Correlation Between Digital Literacy Ability and Learning Achievement in Physics Learning During Covid-19 Pandemic

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Keywords:	ABSTRACT
Digital Literacy Ability; Learning Achievement; Covid-19 Pandemic; Physics Learning	*This study aims to: (1) describe students' digital literacy skills in physics learning during the Covid-19 pandemic and (2) describe the correlation between digital literacy skills and learning achievement in physics learning during the Covid-19 pandemic. This research is using correlation research. The subjects in this study were students of class X at SMKN 4 Singkawang City. The data collection instruments in this study were digital literacy questionnaires and documentation. The data analysis techniques used in this study were quantitative descriptive and Product Moment correlation equations. The results showed that: (1) the students' digital literacy skills at SMKN 4 Singkawang were in the high category of 90 students with an average percentage of 69% and an average score is 79 and (2) there was a correlation between digital literacy skills and student achievement in physics learning during the Covid-19 pandemic with a correlation coefficient of 0.664 in the strong category.*

INTRODUCTION

The widespread Covid-19 resulted in a pandemic in the world. This has affected policy changes and reforms in various sectors of life, including the education sector worldwide which has led to the closing of schools and even universities, making it impossible for learning activities to be held face-to-face. Since March 4, 2020, UNESCO (United Nations Educational, Scientific and Cultural Organization) has suggested holding distance learning with educational platforms that can be used so that they can reach students remotely and can limit educational disruptions (UNESCO, 2020). On March 24, 2020, the Minister of Education and Culture of the Republic of Indonesia issued a Circular concerning the implementation of education policies during the emergency period of the spread of Covid-19, in the circular it was explained that the learning process was carried out at home through distance learning which was carried out to provide a meaningful learning experience for students, so students are automatically required to have digital literacy skills.

In the early days of this pandemic, the learning process in Indonesia was using distance learning by utilizing internet networks (Fitriani et al., 2022; Yulianti et al., 2021). With this distance learning, students have the freedom to study time and can study anytime and anywhere. The use of information

technology is expected to be able to facilitate the teaching and learning process so that it continues to run well (Fitriyani & Nugroho, 2022).

Currently, the education sector needs to keep up with changes that are happening so rapidly (Ahmad, 2022). Conventional learning methods have been replaced with online digital systems that are not limited by space and time (Amri, Jaelani, & Saputra, 2021). Developments in technology and information are used to find information on learning materials with the help of the internet. Currently, digital literacy has become a familiar thing, both in the academic and non-academic fields. One alternative that appears related to digital literacy is the transition from physical reading materials to digital reading materials. Digital literacy makes it easier for readers to access information whenever and wherever needed using devices connected to the internet network (Desi, 2020).

According to Hague & Payton (2010), digital literacy is the ability possessed by a person in utilizing information and communication technology to find, evaluate, create and communicate information that requires cognitive skills. Digital literacy also requires functional skills so that they can find and select relevant information, evaluate critically, be creative, collaborate with others, communicate effectively and pay attention to electronic security aspects and the socio-cultural context that is increasingly developing in society (Ningsih, Widodo, & Asrin, 2021; Anggrasari, 2020; Sumiati & Wijonarko, 2020; Firmansyah & Saepuloh, 2022). Currently, schools are required to instil the use of ICT in all subject areas (Rochadiani, Santoso, & Dazki, 2020).

During this pandemic time, information that students needed did not only come from print media but also from the Internet which students used to find additional information about the lessons taught by teachers (Sutrisna, 2020; Setyaningsih et al., 2019; Irhandayaningsih, 2020; Dinata, 2021). This phenomenon provides scientific reference sources that are available in digital form and can be accessed to obtain various useful information for enhancing online or distance learning. Asari et al., 2019; Pratama, Hartini, & Misbah, 2019).

Based on interviews conducted at SMK Negeri 4 Singkawang City, physics lessons were still being held online during the pandemic. Students use Android cellphones that are connected to the internet network as a learning tool, as well as a communication tool between students and teachers both interpersonally and in communication forums. This makes students accustomed to searching for information available on the internet so that their digital literacy skills get better.

One of the indicators of success in the educational process is student achievement. According to Tohir (2020), physics learning achievement can be seen from the scores students get while participating in learning. Therefore, we are interested in studying how the relationship between digital literacy skills and student achievement. So, this study aims to describe students' digital literacy skills in physics learning during the Covid-19 pandemic and the correlation between digital literacy skills and learning achievement in physics learning during the Covid-19 pandemic.

RESEARCH METHOD

The type of research used in this research is correlation research. This research begins by examining existing theories and knowledge so that the causes of the problem arise. These problems were tested to determine acceptance and rejection based on data obtained from the field. The data obtained from the field is in the form of digital literacy and learning achievements category-level scores in the form of quantitative numbers.

The population in this study were all 130 students of class X SMKN 4 Singkawang City. The sampling technique used is saturated sampling so that all members of the population are research samples.

To obtain students' digital literacy skills data, researchers were using a questionnaire sheet. Meanwhile, to obtain students' learning achievement data, researchers were using student report cards

in Physics in the even semester of the 2021/2022 school year as documentation data. The research instrument used has been declared valid. Furthermore, the data were analyzed using the quantitative descriptive and Product Moment correlation equation.

RESULTS AND DISCUSSION

Students' Digital Literacy Ability
From the data analysis, the categories of students' digital literacy abilities were obtained which can be seen in the following table:

Table 1. Category of Students' Digital Literacy Ability

Category	The number of students	Percentage of Number of Students	Average Score
Very High	30	23%	90
High	90	69%	79
Fair	9	7%	65
Low	1	1%	49
Very Low	0	0%	0
Total	**130**	**100%**	

From the Table 1, we can see that the category of students' digital literacy abilities, where students with very high abilities are as many as 30 people (23%) with an average score of 90, students with high abilities are as many as 90 people (69%) with an average score of 79, students with fair ability categories are 9 people (7%) with an average score of 65, students with low ability categories are 1 person (1%) with an average score of 49, and no students with abilities very low category. This proves that students' digital literacy skills are good on average because students are trained and accustomed to finding information from the internet to support their online learning.

Students' Learning Achievement Score
From the analysis of documentation data, students' achievement categories were obtained which can be seen in the following table:

Table 2. Students' Learning Achievement Category

Category	The number of students	Percentage of Number of Students	Average Score
Very High	6	5%	90
High	124	95%	78
Fair	0	0%	0
Low	0	0%	0
Very Low	0	0%	0
Total	**130**	**100%**	

From the Table 2, we can see that the categories of students' learning achievement, where students with very high learning achievement are 6 people (5%) with an average score of 90, students with high learning achievement are 124 people (95%) with an average score of 78, and there was no student with medium, low and very low learning achievement. This proves that student achievement is good on average because their digital literacy skills are very helpful in their learning.

Correlation Between Digital Literacy Ability and Learning Achievement
The hypothesis in this study is "There is a correlation between digital literacy skills and student

achievement in learning". The basis for making this decision is by using the correlation coefficient (r_{xy}). If the correlation coefficient is positive, it can be concluded that there is a positive relationship between the independent variable and the dependent variable. To determine the criteria for decision making by comparing the value of r_{count} with r_{table} at the significance level of 5%. If r_{count} is bigger than r_{table}, then it can be concluded that there is a correlation between students' digital literacy skills and learning achievement. Otherwise, if r_{count} is smaller than r_{table}, then it can be concluded that there is no correlation between students' digital literacy skills and learning achievement. To test this hypothesis, Product Moment correlation analysis is used. The results of the calculations performed can be seen in the following table:

Table 3. Correlation Test Results Between Digital Literacy Ability and Learning Achievement

r_{count}	r_{table}	Conclusion
0.665	0.158	H_a is accepted and H_o is rejected, meaning that there is a relationship between Digital Literacy Ability and Learning Achievement

Based on Table 3, we can see that r_{count} is bigger than r_{table} (0.665 > 0.158). So that H_0 is rejected and H_a is accepted. This means that there is a correlation between students' digital literacy skills and learning achievement in physics. The better the students' digital literacy skills, the better their learning achievement will be (Giovanni & Komariah, 2019; Mustofa & Budiwati, 2019). With good digital literacy skills, students can gain knowledge independently which has an impact on their ability to understand the physics concepts being taught.

CONCLUSION

Students' digital literacy abilities at SMKN 4 Singkawang are in the high category of 90 students with an average percentage of 69% and an average score of 79 and there was a strong correlation between students' digital literacy and learning achievement in physics during covid -19 pandemic.

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