [26] A. R. E. Nugraheni and D. Dina, "Pengaruh Penerapan Pembelajaran E-Learning Terhadap Kemandirian dan Minat Belajar Mahasiswa Pada Mata Kuliah Wawasan Dan Kajian MIPA," *Educ. Sci.*, vol. 9, no. 1, Jun. 2017, doi: 10.15408/es.v9i1.5458.
- [27] I. Gunawan et al., "Hidden Curriculum and Character Building on Self-Motivation based on K-means Clustering," in 2018 4th International Conference on Education and Technology (ICET), Malang, Indonesia, Oct. 2018, pp. 32–35, doi: 10.1109/ICEAT.2018.8693931.
- [28] I. Gunawan, "Improving disaster response through disaster simulation," *Int. J. Innov. Creat. Chang*, vol. 5, no. 4, 2019.
- [29] I. Bafadal, A. Nurabadi, A. Y. Sobri, and I. Gunawan, "The Competence of Beginner Principals as Instructional Leaders in Primary Schools," *Int. J. Innov. Creat. Chang*, vol. 5, no. 4, pp. 625–639, Aug. 2020.
- [30] R. B. Sumarsono, T. Triwiyanto, D. E. Kusumaningrum, and I. Gunawan, "Opportunities for the Implementation of School-Based Management in the Eastern Area of Indonesia," *Int. J. Innov. Creat. Chang*, vol. 5, no. 4, pp. 180–196, 2019.
- [31] D. E. Kusumaningrum, R. B. Sumarsono, and I. Gunawan, "Professional Ethics and Teacher Teaching Performance: Measurement of Teacher Empowerment with a Soft System Methodology Approach," *International Journal of Innovation, Creativity and Change*, vol. 5, no. 4, pp. 611–624, 2019.
- [32] B. B. Wiyono, D. E. Kusumaningrum, I. Gunawan, and M. Ardiansyah, "Implementation of School Management Based on a Balanced Scorecard and its Relationship with Headmaster Attributes in Indonesia," *Int. J. Innov. Creat. Chang*, vol. 5, no. 4, pp. 164–179, 2019.
- [33] B. B. Wiyono, D. E. Kusumaningrum, T. Triwiyanto, R. B. Sumarsono, A. V. Valdez, and I. Gunawan, "The Comparative Analysis of Using Communication Technology and Direct Techniques in Building School Public Relation," in 2019 5th International Conference on Education and Technology (ICET), Malang, Indonesia, Oct. 2019, pp. 81–86, doi: 10.1109/ICET48172.2019.8987220.