Analysis of Literacy and Numeracy Ability in Class 5th Students at SDN 1 Trenceng, Sumbergempol District, Tulungagung Regency

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Abstract - The GLN (National Literacy Movement) that has been carried out has not yet given optimal results at ANBK SDN 1 Trenceng in 2024. This study aims to analyze the literacy and numeracy skills of grade V students at SDN 1 Trenceng, Sumbergempol District, Tulungagung Regency. This study uses a descriptive qualitative approach with data collection techniques through tests, interviews, and documentation. The results showed that the literacy ability of 8 students, 3 (37.5%) were in the very high category, 2 (25%) high, and 3 (37.5%) moderate, with an average score of 81,875 which was in the high category. In each of the results of the score per indicator used in the test, both fictional texts and informational texts, class V students were in the high category with an average score of 88 for fictional texts and an average score of 82 for informational texts. In the numeracy content, a wider variation was found, namely 3 (37.5%) students in the very high category, 2 (25%) students in the high category, 1 (12.5%) medium, 1 (12.5%) low, and 1 (12.5%) very low. In each of the results of the value per indicator used in the test, the number and geometry indicators and measurements were in the high category with an average score of 80. In the algebra and data and uncertainty indicators, they are in the medium category with an average score of 75. Students' literacy and numeracy skills are in the high category. This research is expected to be a reference for schools and teachers in improving the quality of literacy and numeracy learning

Keywords: Literacy ability, Numeracy ability, Grade V students

INTRODUCTION

A. Background

Literacy, which was initially only defined as the ability to read and write, has now developed into a multidisciplinary skill that is important for individuals and the nation [1](Rahmwati, 2021). Numeracy is a very important skill in daily life. It includes an individual's confidence and readiness to use quantitative or spatial information in decision-making. The world of education makes literacy and numeracy interrelated, where literacy includes the ability to read and understand information, while numeracy focuses on the application of number concepts and arithmetic operations [2](Tiara Nur Cahyani, Een Unaenah, 2024). According to [3](Setya & Purnomo, 2023) An understanding of literacy and numeracy is essential, as these abilities allow individuals to understand, use, and interpret numerical information in a variety of contexts. The three main components that make up literacy and numeracy are the ability to perform basic operations such as addition, subtraction, multiplication division (counting), the ability to recognize understand, and use numbers in different contexts (number comprehension), the ability to apply various mathematical operations in real-life situations. The Ministry of Education and Culture revealed that students' abilities in literacy and numeracy are measured in the Minimum Competency Assessment (AKM). The competencies evaluated include the ability to think logically and systematically, the ability to reason using concepts and knowledge, and the ability to sort and process data, this was revealed by [4](Klarita & Syafiah, 2022).

Based on the results of interviews with classroom teachers, information was obtained that grade V students at SDN 1 Trenceng measured literacy and numeracy skills with AKM questions conducted by classroom teachers as a form of digital literacy and ANBK. The ANBK program must be implemented in all schools in Indonesia, especially class V, according to regulations from the ministry. The school has also implemented a reading corner program and reading book service in the library designed to support literacy, where students can access a variety of interesting and educational reading materials. This program is held so that students can be more motivated to read and improve their literacy skills. Classroom teachers also balance students' numeracy needs in daily activities, as well as innovate teaching aids to teach mathematics concepts. Although these various efforts have been made, based on the facts of the results of the national education report card of SDN 1 Trenceng in 2024, the literacy ability of students has actually decreased by 20% compared to the previous year and has been ranked middle to lower in the Regency/City. The numeracy ability category also decreased by 2.74% from the previous year even though it still received a medium ranking in Regencies/Cities.

The Ministry of Education and Culture, Research and Technology (Kemendikbudristek) has pursued programs that have the aim of developing students' literacy and

numeracy as expressed by [5](Ekowati et al., 2019) in 2016 the government implemented the GLN (National Literacy Movement) program which is an implementation of Permendikbud Number 23 of 2015 concerning the Growth of Ethics. The government hints that (GLN) is run in schools in Indonesia under the name of the School Literacy Movement (GLS). The Government of Indonesia seeks this program with the aim of developing students' reading interest and literacy skills as a whole, besides also creating a school atmosphere that is conducive to literacy development. GLS is included as one of the debriefings in other Ministry of Education and Culture programs, namely the Teaching Campus program, as expressed by [6](Irmawati & Ilmah, 2022) that the Ministry of Education and Culture seeks to improve literacy and numeracy skills through the Teaching Campus program. The Ministry of Education and Culture in the teaching campus program provides opportunities for students from various majors and study programs to apply the skills and knowledge they learn in lectures, with the aim of helping and improving literacy and numeracy skills at the elementary, junior high, and high school levels.

Based on the explanation of the problem above, the author has the attraction to carry out research on "Analysis of Literacy and Numeracy Ability in Class V Students at SDN 1 Trenceng, Sumbergempol District, Tulungagung Regency". By using a qualitative approach, the author will explore the literacy and numeracy skills of students. The results of this study are expected to provide a clearer picture of the condition of literacy and numeracy skills in the school, as well as provide recommendations for improving and developing more effective education programs.

B. Problem Statement

Based on the above background, the formulation of the problem can be known as follows:

1. What is the literacy ability of grade V students of SDN 1 Trenceng, Sumbergempol District, Tulungagung Regency?

2. What is the numeracy ability of grade V students of SDN 1 Trenceng, Sumbergempol District, Tulungagung Regency?

LITERATURE REVIEW

A. Literacy

The explanation of literacy is the competence in accessing, understanding, and using information appropriately through reading, writing, listening, or speaking, this is expressed by Triyono and Suparman (2018) in the article [7](Rohim & Rahmawati, 2020). Literacy is also defined in the Great Dictionary of the Indonesian Language as a skill that includes speaking, reading, writing, arithmetic, and solving problems needed in daily life [8](R. Hendaryan, Taufik Hidayat, 2015).

According to Putri (2018), the habit of reading and writing has a positive impact on the development of the quality of human resources in the future. When students master their literacy skills well, they can create a more dynamic learning atmosphere in the classroom [9](Daroin et al., 2022). Another opinion from fisabilillah and Rahmadanik (2022) reveals that the development of reading and writing skills in Indonesia continues to be developed to improve the quality of human resources. Especially at the elementary school level, literacy and numeracy skills are the main aspects emphasized in the teaching and learning process [10](Izzah, 2023).

Literacy and numeracy skills require indicators to measure the achievement in literacy and numeracy skills of students. The literacy and numeracy indicators used in this measurement use indicators contained in the (Center for Assessment and Learning of the Ministry of Education and Culture, 2020), that the reference of literacy and numeracy indicators in this study adjusts to the AKM component. The literacy indicators published by the PIRLS Framework, which have three aspects of indicators, namely first, the purpose of reading literary works; second, the purpose of reading to obtain information; and know the search process [11](Harahap et al., 2022).

B. Numeracy

The Ministry of Education, Culture and Research Technology (2017) explained that numeracy is part of mathematics, has four main aspects in the 2013 curriculum, first, the number aspect includes expertise in estimating and calculating numbers involving integers, decimals, percentages, fractions, and comparisons. Second, in the context of numbers and algebra, students are expected to be able to identify and apply various mathematical patterns and relationships. Third, in the field of geometry and measurement, the focus is on the ability to use spatial reasoning and measurement skills. Fourth, the data processing component emphasizes the ability to interpret and explain statistical information [12](Sari et al., 2022).

In the research of Kus (2018), numeracy skills will be used in daily activities, starting from routine shopping activities, bank credit management, to the process of finding a job. By mastering numeracy, one can improve their understanding of financial management. The ability to understand numerical information accurately is essential, as in calculating the cost of rent or transportation to school. These skills also enable a person to draw informed conclusions, conduct risk assessments, and make financial decisions that are crucial to one's survival [13](Yunarti & Amanda, 2022). Therefore, the ability to understand numeracy is a vital skill in the right decision-making process [14](Han et al., 2017).

Ministry of Education and Culture (2017) in [12](Sari et al., 2022) who compiled numeracy ability indicators based on curriculum 20 2013, numeracy ability includes four main components, as follows. (a) Numbers, which involve the skills of estimating and calculating integers, decimals, percents, fractions, and comparisons; (b) Numbers and algebra, which focuses on the ability to identify and utilize patterns and relationships; (c) Geometry and Measurement, which includes spatial reasoning and measurement skills; and (d) Data

processing, which is related to the ability to explain statistical information.

RESEARCH METHOD

A. Type and Design of Resarch

This study uses a type of qualitative research with the approach used by the author is phenomenological. Stages of qualitative research according to Lexy J. Moleong 2014 in the book [15](Dr. Umar Sidiq, M.Ag Dr. Moh. Miftachul Choiri, 2019) explained that the qualitative research stage includes, the pre-field stage, the field work stage, and the data analysis stage.

This study uses grade V students of SDN 1 Trenceng, Sumbergempol District, Tulungagung Regency, which consists of 8 students, as the subjects of this study. The duration of the research is approximately 6 months, starting from the preparation of the research design in December 2024 to the preparation of the report in June 2025.

A. Research Instruments

The researcher gave tests for 8 students with a total of 10 test questions each on literacy and numeracy skills. Test questions are guided by indicators guided by the National Assessment and Learning Center (pusmenjar) managed by the Ministry of Education and Culture. According to Purwanto (2008) in [11](Harahap et al., 2022) students' test scores are grouped based on the percentages they obtain, with categories ranging from very high, 48 high, medium, low, and very low. The researcher also used a semi-structured interview technique to obtain in-depth information from the research subjects related to literacy and numeracy skills. The documentation in this study is in the form of internal documents such as photos, test sheets, and relevant data as a form of research archive related to the literacy and numeracy skills of grade V students of SDN 1 Trenceng.

RESULTS AND DISCUSSION

A. Literacy skills

Based on research that has been conducted at SDN 1 Trenceng on the literacy ability of grade V students from 8 students who are the subject of the research, the overall literacy test results of students are in the medium to very high category. 3 (37.5%) students obtained a score in the "very high" category, 2 (25%) students in the "high" category, and 3 (37.5%) students were in the "medium" category. Based on the results of the literacy ability test scores, students as a whole got an average score of 81.875, according to the interval table of literacy ability scores of students in grade V of SDN 1 Trenceng, included in the high category.

The results of the literacy test data from 8 students who have taken the test, on the overall fiction text indicator, students got an average score of 88 and on the information text indicator got an average score of 82. Based on the value interval that has been described, the literacy ability of grade V students of SDN 1 Trenceng

on the indicators of fiction texts and information texts is in the high category. In the test questions in the fiction text indicator, the highest correct answer was obtained by 7 (87.5%) of 8 students who were able to answer correctly on the sub-indicator reflecting on new knowledge obtained in fiction texts with the type of complex multiple-choice questions, and in the information text indicator 8 (100%) students were able to answer correctly on the sub-indicator of finding explicit information (who, when, where, why, how) in the information text with the type of short fill questions and sub-indicators assess the suitability between the illustration and the content of the information text with the type of multiple-choice questions. Meanwhile, the most errors were found in the test questions, in the fiction text indicator in the complex multiple-choice type questions with sub-indicators comparing the main things in the fictional text (for example, characterization, conflict, and flow), and in the test questions in the information text indicator, there were also many mistakes of students in answering with the same type of 81 questions and sub-indicators but in the information text. Almost the same results were also revealed in the results of the study [4](Klarita & Syafiah, 2022) that 12 (100%) students were able to correctly answer the fiction text indicator in evaluating and reflecting in the text presentation format and 12 (100%) students answered incorrectly on the fiction text indicator in compiling inferences with the format of complex multiple-choice test questions.

The results of the data on students' literacy abilities were also obtained from interviews that had been conducted, some students experienced difficulties, especially in long texts. Most students complain about the large amount of text, making it difficult to remember the storyline or important information. In the sub-indicator reflecting new knowledge from fictional texts, students are mostly better able to understand moral values or lessons that can be taken. In the content of the informational text, most students were able to identify the main content and location of the event, but had difficulty finding the time of the event. So, this suggests that learners may still not be used to reading informative texts with an analytical approach.

B. Numeracy ability

Based on research that has been conducted at SDN 1 Trenceng on the numeracy skills of grade V students, results were obtained that show a wider variation than literacy skills. Overall, of the 8 students who were the subjects of the study, 3 students were in the very high category, 2 students in the high category, 1 student in the medium category, 1 student in the low category, and 1 student in the very low category. So, this shows that there is a fairly clear gap in numeracy skills between students. Based on the results of the numeracy ability test scores, students as a whole got an average score of 77.125, according to the table of the numeracy ability interval of students in grade V of SDN 1 Trenceng, included in the high category.

The results of the numeracy ability test data from 8 students who have taken the test, overall, in the indicator of the number of students got an average score of 80, algebra got an average score of 75, geometry and measurement got an average score of 80, data and uncertainty got an average score of 75. Based on the value interval that has been described as 83, the literacy ability of grade V students of SDN 1 Trenceng on number and geometry indicators and measurements is in the high category, and in algebra and data and uncertainty indicators are in the medium category. In the test questions of the four indicators used, in the number 8 indicator (100%) students were able to answer correctly in the sub-indicator using and estimating the results of mixed calculation operations with the type of multiple-choice questions, the same percentage was obtained on the data indicator and uncertainty in the sub-indicator reading and how to collect data from a diagram with the type of matching questions. Meanwhile, the lowest percentage was only 2 (25%) out of 8 students who were able to answer correctly on complex multiple-choice questions with geometry and measurement indicators. In research [4](Klarita & Syafiah, 2022) were also obtained with low percentage results on geometry and measurement indicators 6 (50%) of 12 students.

As a result of the students' interviews on numeracy skills, most of the students used standard strategies such as the stacking down method for counting operations and porogapit for division. This is in line with research [2](Tiara Nur Cahyani, Een Unaenah, 2024) that students are quite capable of indicators using various numbers and symbols in basic mathematics calculation operations. However, in contextual questions or problems involving number patterns and problem solving, many students answer difficulties and do not even know how to solve the problem. Some students answered the origin and 84 passed the questions that were considered difficult. The results of different studies were revealed by Anggraini (2022) that students with numeracy skills in the students' reasoning indicators were able to analyze questions and elaborate on answers with the right reasons. So, this shows that grade V students of SDN 1 Trenceng in the ability to reason and solve context-based numeracy problems still need assistance and guidance. In geometry and measurement problems, students showed better mastery. Almost all learners can correctly pronounce broad and circumferential formulas, and are able to work on questions based on calendars or visual signs. In data indicators and uncertainty, such as reading pictograms, all students did not experience difficulties. Students feel that the information in pictures or graphs is very clear and easy to understand. However, when drawing conclusions or answering questions that require logic from a data, students begin to feel confused. The same results were revealed by [7](Rahmwati, 2021) that students have not been able to deduce information from the questions given.

CONCLUSION

1. The results of the literacy ability test from 8 students who were the subjects of the study as a whole, 3 (37.5%) students were in the very high category, 2 (25%) students were in the high category, and 3 (37.5%) students were in the medium category. No students are included in the low or very low category. The results of the students' literacy ability test obtained an average score of 81.875 which indicates that the ability of class V students is in the high category. In each of the results of the score per indicator used in the test, both fiction texts and informational texts, class V students were in the high category with an average score of 88 on the fiction text indicator and an average score of 82 on the information text indicator.

2. The numeracy ability of grade V students of SDN 1 Trenceng showed more significant variations. There were 3 (37.5%) students in the very high category, 2 (25%) students in the high category, 1 86 (12.5%) students in the medium category, 1 (12.5%) students in the low category, and 1 (12.5%) students in the very low category. Based on the results of the numeracy ability test scores, students as a whole got an average score of 77.125, according to the table of the numeracy ability interval of students in grade V of SDN 1 Trenceng, included in the high category. In each of the results of the value per indicator used in the test, the number and geometry indicators and measurements were in the high category with an average score of 80. In the algebra and data indicators and uncertainty are in the medium category with an average score of 75.

BIBLIOGRAPHY

[1] A. N. Rahmwati, "Analysis of Numeracy Literacy Ability in Grade 5 Elementary School Students," *Pros. Sem. Nas. Integr. Mat. and Islamic Values.*, vol. 4, no. 1, pp. 59–65, 2021, [Online]. Available: http://conferences.uin-malang.ac.id/index.php/SIMANIS/article/view/1502/725

[2] E. O. Tiara Nur Cahyani, Een Unaenah, "ANALYSIS OF LITERACY AND NUMERACY ABILITY OF GRADE V ELEMENTARY SCHOOL STUDENTS," vol. 09, no. September, pp. 2001–2014, 2024.

[3] D. Setya and H. Purnomo, "Analysis of Numeracy Literacy Ability of Grade 5 Students of Sd Negeri Tamansari 1," *MIDA J. Educator. Islamic Policy*, vol. 6, no. 2, pp. 216–227, 2023.

[4] E. N. Klarita and R. Syafiah, "Analysis of Literacy and Numeracy Ability in Solving AKM Questions for Class V Students," *J. Educator. Teacher*, vol. 3, no. 4, pp. 262–267, 2022.

[5] D. W. Ekowati, Y. P. Astuti, I. W. P. Utami, I. Mukhlishina, and B. I. Suwandayani, "(Elementary School Education Journal) Numeracy Literacy in Elementary School Muhammadiyah," *ELSE (Elementary Sch. Educ. Journal)*, vol. 3, no. 4, pp. 93–103, 2019.

[6] F. Irmawati and N. K. Ilmah, "Analysis of Numeracy Literacy Ability in Grade 5 Students of SDN Saptorenggo 3 Malang Regency," *JIIP - J. Ilm. Educator Science.*, vol. 5, no. 11, pp. 4917–4921, 2022, doi: 10.54371/jiip.v5i11.1083.

[7] C. D. Rohim and S. Rahmawati, "In Public Elementary Schools," *Lesson. Educators. And has. Researcher.*, vol. 6, no. 3, p. 2, 2020.

[8] S. H. R. Hendaryan, Taufik Hidayat, "THE IMPLEMENTATION OF DIGITAL LITERACY IN IMPROVING STUDENTS' LITERACY SKILLS," vol. 6, no. April 2022, p. 6, 2015.

[9] A. D. Daroin, O. V. K. Santoso, D. M. A. Pranidia, and L. L. Halimah, "Improving Students' Literacy and Numeracy Skills at Sdn 2 Gombang Tulungagung," *D'education J. Pengabdi. Mass.*, vol. 2, no. 1, p. 38, 2022, doi: 10.25273/dededuction.v2i1.12670.

[10] M. Izzah, "Implementation of the 4th Batch Teaching Campus Program in an Effort to Improve the Literacy and Numeracy Skills of Elementary School Students," *JPPD J. Pedagogu. Educators. Basis*, vol. 10, no. 2, pp. 100–112, 2023, [Online]. Available: https://ejournal.upi.edu/index.php/jppd/index

[11] D. G. S. Harahap, F. Nasution, E. S. Nst, and S. A. Sormin, "An Analysis of Literacy Ability of Elementary School Students," *J. Basicedu*, vol. 6, no. 2, pp. 2089–2098, 2022, doi: 10.31004/basicedu.v6i2.2400.

[12] L. P. Sari, L. H. Affandi, and I. Oktaviyanti, "Analysis of Numeracy Ability of Ngolang Elementary School Students After the All Smart Children (SAC) Program," 2022.

[13] T. Yunarti and A. Amanda, "The Importance of Numeracy Skills for Students," *Sem. Nas. Learning Mat. Science and Technology.*, vol. 2, no. 1, pp. 44–48, 2022.

[14] W. Han *et al.*, "'Supporting Materials for Numeracy Literacy,'" *Ministry of Education. and Culture, the GLN Team of the Ministry of Education and Culture.*, vol. 8, no. 9, pp. 1–58, 2017, [Online]. Available: https://repositori.kemdikbud.go.id/11628/1/materi-pendukung-literasi-numerasi-rev.pdf

[15] M. Dr. Umar Sidiq, M.Ag Dr. Moh. Miftachul Choiri, *Qualitative Research Methods in the Field of Education*, vol. 53, no. 9. 2019. [Online]. Available: http://repository.iainponorogo.ac.id/484/1/METODE QUALITATIVE RESEARCH IN THE FIELD OF PENDIDIKAN.pdf