SCIENCE LITERACY SKILLS OF ELEMENTARY SCHOOL STUDENTS IN THE INDEPENDENT CURRICULUM

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ABSTRACT

Science literacy is important for students to understand the environment, health, economy, modern social and technology. Therefore, measuring science literacy is important to determine students' level of science literacy in order to achieve high or good science literacy. This study aims to determine the science literacy skills of elementary school students in the Merdeka curriculum. This type of research uses a qualitative descriptive method with a total of 38 students. The techniques used are collecting data, processing data, and describing the results of science literacy skills. The results show that science literacy skills, namely in the first indicator of identifying scientific issues, 62% are in the sufficient category. The second indicator explaining scientific phenomena is 50% in the insufficient category. While the third indicator of using evidence is 40% in the insufficient category. Efforts made to make students' science literacy skills good can be done by using media, teaching materials, and applying learning models or methods.

Keywords: Science Literacy Skills, Independent Curriculum

ABSTRAK

Literasi sains penting bagi siswa untuk memahami lingkungan, kesehatan, ekonomi, sosial modern, dan teknologi. Oleh karena itu, pengukuran literasi sains penting untuk mengetahui Tingkat literasi sains siswa agar dapat mencapai literasi sains yang tinggi atau baik. Penelitian ini bertujuan untuk mengetahui kemampuan literasi sains siswa sekolah dasar pada kurikulum Merdeka. Jenis penelitian ini menggunakan metode deskriptif kualitatif dengan jumlah subjek 38 siswa. Teknik yang digunakan adalah mengumpulkan data, mengolah data, dan mendeskripsikan hasil kemampuan literasi sains. Hasil menunjukkan kemampuan literasi sains yaitu pada indikator pertama mengidentifikasi isu-isu ilmiah 62% berada pada kategori cukup. Indikator kedua menjelaskan fenomena ilmiah yaitu 50% berada pada kategori kurang. Sedangkan pada indikator ketiga menggunakan bukti yaitu 40% berada pada kategori kurang. Upaya yang dilakukan agar kemampuan literasi sains siswa baik dapat dilakukan dengan penggunaan media, bahan ajar, serta menerapkan model atau metode pembelajaran.

Kata Kunci: Kemampuan Literasi Sains, Kurikulum Merdeka

A. Introduction

Literacy is a basic skill that students must have in the global era to meet the needs of life in various situations. In the 21st century, mastery of science has become a benchmark of a nation's progress.

As a developing nation, Indonesia must be prepared to continuously improve literacy culture as a provision for the life skills of the nation's next generation (DS et al., 2021). One of the literacies that must be improved besides reading literacy is science literacy.

The importance of science is often juxtaposed with technology as the key to a nation competing in the world arena. Science or natural science is one of the subjects found at the elementary school level.

Science literacy according to PISA is the capacity to use scientific knowledge, identify questions and to draw conclusions based on evidence in order to understand and help make decisions about what the natural world and human interactions with nature (Pujiati & Retariandalas, 2020).

Science literacy should start at an early age to provide students with a broad knowledge of science. The results of the 2018 PISA survey published in March 2019 showed that Indonesia ranked 74th out of 79 countries, indicating that students' science literacy in Indonesia is still low. Science literacy can improve students' creativity and understanding of science. Science literacy can improve students' affective, cognitive and psychomotor aspects (Kristyowati & Purwanto, 2019). According to Liliasari (in Wibowo, 2021) science literacy has implications for a person's ability to identify science issues that underlie local and national decision making which can also show the position of science and technology that he has received.

The independent curriculum is the curriculum implemented after the COVID-19 pandemic (Nugraha, 2022).

Through an independent learning curriculum that focuses on strengthening character and fundamental competencies, it is expected to provide a learning recovery. Learning recovery is oriented towards improving students' abilities in literacy, numeracy, and science which are indicators of Indonesia's declining achievements. In relation to the low science literacy of Indonesian students, the main

factors affecting it are low reading skills and decontextualized learning (Fuadi et al., 2020) (Suparya et al., 2021), Lack of empowerment of students in carrying out the scientific process (Fadilah et al., 2020).

For almost 20 years since PISA released the results of the science literacy skills of students around the world, Indonesia has always been at the bottom of the list. Dadi stated that the quality of science learning in Indonesia is far below OECD member countries (Fuadi et al., 2020).

In previous research conducted by Naila & Khasna (2021) stated that the importance of science literacy for the lives of students at the elementary school level for their future. This is supported by Yuyu's (2017) research that to improve scientific literacy skills besides requiring student motivation, teachers also need to consider learning strategies that are in accordance with the conditions and potential of students where the learning process focuses on direct experience and application of the nature of science.

Based on the problems that have been described, this research is focused on analyzing the science literacy skills of elementary school students. The purpose of this study is to determine the level of science literacy skills of elementary school students in the Merdeka curriculum.

B. Research Method

This research is a descriptive study that aims to identify science literacy skills. Descriptive research according to Sugiyono is a study that is prepared to describe or provide an overview of the object to be studied through the data collected as it is (Aci et al., 2024). According to Moleong, the purpose of qualitative descriptive research is to interpret events that occur using existing methods. (Dwisetiarezi & Fitria, 2021).

The research subjects were 38 public elementary school students in East Karawang Subdistrict in the 2023-2024 academic year. The instrument used was a science literacy test tool developed by the author with reference to science literacy indicators. The science literacy indicators used are identifying scientific questions or issues, explaining scientific phenomena, and using scientific evidence.

Then the data analysis technique uses descriptive data analysis

techniques and percentage results of the level of science literacy skills.

Table 1. Criteria for Science Literacy

Interval	Criteria	Code
85-100	Very Good	SB
70-84	Good	B
55-69	Fair	C
50-54	Less	K
0-49	Very Poor	SK

Sudijono (in Novitasari, 2018)

C.Findings and Discussion

Science literacy sees the importance of thinking and acting skills that involve mastering thinking and using scientific thinking in recognizing and addressing social issues. Science literacy is important for students to understand the environment, health, economy, modern social, and technology. Therefore, measuring science literacy is important to determine the level of science literacy of students in order to achieve high or good science literacy so that the quality of education in Indonesia can improve and can compete with other countries (Kasse & Atmojo, 2022).

The research was conducted in elementary schools in the East Karawang sub-district, grade IV on the topic of plants as a source of life. The curriculum used in the school is the Merdeka curriculum. Researchers analyzed the science literacy skills of fourth grade students in IPAS learning. Information is obtained by means of researchers starting observation activities carried out in September 2023.

Overall, based on researcher observation, 50.66% (less). The results of these calculations are presented in table 2.

Table 2. Percentage Result of Science Literacy Ability

Indicator	Presentase
Identifies scientific questions or issues	62%
Explaining scientific phenomena	50%
Using scientific evidence	40%

Based on table 2 above, it can be seen that the science literacy skills of fourth grade elementary school students in the first indicator of identifying scientific questions or issues have a sufficient category (62%). The second indicator is explaining scientific phenomena, which is in the insufficient category (50%). Furthermore, the third indicator, namely using scientific

evidence, is in the insufficient category (40%).

The indicator that has the lowest percentage is the third indicator, namely using scientific evidence. The reason is that students still have difficulty in using scientific evidence. The contributing factor is students who are not used to questions that are analytical in nature. This is the same as research conducted by Pujiati & Retariandalas (2020) getting a percentage in the low category on indicators of using scientific evidence.

Efforts to improve the science literacy skills of elementary school students, one of which is by providing many learning resources as reading material in learning and increasing students' insights (Fortuna & Fitria, 2021). Meanwhile, according to Febrianti (2021) the use of digital book media makes students more active in learning, so that their science literacy skills increase. The development of teaching materials is also effective for improving the science literacy skills of elementary school students (Pujana et al., 2022).

D. Conclusion

The conclusion obtained in this study is that the science literacy skills of grade IV elementary school students in the Merdeka curriculum on plant material as a source of life are in the sufficient category (62%) for indicators of identifying scientific questions or issues, the less category (50%) for indicators explaining scientific phenomena, the less category (40%) for indicators using scientific evidence.

The suggestions from this study are that the science literacy skills of elementary school students can be further improved by applying teacher models, methods, media and teaching materials.

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