Analysis of Numeration Ability form the Results of the Minimum Competency Assessment (AKM) in Class V Students of at SD Negeri 101 Palembang

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Receive: 17/01/2023  |  Accepted: 17/02/2023  |  Published: 01/03/2023

Abstrak

The numeracy abilities in the AKM results for class V students at SD Negeri 101 Palembang are classified as below the set standards. Because students do not understand the AKM numeracy questions at the level of knowing, applying and reasoning. students are not yet adept at doing numeracy questions. Fulfillment of infrastructure for working on numeracy questions, especially inadequate IT. The aim of the research is to analyze the numeracy abilities of class V students at SDN 101 PLG in terms of perceptions of Creating, Applying and Reasoning as well as analyzing the level of students' numeracy abilities. The method used is descriptive with a quantitative approach. Research with a quantitative approach, pressure analysis on numerical data (numbers) which is then analyzed using appropriate statistical methods. The sample consisted of 30 fifth grade students and data analysis used the SPSS program. The numeracy abilities of class V students at SD Negeri 101 Palembang are mostly obtained based on the results of calculations between the students' average scores and the standard deviation of the data, then the results will be determined based on norm references. At the knowledge question level, for the "high" category there were 2 students or 6.67%, for the "medium" category there were 13 students or 43.33% and for the "low" category there were 15 students or 50%. At the application question level for the "high" category there were 3 students or 10% for the "medium" category there were 14 students or 46.67% and there were 13 students or 43.33% for the "low" category. At the level of reasoning questions for the "high" category there were 3 students or 10%, for the "medium" category there were 14 students or 50% and for the "low" category there were 12 students or 40%. The results of the overall numeracy ability test assessment show that the numeracy ability of students in the "high" category is 6 students or 20%, in the "medium" category is 18 students or 60% and in the "low" category is 6 students or 20%. So it can be concluded that the majority of students at SD Negeri 101 Palembang have a medium numeracy ability category.

Keywords: Numeracy, Numeracy Ability, AKM

ABSTRAK

Kemampuan numerasi pada hasil AKM pada siswa kelas V di SD Negeri 101 Palembang tergolong dibawah standar yang di tetapkan. Dikarenakan siswa kurang memahami soal AKM numerasi level knowing, applying dan reasoning. siswa belum terlatih mengerjakan soal – soal numerasi. Pemenuhan sarana prasaranan mengerjakan soal – soal numerasi,
terutama IT yang belum memadai. Tujuan dari penelitian untuk menganalisis kemampuan numerasi siswa kelas V SDN 101 PLG ditinjau dari persepsi Knowing, Applying dan Reasoning serta menganalisis tingkat kemampuan numerasi siswa. Metode yang digunakan ialah deskriptif dengan pendekatan kuantitatif. Penelitian dengan pendekatan kuantitatif menekankan analisis pada data numerik (angka) yang kemudian dianalisis dengan metode statistik yang sesuai. Sampel sejumlah 30 siswa kelas V dan analisis data menggunakan program SPSS. Kemampuan numerasi siswa kelas V SD Negeri 101 Palembang yang mayoritas sedang diperoleh berdasarkan hasil hitung antara nilai rata-rata siswa dengan standar deviasi data kemudian hasilnya akan dikategorikan berdasarkan acuan norma. Pada level soal knowing untuk kategori “tinggi” terdapat 2 siswa atau 6,67% untuk kategori “sedang” terdapat 13 siswa atau 43,33% dan untuk kategori “rendah” terdapat 15 siswa atau 50%. Pada level soal applying untuk kategori “tinggi” terdapat 3 siswa atau 10% untuk kategori “sedang” terdapat 14 siswa atau 46,67% dan terdapat 13 siswa atau 43,33% untuk kategori “rendah”. Pada level soal reasoning untuk kategori “tinggi” terdapat 3 siswa atau 10% untuk kategori “sedang” terdapat 14 siswa atau 50% dan untuk kategori “rendah” terdapat 12 siswa atau 40%. Hasil penilaian tes kemampuan numerasi secara keseluruhan menunjukkan bahwa, kemampuan numerasi siswa untuk kategori “tinggi” sebanyak 6 siswa atau sebesar 20% kategori “sedang” sebanyak 18 siswa atau 60% dan kategori “rendah” sebanyak 6 siswa atau 20%. Sehingga, dapat disimpulkan bahwa mayoritas siswa SD Negeri 101 Palembang memiliki kategori kemampuan numerasi sedang.

Kata Kunci: Numerasi, Kemampuan Numerasi, AKM

The development of the times brings technological progress, the increasingly rapid advancement of technology means that humans must be able to adapt to the developments of the times. This greatly influences development in almost all fields, one of which is affected is the field of education. To balance its influence, good quality education is needed. As the aim of education is to improve people's lives and develop Indonesian individuals to have confidence, respect ancestral values, master knowledge and skills, maintain physical and mental health, form a good, independent and responsible personality. In line with the opinion of Hidayat, et al (2019:25) who explain the aim of national education, namely to improve people's intellectuality and develop Indonesian citizens as a whole, creating individuals who believe, obey God Almighty, have noble character, have knowledge and skills, maintaining physical and mental health, forming a strong and independent personality, and having a sense of responsibility towards society and the state. In order to achieve the goals of national education, quality Human Resources (HR) are needed.

Quality Human Resources (HR) is an important factor in building quality education in this era of globalization. Matter This can be realized through quality education, including holistic understanding and intelligence in mathematics. However, the weakness is the fact that the quality of education in Indonesia is still considered low, especially in understanding mathematics. The important role of mathematics in life has made mathematics receive considerable attention on the international stage. Therefore, international assessments are always held on the mathematical abilities of various countries to see the extent of the quality of education that the country has, so that a country's readiness can be measured...
in facing various challenges in this era of globalization. One of them is PISA (Program for International Students Assessment) which is overseen by the OECD (Organization for Economic Co-operation and Development) which is an international institution that measures the quality of education from various participating countries and focuses on the literacy skills of students. The PISA assessment is carried out every three years. There are three aspects that are the main focus in the PISA assessment, namely reading literacy, mathematical literacy and scientific literacy.

In AKM there are two cognitive sections of material, namely, literacy and numeracy. Literacy does not only include the ability to read, but also the ability to analyze texts and the ability to understand and absorb the concepts contained in writing. In contrast, numeracy is knowledge and skills in using various numbers and basic mathematical symbols to solve practical problems in various contexts of daily life. Numeracy also involves the ability to analyze information presented in various forms such as graphs, tables, or diagrams, and use the results of that analysis to predict and make decisions. It should be noted that numeracy is almost the same as mathematics but there are several differences in it, if mathematics is only limited to understanding basic concepts and solving problems using available formulas, it often lacks applicable relevance related to the context of everyday life. In contrast, numeracy involves the ability to apply mathematical concepts and principles concretely in real, everyday situations. In line with the explanation from the Ministry of Education and Culture in the Numeracy Literacy Module in Elementary Schools (2021:6), it is important to pay attention to numeracy development, because this is a basic skill that individuals must have in facing life's challenges in the future (Puspaningtyas, Ulfa 2021: 138). Students who have good numeracy skills are able to apply their mathematical skills in their lives. Numeracy cannot be separated from a person's ability to reason. This reasoning is a need for a student to have knowledge and skills in analyzing and understanding a statement. This is done in an activity of manipulating symbols and numbers related to mathematical concepts themselves in life. Apart from that, students also need to have the ability to analyze data presented in various forms and express their understanding of it, whether in written or oral form (Ekowati, Astuti, et al, 2019: 94).

Numeracy and mathematics are interconnected, the relationship between mathematics and numeration refers to components, where numeracy activities are inherently related to existing mathematics subject matter.

AKM implementation and character surveys can be held during the middle stage of education, in contrast to the National Examination which is held at the final stage of education. The aim of AKM and this character survey held in the middle of education is so that school education units and teachers can work to improve in order to achieve an education quality report in accordance with the minimum competencies targeted by the government. Remedial work is carried out before the graduation period, therefore, AKM and character surveys are not used as selection tools to decide whether students can continue to the next level of education. This is in accordance with the instructions of the law which refers to the national education system (UU Sisdiknas) Number 20 of 2003 Article 58 paragraph 1 which states that, "Assessment of student learning outcomes is carried out by educators to monitor the process, development and improvement of student learning outcomes. on an ongoing basis."

AKM is an assessment of each educational unit from elementary, middle and upper levels, for elementary level students will be taken in class V, middle level students will be taken in class VIII and for upper level
students will be taken in class XI. The questions in the elementary school level numeracy AKM consist of level 3 questions which cover cognitive levels (knowing, applying and reasoning) for class 5. This assessment is also carried out online or semi-online, in its implementation this AKM is known as ANBK (Computer Based National Assessment), this is because when carrying out the assessment using a computer. This is also the cause of the low results obtained because not all schools have the facilities and infrastructure to support these activities. Most schools don't have computers or laptops, and many schools don't even have internet network access. Apart from network problems with computer-based AKM, there are still several technical issues and shortcomings that need to be addressed immediately. Starting from uneven implementation due to inadequate infrastructure availability, to differences in internet connection speeds between schools and different areas. Other technical issues involve server and client computers suddenly exiting sessions and experiencing delays, as well as viruses and frequently annoying browser pop-ups. Basically, this situation is often interpreted as the Digital Divide phenomenon, which includes inequality in the ability to use digital technology. The discourse on the digital divide itself started from the issue of inequality in cable networks between urban and rural areas in the United States, Lukmanto in Noviantoro (2019: 4). The Digital Divide refers to gaps or inequalities in the use and utilization of technology and good communication, reflected in differences in age, gender, geographic location, work environment, and other factors (Nurul Fadilla, 2020:2). Based on the results of Infostate's calculations, the digital individual index value for each province was obtained. DKI Jakarta Province is used as a reference province for digital individual calculations because it has the highest infostate value. This research concludes that the individual digital index value for Papua province is the greatest compared to other provinces. Based on the results of the Minimum Competency Assessment test data for class V students at SD Negeri 101 Palembang in semester 1 of the 2022-2023 academic year, students' numeracy abilities are still below the predetermined competency. The numeracy scores achieved are at a medium level, meaning 66.67% of students have achieved competency. minimum and there are still 33.33% of students who have not reached the minimum competency set. The student numeracy results can be seen from the results of the AKM test for class V students represented by 30 students as stated in the education unit quality report card. The AKM score is also a quality benchmark for the questions tested in the Minimum Competency Assessment (AKM) numeracy. Numeracy questions are PISA mathematics questions covering mathematical material on numbers, algebra, geometry, data and uncertainty as well as the competence to know, apply and reason. According to one class V teacher, the reason students' numeracy scores were still below minimum competency was because students were presented with mathematical literacy questions that were connected to daily activities. In theory, students are taught questions that only involve solving practical formulas. Students have not been trained to solve AKM questions. This is also due to a lack of instilling the basic concepts of mathematics itself. Based on previous research conducted by Produka & Hajron, (2022) which examined numeracy abilities in AKM results at the basic education unit level, from the research results it can be concluded that students' numeracy abilities increased after being taught how to do questions, this can be seen
from the pre-results, students who were not satisfactory were then given guidance on how to do the questions, then the post test was carried out again and there was an increase in results which indicated the need for deeper teaching in numeracy. Meanwhile, in the research of Nurgiyanto, Rulviana, & Rohmanurmeta, (2022), the research conclusion stated that the implementation of numeracy learning at SDN 01 Klagen had run successfully and without obstacles, with teachers always making preparations from the planning, implementation, to evaluation stages. They focus on developing students' numeracy skills, providing them with various approaches such as problem presentation, discussion, and understanding formulas and theories, so that students can overcome various types of questions in the Numeracy Minimum Competency Assessment (AKM). In research, Sari et al (2021) concluded their research that students' ability to handle geometry questions in AKM Numeracy was considered inadequate, and they needed additional preparation to face AKM. From the three studies above, mature preparation was needed in terms of students' numeracy abilities to achieve competency, minimum set. Based on the presentation of competency test results data above, interested researchers need to conduct research at SD Negeri 101 Palembang regarding the numeracy abilities of class V students in the Minimum Competency Assessment (AKM) to see to what extent the students have achieved. Therefore, the researcher took the title "Analysis of Numeracy Ability from Minimum Competency Assessment (AKM) Results in Class V Students at SD Negeri 101 Palembang".

Research methodology
In this research, the method applied is descriptive with a quantitative approach.

According to Whitney in Samsu (2021:117) the descriptive method is finding facts with correct interpretation. According to Samsu (2021:117) descriptive research includes understanding the problems that exist in society, the norms that apply in society, and certain situations. Including the relationship between activities, attitudes, views and ongoing processes, as well as the impact of a phenomenon.

According to Hardani, Auliya, et al (2020:238) Research that uses a quantitative approach focuses on analyzing data in the form of numbers, which are then processed using appropriate statistical methods. Kurniawan & Puspitaningtyas in Hardani, Auliya, et al (2020:237) stated that in research that uses a quantitative approach, the aim and focus of the research is to develop theory based on available data or facts.

Data collection technique
According to Hardani, Auliya, et al (2020:120) Data collection techniques are a strategic step in research, because the main aim of the research is to obtain data. In this research, the data collection techniques used were tests, interviews and documentation.

Data analysis technique
In this research, quantitative descriptive data analysis techniques were used to measure the average, maximum and minimum standard deviation using SPSS and qualitative descriptive to describe the results of work based on indicators.

Results and Discussion
The research was carried out at SD Negeri 101 Palembang involving fifth grade students selected from 30 ANBK participants. Data for this research was collected from student exam results which involved 30 multiple choice type questions in the numeracy domain. The division of tests to collect data is divided into three cognitive levels, namely first, knowing (students' knowledge or understanding). Second, applying (application or application) and finally
reasoning (reasoning and the ability to make conclusions). The following are the results of each cognitive level:

In table 1 above, the level of knowledge (knowing) of the questions is 9. Most students answered correctly in question number 5. The total number of students was 30 students, 21 of whom answered correctly and 9 students answered incorrectly. Question number 20 had the fewest number of correct answers, namely 27 students answered incorrectly and 3 students answered correctly. The total number of correct answers at the knowledge level is 91 or 33.70%. There were 179 wrong answers or 66.30% of the total 270 questions.

b. The second level is Applying or implementation.

Table 2 Data on Student Numeracy Ability Based on Applying Level

Based on table 2 above, it is known that the level of application (applying) of the questions is 15 items. The item most often answered correctly was question number 1, out of 30 students 20 students answered correctly, 10 students answered incorrectly. Then, the number of people who answered slightly correctly was in question number 7, of the 30 students who took the test, 6 students answered correctly and 24 students answered incorrectly. The total number of questions is 450 questions, while for details the correct rate at the application level is 185 questions or 41.11% of the total, while the error rate is 265 or 58.89% of the total.

c. Third Level Reasoning or reasoning

Table 3 Data on Students’ Numeracy Ability Based on Reasoning Level

At the reasoning level, there are 8 questions. Question number 25 was the question with the highest number of correct answers, where out of 30 students, 14 students answered correctly and 16 students answered incorrectly. On the other hand, question number 4 had the fewest number of correct answers, namely 8 students answered correctly and 22 answered incorrectly. The total number of correct answers at the reasoning level was 69 or 38.33%, while the total number of incorrect answers was 111 or 61.67%.
In this research, the data is presented in the form of numbers, then a description of the data is carried out. The aim of this research is to analyze the numeracy abilities of class V students at SDN 101 Palembang. The research was carried out by dividing multiple choice questions consisting of three cognitive levels, knowing, applying and reasoning, with a total of 30 questions. The questions are divided into 3, namely: level of knowledge (knowing) 9 questions, level of application (applying) 15 questions, and level of reasoning (reasoning) 6 questions. The number of questions at each cognitive level is determined based on percentages, namely 30% for knowing, 50% for applying, and 20% for reasoning. The questions cover four different materials, with 40% number material or 12 questions, 25% geometry and measurement material or 8 questions, 10% algebra material or 3 questions, and 25% data and uncertainty material or 7 questions. In accordance with the Ministry of Education and Culture’s Center for Assessment and Learning (2020).

The results of the analysis of the numeracy skills of class V students at SD Negeri 101 Palembang show that numeracy questions at the applying level have the highest percentage of correct answers, reaching 41.11%. Furthermore, at the level of reasoning questions, the percentage of correct answers reached 38.33%. On the other hand, the lowest level of correct answers was found in knowing level questions, with a percentage of 33.70%. Therefore, it can be concluded that students tend to be more successful in answering numeracy questions at the applying level, followed by the reasoning level, and the lowest at the knowing level. This is in accordance with the results of interviews with students after the questions were discussed by the teacher, where the types of applying questions are the types of questions they often encounter and practice during simulations before implementing AKM, this is what causes the applying question types to get superior grades compared to about the types of reasoning and knowing. According to Toheri & Muchyidin (2019), questions at the...
knowing level cover aspects of knowledge (C1) and understanding (C2). On the other hand, the applying level requires higher skills than just C1 and C2, the scope of the applying level is (C3). Meanwhile, reasoning is identified as a higher level, covering categories C4, C5, and C6. Apart from that, this is supported by a statement from the fifth grade teacher who stated that knowing type questions were rarely taught because students were considered capable of doing them.

The final result of the question analysis was that item number 5 had a few errors. The question is about numbers, where students are asked to place appropriate numbers to represent the hundreds digit value of the data. It is easy for students to complete it well because they only identify hundreds of numbers from the data. Question number 5 is included in the cognitive level of knowing. Meanwhile, of the 30 questions, the number of errors in question item 20 was found to have the most students answering incorrectly, there were 3 students who could answer correctly. Question number 20 relates to data and uncertainty, this question is to determine and analyze the amount of money in one year. The total number of correct answers from all students reached 345 times, equivalent to 38.33%, while the number of incorrect answers reached 555 times, or around 61.67%. From the total answers, it can be seen that there are more wrong answers than wrong answers, with a significant difference of 210 answers. The numeracy abilities of students at SD Negeri 101 Palembang are influenced by several factors, including the less effective implementation of the school's numeracy movement in the GLS program, the lack of practice on numeracy questions in daily learning, and the lack of facilities and infrastructure that support improving students' numeracy abilities at school. To improve students' numeracy skills, teachers need to make efforts to provide practice questions that vary according to cognitive level. In line with Kurniawan's views, Rahadyan (2021) emphasizes the need to update and improve learning with various types of questions to improve students' numeracy skills. Previous research findings by Rahmwati (2021) also suggest the need for habits to improve students' numeracy skills. Based on the overall data analysis, it can be concluded that the results of research at SD Negeri 101 Palembang, if seen from the level of questions, are as follows: at the knowing level, there are 5 students in the high category, 23 students in the medium category, and 2 students in the low category. At the applying level, there are 5 students in the high category, 19 students in the medium category, and 6 students in the low category. At the reasoning level, there are 3 students in the high category, 22 students in the medium category, and 5 students in the low category. The results of the overall numeracy abilities of students at SD Negeri 101 Palembang show that only 3 students have high numeracy abilities. A total of 5 students were classified in the low category, while 22 students fell into the medium category. Based on these findings, it can be concluded that the majority of students at SD Negeri 101 Palembang have numeracy skills that are at a medium level.

The numeracy abilities of class V students at SD Negeri 101 Palembang, the majority of whom are at a medium level, were identified through calculating the students' mean scores and standard deviation scores. These results are grouped based on the existing formula, where a student's numeracy ability is considered moderate if the student's results are between > 14.52 and < 62.14. In this study the number of students with moderate abilities reached 73.33%. This fact is also reflected in the numeracy results at each question level, where more than 50% of students are in the medium numeracy ability category. This is proven by the knowing level of 76.67%. Applying level 63.33% and 73.33% at reasoning level.

**Conclusion**

Based on the overall research that has been carried out, it shows that the numeracy abilities of class V students at SD Negeri 101
Palembang, Seberang Ulu II sub-district, Sentosa sub-district, are:
1. Level of student numeracy abilities in class V students at SDN 101 Palembang in terms of cognitive level. At the knowing level, 5 students (16.67%) were in the high category, 23 students (76.67%) were in the medium category, and 2 students (6.66%) were in the low category. At the applying level, 5 students (16.67%) were in the high category, 19 students (around 63.33%) were in the medium category, and 6 students (20%) were in the low category. At the reasoning level, 3 students (10%) were in the high category, 22 students (73.33%) were in the medium category, and 5 students (16.67%) were in the low category. From the three levels of student cognitive level, the majority of students' abilities were at the numeracy level, this was because students were not trained enough in working on AKM questions, especially numeracy, as evidenced by the statement from the class V teacher who stated "This year's AKM is not optimal because students are not trained enough on questions. "The AKM questions are different from last year which had a lot of time beforehand even though the results were still less than standard."
2. The overall level of ability is at a medium level, as evidenced by the numeracy ability of students in the high category of 3 students (10%), in the medium category there were 22 students (73.33%) and in the low category there were 5 students (16.67%). So, it can be concluded that the majority of students at SD Negeri 101 Palembang have a medium numeracy ability category.

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Jurnal Edumaspul, 7 (2), Year 2023 - 5478

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