Online Learning Supporting Tools: An Analysis the Impact of Supporting Tools During the Pandemic of Covid-19 on Student Achievement

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A B S T R A K

Penyebaran virus Covid-19 yang berlangsung sejak tahun 2019 mengakibatkan beberapa kegiatan yang biasanya dilakukan secara langsung atau tatap muka menjadi online. Peralihan dari pembelajaran luring ke pembelajaran daring membuat guru atau siswa harus memiliki alat pendukung (supporting tools) untuk terhubung. Tujuan penelitian ini adalah untuk menganalisis supporting tools pembelajaran daring, prestasi belajar siswa, dan untuk mengetahui pengaruh supporting tools pada pembelajaran daring terhadap prestasi belajar siswa di SD Negeri 12 Malaka pada masa Pandemi Covid-19. Penelitian ini menggunakan teknik ex-post facto dan pendekatan kuantitatif. Peserta uji coba ini adalah siswa kelas IV, V, dan VI yang berjumlah 30 siswa. Purposive sampling digunakan untuk mengumpulkan sampel untuk penelitian ini. Informasi yang dikumpulkan yaitu melalui survei dan dokumentasi. Sebelum melakukan uji analisis data, terlebih dahulu dilakukan uji analisis prasyarat, uji normalitas dan linieritas. Hasil uji normalitas menunjukkan bahwa data berdistribusi normal. Kemudian, hasil uji linearitas menunjukan ada korelasi langsung antara prestasi belajar siswa dengan supporting tools pembelajaran online. Berdasarkan hasil uji hipotesis didapatkan variabel prestasi belajar siswa dipengaruhi secara signifikan oleh variabel supporting tools pembelajaran online. Disimpulkan bahwa supporting tools pembelajaran online dapat meningkatkan prestasi belajar siswa.

A B S T R A K

The spread of the Covid-19 virus, which has taken place since 2019, has resulted in several activities that are usually carried out in person or face to face to go online. The transition from offline learning to online learning requires teachers or students to have supporting tools to connect. This study aimed to analyze online learning supporting tools and student achievement and determine the effect of online learning supporting tools on student achievement at SD Negeri 12 Malacca during the Covid-19 Pandemic. This study uses ex-post facto techniques and a quantitative approach. Participants in this trial were students of grades IV, V, and VI, totaling 30 students. Purposive sampling was used to collect samples for this study. The information collected is through surveys and documentation. Before the data analysis test, prerequisite analysis tests, normality, and linearity tests were first carried out. The results of the normality test show that the data is normally distributed. Then, the results of the linearity test show that there is a direct correlation between student achievement and online learning support tools. Based on the hypothesis test results, it was found that the online learning supporting tools variable significantly influenced the student achievement variable. It was concluded that online learning supporting tools could improve student achievement.

1. INTRODUCTION

The Coronavirus Disease pandemic that has been going on since 2019 is still happening today. This pandemic, which has occurred almost all over the world, attack regardless of age so that anyone can

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be infected (Pratama & Mulyati, 2020; Shaik Alavudeen et al., 2021). The Covid-19 pademic has had an impact on many daily activities. All activities that caused individuals to congregate, such as attending school, working, worshipping, and so on, were prohibited at the time this virus first emerged. To lessen the number of patients exposed to Covid-19, the government has made a call for people to work, study, and practice their religion from home (Cairns et al., 2022; Gesú & González, 2020; Hamid et al., 2020; Meng et al., 2020). The Central Government claimed that by implementing the New Normal policies, society would be productive and safe from Covid-19. Existence of this policy provides a little leeway in those businesses that were previously prohibited because they could trigger the spread of Covid - 19 had given policies to run on the condition that they comply with health protocols (Muhyiddin, 2020; Rosidi & Nurcahyo, 2020). The New Normal policy, which incorporates elementary school instruction as a form of direct learning, does not, however, permit flexibility in this regard (Circular Letter of the Minister of Education and Culture No. 4, 2020). To combat the spread of the Covid-19 virus, the entire learning process is now conducted online and is pertinent to all grade levels.

Internet learning, which is a learning system using an internet platform, may allow the learning process continue even at a distance, is a solution for carrying on the learning process despite various government policies to stop the spread of Covid-19. Online learning strives to deliver high-quality learning services over a vast network accessible to a wider range of study enthusiasts (Gesú & González, 2020; Shaik Alavudeen et al., 2021). Online learning is a style of instruction that makes use of technology to facilitate communication between students and professors (Schmitz et al., 2021; Yustina et al., 2020; Zhang, 2020). Online learning is the process of learning via the use of electronic media. Online learning has the following qualities: first, according to the level, kind, and nature of education, the curriculum is organized. Second, there are no directed meetings between teacher and student. Third, student learn independently and are assisted by others. Fourth, Educational institutions design and prepare materials and learning assistance services for students. Fifth, the material is conveyed through learning media such as computers connected to the internet. Sixth, the occurrence of two-way communication (interactive) between teacher and student. Seventh, there is no group study, and everything is done individually (Fauzi & Khusuma, 2020; Hamid et al., 2020; Syarifuddin et al., 2021).

Online learning can be implemented if each party has an electronic device to connect to a single platform (El-Magboub et al., 2016; Irawan et al., 2020). The online learning system must refer to three principles; 1) a simple learning system so that students can understand it. 2) the learning system must be made individually so that it is not interdependent. 3) the system must be fast in the process of searching for material or answering questions from the results of the system design being developed (Sutriyani, 2020; Tsai et al., 2018; Winkler et al., 2020). Several benefits of online education. Firstly, students and teachers can communicate regardless soft distance, location, or time by using the internet. Second, students can study and review study materials anywhere and at any time, if necessary. Thirdly, if a student is still perplexed about the learning material, he or she can access the internet at any time; and fourthly, students become the focal point of learning because they are learning independently (Alchamdani et al., 2020; Sutriyani, 2020; Trisnawati et al., 2021).

Besides the advantages, several things are lacking in online learning. First, there is no direct interaction between the student and the teacher or other students (Handayani, 2020; Rachmat & Krisnadi, 2020). Second, it tends to ignore the social aspect and triggers the growth of the commercial part. Third, the accuracy of sending learning modules to students in the regions (Fikri et al., 2021; Hutauruk & Sidabutar, 2020). Fourth, the lack of motivation to learn from students; And finally, it requires administration for the distance learning process. Every online and offline learning form should be able to provide learning effectiveness for students and teachers. The shortcomings and limitations that teachers had to face during the Covid-19 pandemic, including: first, Teachers don't think this quickly. Even though there are initiatives in that area, they must employ entirely online learning because they don't anticipate it will happen that quickly. Second, different educators possess different levels of digital literacy (Amalia et al., 2020; Primasari & , Zulela, 2019). Online learning is challenging for certain teachers because they are less adaptable than others. Third, because some teachers and students lack even the most basic technology, online learning is difficult to implement. Fourth, connection quality and availability of data packages are still limited and require a hefty fee, which is an obstacle (Albab, 2020; Arizona et al., 2020).

Online learning is a system of instruction that utilizes a platform that can facilitate remote learning. Students have the flexibility to study whenever and wherever they choose with online learning (Fauzi & Khusuma, 2020; Gesú & González, 2020; Zhang, 2020). Students can also communicate with instructors via WhatsApp, Zoom sessions, Google Classroom, and Google Meet. In order to facilitate effective communication between students and teachers, the availability of learning resources, such as the supplementary device, an acceptable curriculum, and an internet network, as well as teacher preparation, is required. Online learning indirectly requires each student to have supporting tools to ensure that the

student can participate in online learning (Hamid et al., 2020; Syarifuddin et al., 2021). In modern times like now, various supportive devices such as tablet, smartphones, laptops, and others can be used for online learning. These supporting tools can be used for online learning only by being connected via an internet network. So it can be said that supporting tools can help the online learning process if the necessary tools are available and connected to the internet network (El-Magboub et al., 2016; Irawan et al., 2020). Supporting tools in implementing online learning play a significant role because, without supporting tools, online learning will be hampered. Making the most of online learning resources is frequently hampered by restrictions on internet accessibility, technology and software, and finance (Alsoud & Harasis, 2021; Handayani, 2020; Rachmat & Krisnadi, 2020)..

Online learning indirectly requires each student to have supporting tools that can ensure that the student can participate in online learning. Supporting tools in question can be smartphones or laptops. Not only that, what is no less important than all is the internet connection must be able to connect (Alchamdani et al., 2020; Trisnawati et al., 2021). However, not all students come from economically capable families, so in fact on the field, many students find it difficult to participate in online learning, and this affects their level of knowledge or academic achievement (Fikri et al., 2021; Hutauruk & Sidabutar, 2020). The results of pre-research in the form interviews conducted with a teacher at SD Negeri 12 Malaka, Tondong Tallasa District, Pangkajene, and Islands District, found that supporting tools were an obstacle for most students. One teacher said that some students could not afford smartphones or laptops due to underprivileged economic conditions, while others were in geographical locations far from the village center, so their internet connection was not optimal. It certainly was problems that give impact on student achievement through the Covid-19 pandemic.

Learning achievement is influenced by both internal and external factors (Andinny, 2013; Honicke et al., 2020; Sulfemi & Mayasari, 2019). Internal factors influencing student learning achievement come from within the student, especially the student's ability (Dhayanti et al., 2018; Ratminingsih, 2018; Sukaisih & Muhali, 2014). The student's ability factor dramatically influences the learning outcomes achieved. An expert named Clark stated that student learning outcomes at school are 70% controlled by student abilities, and the environment influences 30%. While environmental factors, such as the state of the classroom, layout, and different physical, circumstances in the area where the learning process occurs, are among the external factors that affect student learning achievement, teacher factors, such as teaching style, demonstrate how the implementation of the teacher's learning is concerned and are influenced by his views on teaching, the psychological concepts used, as well as the teacher's own beliefs.This study aimed to analyze online learning supporting tools and student achievement and determine the effect of online learning supporting tools on student learning achievement during the Covid-19 Pandemic.

2. METHOD

The research using a quantitative methodology, this study employs quantitative post-hoc research. The researcher was only interested in determining the presence or absence of an influence of online learning supporting tools (X) on student achievement (Y) in SD Negeri 12 Malacca, Tondong Tallasa District, Pangkajena and Kepulauan Regency. This research design was chosen. Furthermore, research questionnaires were distributed at SD Negeri 12 Malacca, Tondong Tallasa District, Pangkajena and Kepulauan Regency at Jl. Massusungang Dg. Mattutu, Malaka Village, Tondong Tallasa District, Pangkajena and Kepulauan Regency. This study's population consisted of 59 pupils from SD Negeri 12 Malaka, Tondong Tallasa District, Pangkajena and Kepulauan Regency, including 26 male and 33 female students. Purposive sampling was used to determine the study sample in this investigation. This study includes 30 students from grades IV, V, and VI as samples. Research data collection uses a questionnaire and documentation. In this study, researchers used a closed (structured) questionnaire. Besides that, this is also to avoid more extensive information. Researchers used a questionnaire with a Guttman scale. The scoring calculation of respondents on the Guttman scale. Respondents may provide responses, with "one" representing the highest score and "zero" representing the lowest. For each positive statement, the preparation assigns a category; the answer "Yes" receives a score of "one" and the answer "No" receives a score of "zero," while for each negative statement, the preparation assigns a category; the answer "Yes" receives a score of "zero" and the answer "No" receives a score of "one". The instrument grid is presented in Table 1.

Table 1. The Instrument Grid

No	Variable	Sub Variable	Indicator
1	*Supporting Tools*	1. Availability of student devices	a. Availability of *smartphone* b. Availability of laptop
		2. Internet Connection	a. Availability of internet access (quota, Wi Fi, *Tethering/Hotspot*) b. Internet network quality
		3. Applications used by students to support learning	a. *WhatsApp* b. *Google Class Room* c. *Google Meet* d. *Zoom Meeting* e. You tube
2	Online Learning	Online learning process	a. Constraints experienced during the online learning b. Advantages of online learning c. Disadvantages of online learning

Documentation entails obtaining information directly from research places, such as relevant books, rules, activity logs, photos, movies, and statistics related to the study (Sugiyono, 2018). The documentation carried out in this study was to carry out an analysis related to student achievement (report cards) during the Covid-19 pandemic to determine student achievement. Researchers used SPSS 26 to create descriptive statistics and data in tables and graphs. Furthermore, the percentage obtained is translated into categories according to the opinion of Sudjono. In addition, an inferential statistical test was applied to the data analysis in order to test the research hypothesis. Before assessing the hypothesis, data prerequisite tests, including the Kolmogorov-Smirnov normality test and the linearity test, were conducted.

3. RESULT AND DISCUSSION

Results

This research was conducted in three studies regarding the description of online learning implementation aids at SD Negeri 12 Malacca, Tondong Tallasa District, Pangkajena, and Islands District. 30 students in grades four, five, and six were used as the research sample. Each student gets a survey that is used to collect data about the effect of online learning assistance technology on student achievement This study uses descriptive statistical analysis to provide an overview of the data obtained on each variable. Data on the supporting tool's variable during the Covid-19 pandemic was obtained using instruments like a questionnaire. Students as research respondents filled in the questionnaire. The instrument used to determine the effect of online learning supporting tools during the Covid-19 pandemic was a questionnaire consisting of 30 statement items. Each statement item has 2 alternative answers, "Yes" or "No". Each "Yes" response to a positive statement item will get one point (1), and a "No" answer will get zero points (0). Whereas each "No" answer for negative statement items will get one point (1), and a "Yes" response will get zero points (0). In the questionnaire that students filled out, 30 statement items consisted of 18 positive statement items and 12 negative statement items, which meant that each student as a respondent had the opportunity to get the lowest score, namely 12, and the highest score, namely 30 with the range between intervals, namely 9.

Based on data analysis, it is evidence that the number of students who gave positive responses (answered "Yes" to positive statements and answers "No" to negative statements) with a high score had a percentage of 86.6% or as many as 26 people, while respondents with low scores have a percentage of 13.4% or as many as four people. Based on this, it can be concluded that supporting tools greatly influence the process of implementing online learning. Before conducting a questionnaire analysis of online learning supporting tools, a reliability test is first carried out on each valid item. The reliability test is run on statement items that have been deemed valid based on Table 5. If a variable's responses to questions are consistently the same, it is considered trustworthy. Therefore, the supporting tools instrument's reliability coefficient is 0.905, while the online learning instrument's reliability coefficient is 0.738, indicating that the two instruments for the two variables are deemed reliable or satisfy the criteria.

Research findings based on student learning outcomes are divided into five categories based on the teacher-provided intended results: very high, high, medium, low, and very low. The results of data analysis showed two students, or up to 6.7%, were responsible for the exceptionally high category score.

In comparison, 24 students, or as much as 80%, scored in the high category, and four students achieved the value in the medium category or as much as 13.3%. Therefore, it can be concluded that students in grades IV, V, and VI of SD Negeri 12 Malaka Kec. Tondong Tallasa District, Pangkajena and Kepulauan Regency in the 2020/2021 academic year are in the high category. It can be said that while participating in the online learning process during the Covid-19 pandemic, students' grades were still at a high high-grade level.

Following that, Tondong Tallasa District, Pangkajena and Kepulauan Regency employed inferential statistical analysis to estimate the impact of online learning supporting technologies on student accomplishment at SD Negeri 12 Malacca. The purpose of inferential statistical analysis is to provide answers to previously defined research hypotheses. The normality and linearity tests were run prior to doing inferential statistical analysis. To ascertain if the data set is regularly distributed or not, the normality test is utilized. In this study, the statistical application program SPSS version 26 was used to conduct the normalcy test. The data must be regularly distributed and the sig value must be less than 0.05 for the normality test to be considered valid. Based on information from the aforementioned table of normality test results for the Kolmogorov-Smirnov test, a significant value of 0.167 or greater than 0.05 was discovered. The data are therefore presumed to be regularly distributed. To ascertain whether there is a linear relationship between the two variables, a linearity test was performed. The linear relationship shows how changes in the learning accomplishment variables follow changes in the variable for online learning supporting resources. This linearity test is computed using the SPSS Version 26 program. The results of the linearity test for the two variables showed in Table 2.

Table 2. Linearity Test Results

			Sum of Squares	df	Mean Square	F	Sig
Supporting Tools* Learning Achievement	Between Group	(Combined)	896.621	9	99.625	6.608	0.000
		Linearity	727.657	1	727.657	48.262	0.000
		Dev. From Linearity	168.964	8	21.120	1.401	0.256
	Within Groups		301.546	20	15.077		
	Total		1198.167	29			

Based on data from the table of linearity test results above, it is known that the sig deviation from the linearity value is 0.256 or > 0.05. So, it can be concluded that a linear relationship exists between online learning supporting tools and student achievement. To foretell or examine the impact of an independent variable on the dependent variable, simple linear regression analysis is performed. The outcomes of a hypothesis test utilizing a straightforward linear regression analysis were determined using SPSS version 26. Results of Simple Regression Analysis the Effect of Online Learning Supporting Tools on Student Achievement in Table 3.

Table 3. Results of Simple Regression Analysis the Effect of Online Learning Supporting Tools on Student Achievement

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
1		B	Std. Error	Beta		
	Constant)	52.562	5.011		10.489	0.000
	Supporting Tools	1.232	0.187	0.779	6.580	0.000

Decision-making in the simple regression test, which is based on the significance value from the table above, obtained a significance value of 0.000 <0.05, so it can be concluded that the online learning Supporting tools variable (X) has a significant give impact on student achievement variables (Y).

Discussion

The Covid-19 pandemic has encouraged various kinds of activities to be carried out online, one of which is learning. Since the Covid-19 pandemic, the learning process that was usually carried out directed meeting was then carried out online (Ajinomoto, 2021; Browning et al., 2021; Prawiyogi et al., 2020). In order for students at all levels to stay current on topic advancements, they must be able to use technology

(Nurhayati, 2020; Permana P & Manurung, 2020; Slovaček & Čosić, 2020). Digital technology helps learning in educational institutions by enabling access to information on learning materials as well as through facilitating learning activities and connected to assignments (Arrosagaray et al., 2019; Hadi et al., 2022; Hanifah Salsabila et al., 2020). It can be argued that an overview of the aids used in online instruction during the Covid-19 epidemic, particularly at SD Negeri 12 Malaka, Tondong Tallasa District, Pangkajena and Kepulauan Regency, have a favourable impact on student achievement. This is evident from the study's findings, which indicate that the average score on the questionnaire about online learning support tools was 26.4 out of a possible 30 points. This indicates that the typical student believes that using these tools allows them to stay connected while engaging in online learning (Azmi & Widiaty, 2021; Ramadayanti & Adzima, 2022).

According to the results of the questionnaire that students completed, it can also be said that online learning supporting tools play a crucial part in maintaining the learning process throughout the Covid-19 pandemic (Abidah et al., 2020; Ekayana et al., 2021). This indicates that the majority of the students responded favourably to the questionnaire for the supporting tool. The affirmative response suggested that during the Covid-19 epidemic, students at SD Negeri 12 Malaka Tondong Tallasa District, Pangkajena and Kepulauan Regency use supportive resources as learning aids. The results of completing the questionnaire by students also show that smartphones are the supporting tools used by students to participate in online learning. Of the 30 students, 25 said they used smartphones to participate in online learning, while the remaining five said they could not afford to buy smartphones. Furthermore, 27 students answered "Yes" to the statement item, which read "can't afford a laptop yet". This shows that smartphones are generally a tool mostly used by students in grades IV, V, and VI at SD Negeri 12 Malaka Tondong Tallasa District, Pangkajena and Kepulauan Regency to join online learning. In the online learning process, applications that students often use are WhatsApp and Google Meet, with 83% and 93% of the "Yes" responses to these statement items, respectively. In accessing online learning applications, 87% of students use cellular networks, and the remaining 13% use tethering/hotspots because public Wi Fi is unavailable.

Student learning achievement can be seen from the results of their study. The better the learning outcomes they have, the better their learning achievement (Hidayat et al., 2022; Indrawati et al., 2020; Primasari & , Zulela, 2019). During the Covid-19 pandemic, students at SD Negeri 12 Malaka Tondong Tallasa District, Pangkajena and Kepulauan Regency follows the learning process online. The learning achievement of each student shows that 66.7% of Grade IV students are in the high category, and 33.3% are in the medium category. For Class V, as many as 90.9% of students scored in the high category, and 9 .1% of students scored in the low category, while Class VI students showed that 20% were in the very high category, 70% were in the high category, and 10% were in the medium category. Overall, the grades IV, V, and VI students in the even semester of 2020/2021 can be concluded in the very high category, which is 33.4%. The high category is 60%, while the medium category is 6.6%. These findings indicate that during the Covid-19 epidemic, the typical student score during the online learning process was in the upper range.

One of the factors that influence the acquisition of high scores by students is the use of supporting tools while participating in the online learning process (Ekayana et al., 2021; Hidayat et al., 2022; Wulandari et al., 2020). Supporting tools help students to stay connected with teachers or other students so that the learning process can continue (Fikri et al., 2021; Hutauruk & Sidabutar, 2020). Learning is a complex activity, and learning outcomes are in the form of capabilities. The stimulation from the environment and the cognitive processes used by students lead to the emergence of abilities (Dhawan, 2020; Jamalpur et al., 2021). Motivation can come from teachers, parents, or people around students. Motivation can be said to be an essential thing because it can encourage students to be more active in learning and achieve exemplary learning achievements (Agustiana et al., 2018; Müller & Wulf, 2020).

Students need supporting online learning tools in order to participate in the online learning process because, without supporting tools, it can be argued that these students will find it difficult or perhaps impossible to do so (Batubara & Batubara, 2020; Loock et al., 2022). The process that students go through will undoubtedly influence student learning achievement. One of the factors that influence student learning achievement is environmental factors, including the condition of the room, layout, and various physical situations that exist in around the class or around the place where the learning process takes place" (Ekayana et al., 2021; Hidayat et al., 2022; Wulandari et al., 2020). One of the physical conditions referred to in this case is the tools used by students in learning and the supporting tools used by students to participate in online learning. The online learning process cannot be carried out without the help of supporting tools like smartphones or laptops.

Supporting tools are necessary for every learning process, whether online and offline, in order for it to function properly. However, not all auxiliary tools work as intended. An efficient learning process can

aid students in understanding teachings more quickly and producing learning outcomes as planned. The internet network's quality is one of them. In various circumstances, the effectiveness of the internet network can both help and hinder the implementation of online learning. Online learning can function effectively if the internet network's quality is good. The quality of the internet network accessible to students is sufficient, as can be observed from the answers of the students' questionnaire.

4. CONCLUSION

Based on the findings and analysis of the research that has been done, it can be concluded that online learning support tools during the Covid-19 pandemic at SD Negeri 12 Malaka, Tondong Tallasa District, Pangkajena and Islands Regency can be said to have a positive effect on student achievement in grades IV, V, and VI of the academic year 2020/2021. In the online learning process, students often use WhatsApp and Google Meet applications. The learning achievement of students in grades IV, V, and VI at the end of the even semester for the 2020/2021 academic year is in the very high category. There is a linear relationship between online learning support tools and student achievement, so it can be concluded that online learning support tools affect learning achievement during the Covid-19 pandemic. Support tools help students and teachers connect and carry out learning during the Covid-19 pandemic.

5. ACKNOWLEDGE

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