The Relationship between Metacognitive Strategies and Digital Literacy in First-Year Students

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Abstract. The development of information and communication technology is developing very rapidly in this digital era. The flow of information is very fast and associated with digital literacy skills. This ability is still not possessed by some students. In the process of understanding information, an appropriate strategy is needed that supports thinking skills. Metacognitive strategies are strategies related to ways of thinking in understanding or mastering certain knowledge. This study aims to determine the relationship between metacognitive strategies and digital literacy. The research method used is correlational which measures the relationship between two variables, namely metacognitive strategies and digital literacy. The research subjects were the first batch of students, totaling 58 students. The collection of data used in this study is a questionnaire. The data analysis technique used is correlated with the product moment. The results of this study indicate that there is no relationship between metacognitive strategies and digital literacy. The availability of information and communication technology does not affect students' digital literacy. evaluation and navigation skills influence digital literacy in the process of reading comprehension.

Keywords: Metacognitive Strategy, Digital Literacy, Self-Question.

1 Introduction

The development of information and communication technology (ICT) makes it easy to access or obtain information openly. The information age in the 21st century has brought irregularity in the information received. The progress of ICT has greatly influenced the world of education. We are highly demanded to be able to access quickly and unlimited information regarding the information that continues to grow and change. So it takes skill or ability to use it in learning needs [1].

The process of understanding a message that is in information and communication technology is very necessary. Digital literacy skills, namely skills in navigating fragmented and complex information ecosystems [2]. Viser (2012) in Limboro & Kaugi (2019) states that Digital literacy is the ability to use ICT to evaluate, compose, and communicate messages that require cognitive and technical skills [3]. According to Bawden (2001) [4], digital literacy competencies are (1) assembling knowledge from

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various sources; (2) retrieval skills and critical thinking in perceiving information; (3) awareness of the value of traditional tools with network media; (4) awareness of the 'people network' as a source of advice and assistance; (5) use filters and agents to manage incoming information; (6) feel comfortable with publishing and communicating information [5]. Literacy skills related to the use of information in problem-solving and communication that leads to lifelong learning.

Information search involving decision-making and monitoring is very useful related to reading comprehension [6]. The strategy used in reading comprehension is metacognitive. Metacognitive strategies relate to ways of thinking and learning which include three techniques, planning, monitoring, and evaluation [7]. The process of reading comprehension involves asking oneself questions related to questions to understand the reading. Knowledge monitoring is a metacognitive aspect of understanding success. The ability to monitor knowledge can be built between friends through thoughts as material for discussion. Metacognition in reading comprehension includes setting reading goals and planning, monitoring continuity in adapting reading behavior, and supporting comprehension strategies through decoding text, understanding words, and constructing meaning [8].

2 Method

This research is a correlational study that aims to determine the relationship between two variables, namely metacognitive strategies and digital literacy. Metacognitive strategy indicators in this study are planning, monitoring, and evaluation. And digital literacy is measured by indicators of formulating knowledge from various sources; formulating information; ability to use network media; Sort out the appropriate information. Participants in this study amounted to 58 students in the first year. Data collection was carried out after students had taken one year of study. The data analysis technique used is a product-moment correlation.

3 Result and Discussion

The results of data analysis in Table 2 show r = -.008; p = 0.952, indicating that metacognitive strategies have no relationship with digital literacy. In Table 1, the metacognitive strategy shows M = 9.95; SD = 1.407 and digital literacy M = 8.22; SD = .839. The data shows that the standard deviation value is smaller than the mean. It can be interpreted that the distribution of data from metacognitive strategies and digital literacy does not vary which shows that there is no relationship between the two variables.

Table 1. Data descriptive

	Mean	Std. Deviation	N
Metacogni-	9.95	1.407	58

tive_Strategy			
D_Literacy	8.22	.839	58

Research shows that the use of information and communication technology does not affect metacognitive strategies and reading literacy [9]. Digital activity in the research of Nieto-Márquez, Baldominos, & Pérez-Nieto (2020) does not show metacognitive relationships and feedback [10] . Research from Burin, Gonzalez, Barreyro, & Injoque-Ricle (2020) shows that metacognition has a low correlation with internet experience in digital text comprehension [8]. In developing reading comprehension, it is followed by reading motivation and metacognitive strategies together related to digital literacy [11].

Table 2. Correlations metacognitive strategy and Literacy digital

		Metacogni-tive_Strategy	D_Literacy
Metacognitive_Strategy	Pearson Correlation	1	-.005
	Sig. (2-tailed)		.971
	N	58	58
D_Literacy	Pearson Correlation	-.005	1
	Sig. (2-tailed)	.971	
	N	58	58

Knowledge of metacognitive strategies is the ability to evaluate several strategies used. Skilled readers use more effective metacognitive strategies that focus on evaluating the credibility of sources and summarizing the main points of the reading [12]. Metacognitive strategies play an important role in reading comprehension as indicated by increased performance in the process of reading comprehension related to learning tasks [13]. Self-monitoring of metacognitive strategies is a strong predictor of reading comprehension, where students monitor the knowledge they have acquired [14]. In self-monitoring, students assess the development of their reading results and carry out self-questions related to something they have not understood to find the answer, set or control learning time and reading speed and try to predict answers [15].

Students who use their metacognitive skills in solving their understanding are carried out through awareness and checking the correctness of solutions and can control the processes that have been carried out consistently [16]. Research from Anthonysamy, Koo, & Hew (2020) states that the domain of metacognitive knowledge influences digital literacy, where students have an awareness of their critical thinking. [17]

Digital literacy is an understanding of information from multiple formats in information and communication technology. Digital literacy is related to improving performance and competency in using digital technology for learning purposes [18]. Reading comprehension requires a simultaneous understanding of various media, modes, purposes, and contexts as well as skills in using and producing media / multimediating [19]. Nikou, Brännback, & Widén (2019) the results of their research found that digital literacy is more important than information literacy, and is strongly related

to social norms [18]. Coiro & Dobler (2007) in Lee & Wu (2013) stated that skilled online readers need a lot of reasoning strategies in predicting unviewed pages and evaluating reading progress [20]. The use of metacognitive strategies in evaluation skills is very much needed in the process of reading comprehension. Navigation skills affect reading comprehension, where students must know what information is needed, and what content is directed to effective links and strategies for understanding reading [6]. The results of this study indicate that there is no relationship between metacognitive strategies and digital literacy. This confirms that the availability of information and communication technology at home or school does not influence digital literacy. The availability of information and communication technology must be balanced by involving students in active reading activities with the guidance of lecturers [9].

4 Conclusion

Metacognitive strategies in this study are not related to students' digital literacy. Students who are skilled readers have many strategies in the online reading comprehension process. Navigation skills are closely related to the acquisition of reading comprehension related to digital literacy. Evaluation skills during the reading comprehension process on online texts become very important. The availability of information and communication technology cannot be used as a benchmark for digital literacy, so lecturer guidance is very helpful in reading comprehension.

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