Pedagogia Jurnal Ilmu Pendidikan

Digital Literacy: Does it Affect the Learning Outcomes of Madrasah Ibtidaiyah Students?

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ABSTRACT

The ease of Science and Technology must be balanced with digital literacy skills because it is one-factor affecting student learning achievement. Digital literacy functions to have the ability to access, manage, understand, and evaluate information safely and quickly through digital technology to become wiser. This study aims to look at students' digital literacy skills and learn achievement and determine how much influence digital literacy has on student learning achievement. The research method used is a correlation with a quantitative approach, and the sample is taken from classes IV, V, and VI, with as many as 50 students. The data collection technique used is a questionnaire for digital literacy and documentation for learning achievement. Then the data analysis technique used the product-moment correlation test. The results of this study indicate that students are good at understanding digital literacy. Students' understanding of digital literacy on internet skills, such as utilizing digital technology to find information and learning resources. There is a significant positive relationship between digital literacy and learning achievement, and it is obtained that an r count of 0.440 is included in the medium category. It is shown that digital literacy skills influence 19.36% of student learning achievement, and the remaining 80.64% is influenced by other factors that are not related to this study.

ARTICLE INFO

1. INTRODUCTION

Science and Technology (Science and Technology) in human life have developed very quickly with evidence of information technology and technology to facilitate human activities in daily life today to become more effective and efficient. Technological developments can be obtained cheaply and make it easier to find the information available on the internet quickly (Susilana et al., 2022). Technological developments cannot be avoided because they will continue to go hand in hand with scientific advances (Agustian & Salsabila, 2021; Syifa et al., 2019). Technology is also used in the education sector to facilitate the learning process in class. Digital media in learning can create good changes in the learning process because it can make it easier for students to obtain information from various sources that have been provided, such as digital libraries, electronic books, and electronic journals (Effendi et al., 2019; Susilana et al., 2022). Therefore, the use of digital media must be accompanied by digital literacy skills. The learning process of implementing digital literacy in the classroom is so that students can provide fluency and effectiveness in providing and preparing students for the future according to their needs (Johan et al., 2019; Latip & Sutantri, 2021).

Along with the rapid development of technology, digital literacy is critical for students. The lack of digital literacy mastered by Madrasah Ibtidaiyah (MI) students can have an impact on students who are addicted to television shows, playing online games, excessive use of social media, crime news, to a lack of digesting hoax information, even a lack of digital literacy can be one of the causes of online bullying (Asari et al., 2019; Hussein & Hussein, 2020). The application of digital literacy in schools is to gain knowledge and complete assignments given by teachers, and information can be obtained through electronic media. The management system used in high-class learning today is by using a kind of google classroom, zoom meeting, google meet, and WhatsApp groups which can positively influence aspects of knowledge and skills (Johan et al., 2020; Rahman et al., 2020). In addition, the use of digital literacy in class can be done using an LCD or PowerPoint so that it can be used as an innovation that can be used in class so it is not dull (Agustini et al., 2020; Jessica et al., 2020). Sources of information related to learning materials that students can obtain through digital literacy are called the internet and can affect student learning outcomes. Digital use in the Madrasah Ibtidaiyah (MI) environment is usually at the limit of devices to find information, search for learning material, and to communicate between friends and teachers (Giovanni & Komariah, 2019; Utomo et al., 2020). Therefore, digital literacy is very much needed for students because it helps filter negative information. Wise use of digital is one of the abilities to develop intellectually (Fauzi & Marhamah, 2021; Johan et al., 2022).

Meanwhile, the inability of students to understand digital literacy that impacts learning outcomes, such as receiving hoax information and online bullying, which then causes students' emotions to make students lazy to learn and affects their learning outcomes. Research on digital literacy was conducted by Rahayu et al. (2022). However, his research only focused on the subjects, namely arts, and culture, while this research was taken from learning outcomes in the Mid Semester Examinations (UTS). Other research was carried out by Wahyuni et al. (2021), but the dependent variable in their research was student learning independence. Based on this explanation, the purpose of this study was to determine digital literacy skills and student learning outcomes and to see how much influence there was in the high class of MIS Miftahussurur Tegalgubug.

2. METHODOLOGY

The approach used in this study is a quantitative approach with the correlation method. The correlation method is defined as the relationship between two or more variables, and the characteristics of the relationship between variables have a positive correlation or unidirectional negative correlation or relationship in the opposite direction (Rahayu, 2019). This study uses the independent variable (X), namely digital literacy skills, and the dependent variable (Y), namely learning outcomes. The research was conducted at MIS Miftahussurur Tegalgubug district Arjawinangun Cirebon Regency in the high class, namely class IV, V, and VI. The sampling technique used is the saturated sample technique because there are less than 100 people, with 16 students in class IV, 23 students in class V, and 11 students in class VI. The data collection technique used in this study was a questionnaire and documentation. The questionnaire is intended to obtain information related to research and valid and subjective information (Barlian, 2016). The questionnaire was given to the respondents, grades IV, V, and VI, at MIS Miftahussurur Tegalgubug to see students' digital literacy abilities. Meanwhile, documentation data collection techniques are used to determine the learning outcomes of highclass students at MIS Miftahussurur Tegalgubug through Mid Semester Examination (UTS) in the even semester of the 2021/2022 school year.

The next stage uses data analysis techniques to calculate the average frequency distribution of digital literacy variables (X) and learning outcomes (Y). Then test the productmoment correlation to find the relationship between the two variables and process using SPSS version 25. Then from the results of the correlation test, hypothesis testing is carried out by looking at the value of r count, which is greater than r table, and calculating the coefficient of determination to see how much influence digital literacy has on learning outcomes.

3. RESULTS & DISCUSSION

The data obtained in this study came from two variables, namely digital literacy questionnaire score data (X) and learning outcomes (Y) derived from documentation data on Mid Semester Examinations (UTS) in the even semester of the 2021/2022 school year. The following is a description of the data from each variable.

Table 1. Distribution of Digital Literacy Variable Answers

Variabel	N	Min	Max	Mean	Standard Deviation (SD)
Digital Literacy	50	58	88	72	7,323
Learning Outcomes	50	39	81	66	10,121

Table 1 shows that the digital literacy variable has an average of 72 (scale 0 – 108), which means it is in a good category. At the same time, student learning outcomes have an average of 66 (scale of 0-100) and are in the high category. Data on variable (X) or digital literacy was obtained through a questionnaire distributed to respondents in IV, V, and VI MIS Miftahussurur Tegalgubug with 27 statements. Based on digital literacy indicators, answers are obtained in either category.

Table 2. Distribution of Digital Literacy Indicator Answers

Component	Indicator	Percentage
Computer and Internet Skills	Computer skills	86%
	Internet Skills	88%
Balanced and Active	Internet use	36%
	Mass Media Intensity	20%
	Watching movies	30%
	Read a book	20%
	Mobile Subscription	12%
Advanced Use	Buying Over the Internet	56%
	Reading News Through the Internet	24%

Based on Table 2, the percentage of the computer skills indikator is obtained by 86% of students, meaning that they are already good at operating and handling smartphones, laptops, and tablets when the battery is low and can edit photos and videos. Whereas in the internet skills indikator, 88% of students were found, which meant that they were already good at skills, such as utilizing technological devices on smartphones, tablets, computers, and laptops to find sources of information and learning materials needed by students.

Internet use was obtained by 36% of students, which means it has both using it to find entertainment available on the internet with clear goals and the internet can make it easier for students to complete their assignments quickly. In the mass media intensity indikator, a percentage of 20% of students have obtained means that it is already good to use digital technology, such as watching television to see the news and understand the information conveyed by the mass media properly. The percentage of 30% of students on the movie-watching indikator means that they are already good at sorting out the films they will watch and can take a moral message from the films they watch. Students do not ignore other activities to watch movies. The book reading indikator gets a percentage of 20% of students, meaning that they are already good at utilizing and using digital books on their smartphones to add learning resources. In the cellphone subscription indikator, 12% of students were found to use smartphones well enough to subscribe to cellphones, such as adding learning resources. The percentage of 56% of students on the buying indikator via the internet meant that they were already good at using the internet to shop online to save time. In addition, the indikator of reading news on the internet gets a percentage of 24% of students, meaning that they are already good at using technology to read the news so that they can ascertain information that occurs. Variable data (Y) or learning outcomes in the Mid Semester Examination (UTS) are obtained through data documentation. The following is the distribution of scores from the learning outcomes obtained from students in grades IV, V, and VI.

Table 3. Middle Semester Deuteronomy Grades IV, V, and VI

Interval	Category	Frequency	Percentage
80 – 100	Very High	5	10%
66 – 79	High	21	42%
56 – 65	Medium	18	36%
40 – 55	Low	5	10%

Interval	Category	Frequency	Percentage
30 – 39	Very Low	1	2%
Total		50	100%

Based on Table 3, it can be seen that the learning outcomes of high-class students or grades IV, V, and VI at MIS Miftahussurur Tegalgubug obtained 10% of students in the very high category, the high category is 43% of students, the good category is 36% of students, 10% of students are in a low category, and 2% of students are in the deficient category. The high category is the most dominating among others means that each student has varying grades in the Mid Semester Examination. Then calculate the relationship between digital literacy and learning outcomes using the product-moment correlation test. The product-moment correlation test uses the results of the digital literacy questionnaire scores and student learning outcomes in the Mid Semester Examination obtained through documentation data. The following is an interpretation of the correlation coefficient.

Table 4. Interpretation of the Correlation Coefficient

The Magnitude of the 'r' Product	Interpretation
00,0 – 0,19	Very low correlation (considered no correlation)
0,20 – 0,39	Low correlation
0,40 – 0,59	Medium correlation
0,60 – 0,79	High correlation
0,80 – 1,00	Very high correlation

In the product-moment correlation test between digital literacy variables and learning outcomes, an r count of 0.440 is included in the moderate correlation because it is in the interval of 0.40 – 0.59. Then the magnitude of the coefficient of determination that influences the research is 19.36%, and the remaining 80.64% is influenced by other factors that are not related to this research. Therefore, it can be concluded that the correlation between digital literacy skills and student learning outcomes at MIS Miftahussurur Tegalgubug is in the moderate correlation category. Internet skills have a percentage of 88% of students included in the good category and the highest percentage compared to other indicators. The good category in internet skills means that students have used the internet wisely on various devices such as smartphones, computers, tablets, and laptops to find the information and learning resources they need. This is reinforced by Muis and Pitra (2021) that the internet can be used to find sources of knowledge and information anytime and anywhere without limits in the digital technology era because it has many benefits. In addition, the internet can access various media such as digital books, mass media, social media, learning media, and television and can develop students' self-creativity (Andina, 2011; Rocha et al., 2017). Therefore, applying digital literacy can make something positive in teaching and learning activities in the digital era.

Meanwhile, the mass media intensity indicator has the smallest percentage of 12% of students. This means that there are still some students who do not understand the information that has been conveyed by the mass media and do not take the time to watch the news to make sure the information is happening so that it can make it easier for students to be exposed to hoax information circulating. This is in line with Abd Halim (2015) explaining that students should be given insight regarding understanding digital media so they can sort

information wisely because it can be easily exposed to cyber crimes such as fraud, pornography, online gambling, and false or hoax information.

Madrasah Ibtidaiyah (MI) students need digital literacy because its implementation can make a person able to process information well and evaluate and sort information more wisely. Elementary school students (SD) who can operate the internet and students who understand the importance of digital literacy in using technology for positive things, such as finding sources of information and using the world of entertainment or social media on the internet that is appropriate for their age (Bers, 2010; Putrawangsa & Hasanah, 2018; Susilo, 2019). While the learning outcomes obtained varied values in the Mid Semester Deuteronomy (UTS) scores and were included in the high category. High learning outcomes were obtained due to internal factors and external factors. Internal factors in achieving good learning outcomes come from physical and psychological health, such as student intelligence, student talent, interest and creativity, motivation, and stable emotional factors. External factors come from the school environment, such as adequate facilities and infrastructure, such as laboratory rooms to support learning, libraries, and Overhead Projectors (OHP), and environmental factors from friends and family environment (Ismail & Abdullah, 2018; Rahayu et al., 2022). In line with what was stated by Ariani & Sesmiwati (2019), learning outcomes are obtained through student motivation and interest because students who have enthusiasm for learning will have an impact on good learning outcomes, such as paying attention when the teacher explains.

The relationship between digital literacy and learning outcomes comes from the internet skills indicator, which gets the highest percentage compared to other indicators. The skills used in utilizing digital literacy are finding and adding sources of information, learning resources, and sorting out false information circulating. The use of digital literacy in Madrasah Ibtidaiyah (MI) has a positive impact, such as making learning interesting because the information on the internet is to the needs of the student. According to the Ministry of Education and Culture (2017), students who understand digital literacy will make it easier for students to learn to analyze learning material and have benefits such as saving time, effort, and costs, increasing knowledge and being strengthened, and can improve skills in using digital literacy. His ability can be proven by students being able to operate computers and are proficient in using the internet, obtaining and analyzing the information obtained. However, the lack of students understanding of digital literacy will also impact their habits, such as dependence on social media and online games, so students are negligent about their tasks. It can be said that digital literacy has factors that can improve learning outcomes (Dewi, et al., 2021; Kurnianingsih et al., 2017). Digital literacy is essential in using digital technology because the implementation of digital literacy allows students to select information wisely and use the internet properly according to their needs, for example, to find learning resources. This is in line with Saputra and Syahputra (2021) that digital literacy can be a facility for finding needed sources of information and learning resources, facilitating communication between friends and teachers, and providing motivation for independent learning to improve learning outcomes. According to UNICEF (2021), the level of digital literacy education among ASEAN countries has different levels, but the majority of the use of digital literacy is in the medium category. The Philippines and Singapore have the highest digital literacy because they emphasize digital technology skills. Research conducted by UNICEF shows that digital literacy education in schools is lacking, with a percentage of 61%, especially in Myanmar and Laos, where schools receive little about digital literacy education. The application of digital literacy can be implemented in learning processes such as teaching and learning in class, social media,

and educational programs on television because the use of digital literacy has many benefits, for example, finding sources of information on the internet and making it easier to communicate with friends. Lack of infrastructure in schools, such as computer rooms for studying technology, lack of digital literacy movement, and lack of self-awareness, are the causes of low digital literacy levels and no progress in developing digital literacy skills.

The results of this study are also in line with research conducted by Rahayu et al. (2022) entitled "The Relationship between Digital Literacy and Student Achievement: A Case Study of Class 6B at SD Negeri 4 Selat Hulu" learning materials get a percentage of 83.25%, and the results show that students can find information about learning resources on the internet and can be accountable for it. So there is a significant relationship between digital literacy and SDN students' 4 Upper Strait learning achievement. According to Sasmita (2020), the internet can help the learning process, such as finding sources of information, increasing knowledge, and developing self-potential to increase the effectiveness and goals of learning. Another research was conducted by Wahyuni et al. (2021) entitled "The Influence of Digital Literacy on the Independent Learning of Public Elementary School Students 02 Ngadiluwih, Matesih District, Karanganyar Regency, 2020/2021 Academic Year". His research results show a significant influence between digital literacy and student learning independence by obtaining a correlation coefficient of 0.712 and belonging to the strong category meaning that digital literacy can add insight and foster student learning independence. In line with Juwandi & Widyana (2019) explaining that digital media can provide facilities such as digital books, journals, news, digital libraries, and sources of information for learning needs so that they can foster the nature of independent learning because it facilitates the learning process.

4. CONCLUSION

The digital literacy abilities of high-grade students at MIS Miftahussurur Tegalgubug influence learning outcomes. Students' understanding of digital literacy in internet skills indicators, such as utilizing digital technology to find sources of information and learning resources, is already in the good and highest category compared to other indicators. At the same time, the mass media intensity indicator has the lowest percentage of 2% of students because students do not understand the information conveyed by the mass media and do not take the time to look at the news to ensure that information occurs, making it easier for them to be exposed to false or hoax information. Student learning outcomes have varying values and have an average value of 66, including in the high category. Thus, the difference in learning outcomes and students' high scores are influenced by external and internal factors in students. So that between digital literacy and learning outcomes, there is a significant influence. Based on the product-moment correlation test, an r count of 0.440 was included in the medium category. It is shown that 19.36% is influenced by digital literacy, and the remaining 80.64% is influenced by other factors unrelated to this research. This research is limited only to digital literacy. Therefore, recommendations for further research can be expected to provide understanding to students to have awareness in using technology wisely and to be able to study more broadly related to digital literacy so that they can increase to the high category..

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