



Numeracy in Elementary School

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Abstract. Numeracy is an essential skill for elementary school students to have as a preparation for solving questions in the national assessment, which is carried out every year. This research uses a descriptive qualitative method on class V students at SDIT NU Karawang. This research showed that students needed help in geometry material compared to numbers, algebra, data, and uncertainty. Difficulty in geometry and measurement problems because students need help choosing formulas. The most accessible questions are questions about data and uncertainty. Numeracy abilities in elementary schools are included in the medium category based on the National Education Report Card results.

Keywords: Numeracy, Mathematics, Elementary School

1 Introduction

Numeracy become essential in the form of view to society and social problems. Besides that, the existence of numeracy is relevant and significant in the development of a person and his ability to make accurate decisions in the context of work and daily life [1]. If numeracy is optional daily, people don't use mathematics to finish work, relax, or practice citizenship. This shows that numeracy is essential in various ways, from getting and keeping work to being aware of the procedure. Safety is critical, and knowing the method uses the right network and mediator [2]. Numeracy is an exciting and essential for societies and economies worldwide, starting from all layers of society and everything circles age [3]. In part of daily life, numeracy is abstract and essential. From planning finance personnel to transaction global business, a strong understanding of numeracy plays a role. In level individuals, operating with numbers helps make financial decisions and deep planning and management aspects of critical life.

Numeracy is also required for tasks important functional often taught as skills base that is skills taken from tasks integrated into life real [4]. Aspect skills base this covers application numeracy in everyday situations that enable individuals to participate effectively in public. The ability to measure, calculate, and manage numerical data becomes a strong foundation for various activities, starting from shopping to making decisions about finances.

Thus, numeracy is not only about the manipulation of numbers but also about giving individuals the ability to individual for work well in an environment that is increasingly socially and economically complex. Skills this supports mobility and empowerment in

society and contributes to the growth of the economy and the development of sustainability in a broad way.

In modern society, numeracy alone is essential for the well-being of the public inhabitants. Numeracy not only helps us finish problem mathematics, but it also helps us in life daily by increasing our understanding of finance, improving opportunities working in the world of work, and building a foundation of safe mathematics that can be learned throughout life [5]. Numeracy plays a very role important in learning mathematics because it can help us understand how mathematics is used daily in life.

Term numeracy, first introduced in 1959 in the UK, is defined more as simply the ability to manipulate rule three [6]. Rule three numbers in mathematics are often used to finish problem proportions or compare three quantities or variables. Furthermore, in 1982, it was defined as the first numeracy ability. Utilizing skills in mathematics makes it possible for somebody to overcome the demands of mathematics practically every day. Second, numeracy is the ability to appreciate and understand the information presented in terms of mathematics, for example, in graphs, charts or tables or with refers to percentages increase or decline [7]. Numeracy is the ability to think and use concepts, procedures, facts, and tools in mathematics to finish problems daily in various types of relevant contexts for individuals as citizens of Indonesia and the world [8].

Numeracy is related to the use of mathematics in context, and numeracy means one's own capacity to use mathematics in a way that is effective in context [9]. Numeracy is interpreted as adequate competence in applying skills based on necessary arithmetic for facing situations daily [10]. Numeracy, in a way simply seen as an ability based on useful mathematics in life every day, which is an objective enough challenge [11]. Numeracy means applying mathematics in different situations.

Numeracy in various forms may become an essential issue for making government policy in the future [12]. In Indonesia, numeracy is starting to become familiar. Now, its implementation assessment is national, where one of the tests for student school base is numeracy. Understanding numeracy's role is crucial in preparing students to face assessments nationally in Indonesia. The ability to manipulate and implement numbers Not only influences results in test mathematics but also reflects skills in thinking critically and solving necessary problems in various eye lessons and daily life.

Thus, ability numeracy is not only a skill in academics but also a skill that practically equips students with the necessary tools to face the challenges in life daily with belief in self and competence. Of the various ways to improve numeracy skills, one way is to apply a learning model that can improve numeracy.

Based on the study's results, the numeration at the time this started developing was considered worthy of research in a profound way. This struck complex concepts [9]. However, numeracy still needs to be moderated enough and confront lots of challenges [3]. Based on the results of the study, the researcher is interested in researching numeracy at the school level.

2 Method

The method used in the study this qualitative descriptive. Study this with collected data and take notes on phenomena that occur. Good in a way, direct or not direct, the data is depicted in words or descriptive description without ignoring data in the form of words. Subject study this totals 11 students in class V, one teacher and one head school. Place study this was carried out at SDIT Nahdlatul Ulama Karawang with the address Jl Siliwangi Karawang Wetan Subdistrict West Karawang Regency Karawang-West Java. Collection techniques used in the study test numeracy, interviews and study documentation. As for technique, data analysis begins with data collection, data reduction, data presentation and conclusions.

3 Results and Discussion

Numeracy in various forms will become an essential issue for making future government policy [12]. Policy numeracy in Indonesia after issuing a circular from the Minister of Education and Culture Number 1 of 2021 that National Examinations and exams equality 2021 will be cancelled. With national exams and exams withdrawn equality in 2021, the national examination and exams equality will no longer become a condition for graduation or selection to enter a higher level tall [13]. The National Assessment has replaced the elimination of The National Examination. Policy about numeracy is loaded in Regulation Government Number 57 of 2021 concerning National Education Standards Article 46, which evaluates system education by the central government towards elementary and intermediate education in the form of a national assessment. Assessment national for measure competence participant education, quality learning, quality management unit education and influencing factors quality learning and quality management unit education. Assessment is nationally carried out in units of education level education, elementary and secondary, on formal and nonformal channels. The result of the evaluation form profile education is a report comprehensive about service education basic and intermediate used as base enhancement quality service education basic and intermediate and determination report card education (Presiden Republik Indonesia, 2021).

As the rules referred to above are regulated more technical inside regulation of the Minister of Education, Culture, Research and Technology Republic of Indonesia Number 17 of 2021 concerning the national assessment is contained in article 8 that implementation assessment national through assessment competence minimum, survey character and survey environment study. Meanwhile, article 9, assessment minimum competency, measure ability literacy, reading, and numeracy, which participants must own (Kemendikbud, 2021).

As for procedure operational standard maintenance National Assessment included in Regulation Head of the Educational Standards, Curriculum and Assessment Agency of the Ministry of Education and Culture Number: 030/H/PG.00/2021 participant assessment nationally at the elementary school level, namely class 5 in total maximum 30 people and reserve five people. An instrument is prepared in the form of digital. The

components content consists of several parts. Among them are numbers, algebra, geometry and measurement, data and uncertainty; cognitive level components cover understanding, application, and reasoning. At the same time, the component context includes personal, social, cultural, and scientific [16].

The test is given numeration to students in fifth grade at Nahdatul Ulama Elementary School, Karawang, about content numbers, algebra, geometry and measurement, data and uncertainty. The question given about self and environment closest which refers to Permendikbudristek Number 5 of 2022 concerning standard the graduates listed in article 6 that standard competence school graduates base show ability numeracy in reason use concepts, procedures, facts and tools mathematics for finish related problems with self and environment nearest [17]. As for components of a given cognitive level, it covers understanding, application and reasoning.

Question number 1 regards content geometry at the level of reasoning, question number 2 regards content algebra at the application level, question number 3 regards content numbers at the application level, and question number 4 regards data content and uncertainty at the level of understanding. As for results, answer the student's question in the Fig. 1.

1. Sebuah peti berbentuk balok berukuran panjang, lebar, dan tinggi berturut-turut adalah 150 cm, 80 cm, dan 100 cm. Seluruh permukaan peti akan dicat. 1 kaleng cat kecil dapat digunakan untuk mengecat 200 cm^2 , sedangkan 1 kaleng cat besar dapat digunakan untuk mengecat 350 cm^2 . Tentukan benar atau salah pernyataan berikut:

Pernyataan	Benar	Salah
300 kaleng cat kecil cukup untuk mengecat seluruh permukaan peti.	✓	✓
180 kaleng cat besar ditambah 35 kaleng cat kecil cukup untuk mengecat seluruh permukaan peti.	✓	✓

Fig. 1. regarding results answer Question 1 is related to content geometry.

Question number one in the exam is often the final choice for students because it is considered the most challenging of the four questions. Part big student: no complete column. The answer has been provided, and often, deletion answers are from the notes beginning until the answer is final. Difficulty students especially appear in determining the formula that must be used so they could to test whether the paint is available Enough or Not. Importance counts wide surface become spotlight, because matter this related directly to adequacy paint cans for coating surface chest. Interview results with the class teacher disclose that students experience difficulty, specifically in content geometry,

during the implementation assessment. This matter reflects challenges faced by students in applying draft mathematics specifically and shows the necessity to emphasize continuing with learning geometry. For increased understanding, students in context assessment national.

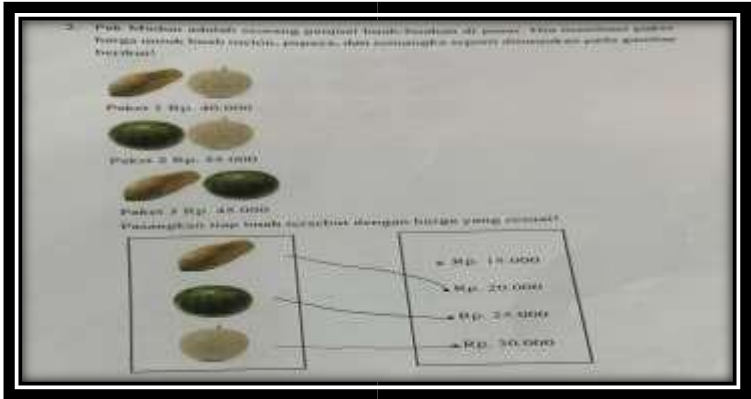


Fig. 2. regarding results answer Question 2 is related to content Algebra.

Based on the results (Fig. 2) of the students' answers to question number 2, no one took notes. The solution is not on the paper provided nor on the paper information. Students answer questions with the strategy of trial and error. They give an appropriate answer _ with package 2, which consists of price watermelon and melon. Students try to count the rice of watermelon as big as IDR. 25,000 plus with pricey melons IDR. 30,000, resulting in a total of IDR. 50,000, and try with the price of papaya IDR. 20,000 and watermelon IDR. 25,000 for reaching a total of IDR. 45,000 as a price package 3. However, students still need to check their returns. When reviewed back to package 1, if the papaya is IDR. 20,000 and melon IDR. 30,000 no in accordance. Answer papaya should cost IDR. 15,000, melon IDR. 25,000, and watermelon IDR. 30,000, so by packages 1, 2, and 3.

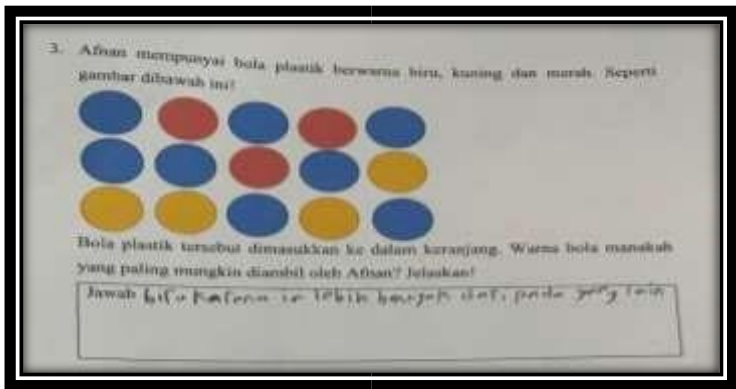


Fig. 3. regarding results answer question 3 is related to data content and uncertainty.

Based on Fig. 3, question number three is considered the most straightforward question by all students. Students who answer questions about uncertainty this refers to the most dominant colour. Influence: The colour of the questions also influences students' speed in finishing questions. Interview results with the class teacher disclose that student class V shows convenience, especially when answering question numeracy in national assessments, especially in data content and uncertainty.

4. Bang Adi berjualan tahu isi. Supaya mudah menghitung harga jual gorengan. Bang Ali membuat daftar harga gorengan seperti berikut:

Banyak Gorengan	Harga (Rp)
1	Rp. 800
2	Rp. 1.600
3	Rp. 2.400
...	...

Lingkari bilangan mana saja harga yang akan tercantum dalam daftar tersebut

Rp. 3.600 Rp. 4.800 Rp. 7.500 Rp. 9.300
 Rp. 10.600 Rp. 12.000 Rp. 14.400 Rp. 16.200

Jika Rizki mempunyai uang Rp. 10.000 untuk membeli gorengan Bang Ali, berapa banyak gorengan yang akan di dapatkan Rizki? Berapa uang kembalinya? 2.000

Fig. 4. regarding results answer question 4 is related to content Number.

On the matter of this number 4 (Fig. 4), the student answers IDR. Four thousand eight hundred due can be divided by 800. They stuck with one answer: no think about that there is no other answer besides IDR. 4,800, that is IDR. 12,000 and IDR. 14,400. For the question about money, you have IDR. ten thousand can bought. How many lots of fried food and how much money the return? they answered 8 with return IDR. 2,000. Students used to buy fried food for IDR. 1,000 becomes $1,000 \times 8 = 8,000$, and the change is 2,000, even though in the question that the cakes are worth IDR. 800, so i got 10,000 and bought ten fritters with a money return of IDR. 2,000. This matters to student no carefully, and he checks the return results in the answer.

The results of the interview with the teacher revealed that students tend to use steps moments to question numeracy. Circumstances this is caused by exercise. Students answer questions in a fast-paced moment-face assessment. Various types of questions in the assessment cover choice double, optional double complex, matching, filling brief, and description, with a focus on numbers. It is known that students who experience difficulty in finishing questions and numeracy also face challenges in eye lessons. Findings this is consistent with the results of Lopez Pedersen's research in 2023, which stated that ability numeracy can be considered the critical main. Students showing ability low numeracy own risk tall face difficulty understanding material mathematics comprehensively [18].

Based on the results of the interview with the head of Nahdatul Ulama Karawang Elementary School, it is known that numeracy is still a new thing in context knowledge

at school. Change the related application Nationally Based Assessment Computer (ANBK), which was implemented in 2021, replaces the national exam that has been abolished. In the beginning, there needs to be more knowledge about numeracy among students. Learning numeracy is newly implemented, especially in class V, which will follow the test later. Therefore, it was found necessary enhancement of understanding students in the domains of numbers, algebra, and geometry to reach more results good and get positive recommendations in report education at school. As preparation, the school appealed to the fifth-grade teacher to use the drill method to increase the ability of numeracy students. Effort this expectation can speed up understanding students' material numeracy and ensure they are ready to face ANBK challenges and optimize results in learning mathematics at school.

Numeracy's role is significant in determining the approach and direction of learning mathematics in school so that learning becomes more of a means for participants to educate in the context of life. Several principles of strengthening numeracy in eye lesson mathematics covers give focus on the situation life real, applying knowledge mathematics in context practical, using various tool physical, symbolic, and digital technologies, enhancing attitude positive to use mathematics in solving problems every day, as well direct participant educate for own orientation critical in interpreting results mathematics and making decisions based on evidence [19].

4 Conclusion

It can be concluded that students' habits answer quickly, so students do not take steps to recheck their answers. Students' difficulties mainly arise in geometry content, where they face difficulty determining formulas and tend to use trial-and-error strategies. In algebra content, students can solve problems but do not check again, so their answers need to be corrected. Meanwhile, in data and uncertainty content, students find it easier because they can rely on logic. It was also found that students tended to give only one answer on number questions, even though there could be more than one correct answer.

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