Elementary school students' numeracy ability in a socio-cultural context viewed by understanding mathematical concepts

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Abstract: This research aims to (1) Describe the numeracy of students with high, (2) Describe the numeracy of students with medium, and (3) Describe the numeracy of students with low understanding of mathematical concepts. The selected subjects were 3 out of 29 class 5B students at SDN Rungkut Menanggal II Surabaya. Tests and interviews served as the instrument. The data analysis is data condensation, data presentation, and conclusion. The results of this research are (1) The numeracy of high and medium students' concept understanding; they have been able to apply the formulating process; in the process of using, students are not yet able to determine strategies, are not able to apply concepts, are not able to do calculations; In the interpreting process, students are not yet able to evaluate mathematical results and conclusions. (2) The numeracy of low students' understanding concepts, it was found that students were able to formulate; in the process of using, students can determine strategies, are not yet able to apply concepts, can do calculations; in the process of interpreting students are not yet able to evaluate the results and conclusions of statements.

Keywords: Numeracy, Socio-cultural context, Understanding of mathematical concepts


INTRODUCTION

Numeracy is the ability to apply number concepts and arithmetic operation skills in everyday life to interpret quantitative information that exists around us, which includes the skill of applying mathematical concepts and rules in real everyday situations when problems are often unstructured) has many ways of solving, or even no complete solution, and is related to non-mathematical factors (Arifah, 2022). The importance of numeracy being taught to students can be seen in the following example: a second-grade elementary school student learning the concept of multiplication of whole numbers. Three times two is six. The results are the same even if the questions are replaced with two times three. However, the meaning will be different when it is given to the issue of rules for taking medication. The rule of taking medicine three times two and two times three will have different effects. By mastering the concepts of multiplication of whole numbers and good numeration, students can explain why the effects of drug absorption are different (Istiana et al., 2020). Another example related to the importance of numeration can be seen as follows: When shopping, we often face several choices of goods, some of which may get discounts in the form of vouchers. With numeracy, students can determine which goods to choose from by considering more economical prices (Qoriawati et al., 2021). Based on this example, it can be concluded that the importance of numeracy is instilled in students in learning, namely that students are taught how to become
complete humans in processing excellent and correct information in mathematical form to be applied in everyday life by the concept.

The PISA results state that Indonesian students have low numeracy abilities. This is seen from the PISA ranking, a ranking of Indonesian students' numeracy abilities from 2009 to 2018 in the journal (Sari et al., 2023), which stated that it showed an increase in points from 2019 to 2015, but in 2018 it decreased so that the ranking did not show there was a significant increase. However, the 2022 PISA results from Kemendikbudristek (2023) show that the score has decreased; however, if you look at the ranking, it has increased. Attached is information on the scores and rankings of students' numeracy skills in Indonesia for 2009-2022, as shown in Figure 1.

![Figure 1. Scores and Rankings of Student Numeracy Ability in Indonesia 2009-2022](image)

From these facts, it can be concluded that Indonesia's numeracy abilities, compared to other countries, have not yet improved significantly. This is due to the lack of students' numeracy skills. Students' lack of numeracy skills usually occurs during the numeracy completion process, which involves understanding the concept of numeracy. Therefore, Fachrudin (2022) expressed his opinion that education in Indonesia needs to strengthen numeracy. According to surveys from 2009 to 2022, students' numeracy abilities have not increased significantly; their abilities tend to decline.

According to Fachrudin (2022), there are three components of numeracy: context, content, and process. There are three contexts in numeracy, namely personal context, scientific context, and socio-cultural context. This research uses a sociocultural context because currently, there is a sociocultural crisis due to influences from outside cultures such as K-Pop, Western, etc., so the presence of a sociocultural context can remind students about the social culture in their area. There are five contents of numeracy: numbers, algebra, geometry, measurement, data, and uncertainty. The research uses number content because researchers find phenomena or problems that researchers can study using number content aimed at 5th-grade elementary school students. This research uses three numeration processes: formulating, using, and interpreting. The relationship between numeracy skills and understanding mathematical concepts is according to the opinion of Cahyanovianty and Wahidin (2021), which states that the numeracy skills that students must master are formulating, using, and interpreting mathematics in various contexts. However, in general, students often face problems in numeracy when they apply their numeracy skills. Students lack mastery of numeracy knowledge, including process, content, and context. If students do not master good numeracy knowledge, their higher-level numeracy abilities will be negatively impacted.

Students' understanding of mathematical concepts is still lacking. According to research by Jeheman et al. (2019), there are several facts that this condition is caused by a tendency to memorize and a lack of introduction to the basis or the use of the mathematical material being studied. There are facts according to research by Umam and Zulkarnaen (2022) which states...
that when the learning process takes place, students only rewrite the material and examples that the teacher conveys without understanding them correctly, so when they are given questions that are different from the examples that have been discussed at the previous meeting, students find it difficult. Understand that, in the end, students cannot complete the answer correctly. So, according to research by Salvia et al. (2022), only a tiny percentage utilize numeracy skills in everyday life. Students' skills in using mathematical concepts in natural conditions or solving unstructured problems are ignored.

This is also to the researcher's experience when conducting observations on fifth-grade students at one of the schools in Surabaya, namely at SDN Rungkut Menanggal II Surabaya, that the problem that occurred was in understanding the concept of numeracy, students who had different categories of understanding, namely the category of students who understood the concept. High, medium, and low. This can be seen when the majority of students are still wrong in answering, wrong in understanding symbols, wrong in calculations, wrong in using processes, lack of mastery of addition, subtraction, and multiplication, whose understanding of the concept is still unknown whether the students are classified in the categories of high, medium, or high understanding. Low. However, from the numeracy questions given by the teacher to students, the numeration questions that class V students worked on average, did not understand the sentences contained in the story questions, had not yet mastered the concept of arithmetic operations contained in the questions, there was no knowledge, questions, and conclusions. The average student immediately answers the question. So, the student's numeracy process becomes low due to the student's lack of understanding of the enumeration process.

Based on the problems above, further analysis is needed to find out how the enumeration process of elementary school students is in a socio-cultural context in terms of understanding mathematical concepts with high, medium, and low understanding of concepts in the socio-cultural context at SDN Rungkut Menanggal II Surabaya. As a result of this research, students are expected to be able to understand numeracy skills so that students can learn more and hone their numeracy skills. Moreover, teachers can also help improve students' numeracy skills in learning.

**METHOD**

**Type Of Research**

This type of research uses descriptive qualitative research to learn more about students' numeracy processes. According to Johnson (Fiantika et al., 2022), there are seven research approaches. This research uses a case study approach so that researchers can find out directly about the numeracy process of fifth-grade elementary school students in a socio-cultural context regarding their ability to understand mathematical concepts. The data source in this research is class VB students at SDN Rungkut Menanggal Surabaya. In this research, one VB class, totaling 29 students, was taken to take an initial ability test for understanding concepts. From the test results, 29 students were classified as having high, medium, and low understanding of mathematical concepts. Researchers group the levels of student learning outcomes, which are used as benchmarks for students' conceptual understanding based on Ministry of Education and Culture Regulation Number 104 of 2014, which is based on 2013 learning skills and their scales (Lestari & Siswono, 2022). The following are the Mathematical Concept Understanding Category Scores in Table 1.

**Table 1. Category Score Understanding Mathematical Concepts**

<table>
<thead>
<tr>
<th>Score</th>
<th>Concept Understanding</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 ≤ score obtained ≤ 65</td>
<td>Low</td>
</tr>
<tr>
<td>65 ≤ score obtained ≤ 80</td>
<td>Medium</td>
</tr>
<tr>
<td>80 ≤ score obtained ≤ 100</td>
<td>High</td>
</tr>
</tbody>
</table>
The following is a graph of the classification of prospective numeracy subjects in 29 students based on the category of understanding mathematical concepts shown in Figure 2.

![Graph of Classification of Prospective Subjects Based on Understanding of Mathematical Concepts](image)

**Figure 2.** Graph of Classification of Prospective Subjects Based on Understanding of Mathematical Concepts

From the results of these categories, one student was taken from each category, namely one student in the category of understanding high mathematical concepts, one student in the category of medium understanding, and one student in the category of understanding low mathematical concepts, so that there were three subjects in this study based on specific criteria. Firstly, they have high, medium, and low scores according to their concept understanding. Secondly, researchers coordinate with teachers about whether students with high, medium, and low criteria are active, analytical, and competitive when learning activities. Thirdly, I am willing to be the subject and provide information.

**Data Collection Techniques**

Data collection techniques are carried out using tests validated with mathematician lecturers so that the test is valid and reliable and interviews for data collection. Two types of tests are used, namely the initial ability test of understanding students’ concepts, which contains ten questions aimed at knowing students’ initial abilities in understanding mathematical concepts. Then, the numeracy test, which contains two questions, aims to determine the student numeracy process, including formulating, using, and interpreting.

Interviews using unstructured interviews aim to find out more deeply related to the numeracy process of the research subject and to confirm the results of the answers that students have given to researchers. According to the OECD (Fachrudin, 2022) in Table 2, student numeracy test results are analyzed based on numeracy indicators.

**Table 2.** Numeration Indicator Encoding

<table>
<thead>
<tr>
<th>Numeracy Process</th>
<th>OECD numeracy process explanatory indicators</th>
<th>Explanation of Indicator Numeracy</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formulate</td>
<td>Students can know/recognize known aspects of the problem.</td>
<td>Aspects of the problem in the text.</td>
<td>A1</td>
</tr>
<tr>
<td></td>
<td>Identify mathematical aspects.</td>
<td>Putting numbers on aspects of the problem.</td>
<td>A1</td>
</tr>
<tr>
<td>Use</td>
<td>Students can determine the appropriate strategy to solve problems.</td>
<td>Methods used to solve problems.</td>
<td>B1</td>
</tr>
<tr>
<td></td>
<td>Apply the concept of calculation and perform calculations.</td>
<td>The calculation concepts used include addition or subtraction. To calculate whether the results are correct or incorrect.</td>
<td>B1</td>
</tr>
<tr>
<td>Interpreting</td>
<td>Students can evaluate the mathematical results obtained.</td>
<td>Evaluate whether the calculation results are appropriate or not.</td>
<td>C1</td>
</tr>
<tr>
<td></td>
<td>Evaluating mathematical results or conclusions makes sense or does not fit the context of the problem.</td>
<td>Evaluate the calculation results by choosing the conclusion statement or not.</td>
<td>C1</td>
</tr>
</tbody>
</table>
The following is one of the problems with the threat of poverty due to COVID-19 in the numeration question in Figure 3.

Figure 3. The Problem of the Threat of Poverty Due to Covid-19

The above problem in Figure 3 uses social context and number content, and the process is based on the numeracy process, namely formulating, using, and interpreting. In this problem, information needs to be solved, namely, proving whether or not the statements in each box with the data presented. Then, students need to formulate what is known about the problem. Students determine the calculation strategy and operations used. In interpreting, students match the results of calculations with statements on the box. After students take the numeracy test, an interview is conducted related to the numeracy test they have done based on the appropriate numeracy indicators.

Data Analysis Techniques

Data analysis techniques in this study use data analysis techniques according to Miles et al. (2014), namely data condensation, data presentation, and conclusions so that the data analysis flow can be illustrated in Figure 4.

Figure 4. Data Analysis Flow

Triangulation techniques were used to test the validity of the data in this study. The following explains the triangulation technique used: At the data collection stage, the researcher collected data using test techniques and interview techniques with two numeration questions, sociocultural context, and number content. Another technique used is an interview with
questions that refer to numeracy for subjects who have passed a numeracy test. In the data condensation stage, researchers concentrate data by selecting subjects based on the results of initial ability tests based on specific criteria for numeracy tests and interviews. At the data presentation stage, the data obtained from the numeracy test and interview are presented with a descriptive narrative to make it easier to understand the answer results from the numeracy test and interview results obtained from the three subjects. At the conclusion stage, researchers conclude the data presented as descriptive narratives.

RESULTS AND DISCUSSION

Results

The three students named S1, S2, and S3 had different understandings of mathematical concepts: the category of high understanding of mathematical concepts was obtained by S1, the category of moderate understanding of mathematical concepts was obtained by S2, and S3 obtained the category of low understanding of mathematical concepts. The following is the numeration process for these three subjects.

Numeration Process of Elementary School Students with High Concept Understanding in Socio-Cultural Context by S1 Subject

The results of the numeracy answers using the numeracy process of formulating, using, and interpreting with two questions. Question number 1 concerns the threat of poverty due to COVID-19, while question number 2 concerns the 2023 Yosakoi Surabaya Festival Performance.

1) S1 Numeration Question Answer Results on the First Question Indicator

In the formulating process based on Figure 5 with code A1 for the formula process, S1 subjects can know/recognize aspects of the problem. They can also identify mathematical aspects used in problem number 1.

In the use process based on Figure 5 with code B1 for the use process, subject S1 has been able to determine the strategy used in solving problems, has been able to use and apply calculation concepts well, and has been able to carry out good calculations with correct results.

In the interpreting process based on Figure 5 with code C1 for the interpreting process, subject S1 has been able to distribute the mathematical results obtained and channel conclusions that are appropriate or not by the results obtained, which are matched with the choice of statements properly and correctly.
2) S1 Numeration Question Answer Results on the Second Question Indicator

In the formulating process based on Figure 6 with code A1 for the formulating process, S1 subjects were able to know/recognize aspects of the problem. They could identify the mathematical aspects used in the second indicator problem well. In the using process based on Figure 6 with code B1 for the using process, subject S1 has not been able to determine the right strategy to solve the problem in the second question indicator, has not been able to apply the concept of calculation, and has not been able to carry out calculations. In the interpreting process based on Figure 6 with code C1 for the interpreting process, subject S1 has not been able to evaluate the results obtained. It has not been able to evaluate whether the conclusions are appropriate according to the second question indicator.

Numeration Process of Elementary School Students with Understanding Medium Concepts in Socio-Cultural Context by S2 Subject

The results of the numeracy answers using the numeracy process of formulating, using, and interpreting with two questions. Question number 1 concerns the threat of poverty due to Covid-19, while question number 2 concerns the 2023 Yosakoi Surabaya Festival Performance.

1) S2 Numeration Question Answer Results on the First Question Indicator

Based on Figure 7 with code A1, the S2 subject can know/recognize aspects of the problem in the formulating process. It can also identify the mathematical aspects used in problem number 1. In the using process based on Figure 7 with code B1 for the using process, subject S2 explained the method used, namely how to reduce inter-projections on the problem. The subject has been able to explain the calculations and results he obtained. In the Interpreting process based on Figure 7 with code C1 for the interpreting process, subject S2 was able to evaluate the mathematical results obtained and the conclusions that were appropriate or not.
by the results obtained, which were matched with the choice of statements properly and correctly.

Translate C1:
Put a tick on the answer you think is correct, there can be more than one answer.
Based on this data, what statement is true regarding the data in the picture? Give your reasons and explain using a solution!
- The increase in poverty in Indonesia that occurred in projections III to IV was higher than projections I to II.
- The increase in poverty in Indonesia that occurs in projections IV to V is the lowest compared to other projections.
- Projections III to IV are the 3rd highest increase in poverty.
- The second lowest increase in poverty is projection II to III.
- The increase in poverty in Indonesia that occurred in projections I to II was the highest compared to other projections.

Figure 7. S2 answer to question number 1

2) S2 Answer Results on Numeration Questions on the Second Question Indicator

Translate C1:
Put a tick on the answer you think is correct, there can be more than one answer.
Based on this data, which statement is correct according to the text? Give your reasons and explain using a solution!
- Diplomatic relations between Japan and Indonesia began in 1985.
- Cooperation and friendship relations between Japan and ASEAN will be 59 years old in 2030.
- In 2023, the ASEAN cooperative and friendly relations between Japan and ASEAN will be twice as old as the sister city relations between the city of Surabaya and the city of Kochi.
- Diplomatic relations between Japan-Indonesia and cooperative relations between Japan-ASEAN have a 15 year difference in age.
- The sister city relationship between the City of Surabaya and the City of Kochi in 2050 is 53 years old and began in 1997.

Figure 8. S2 answer to question number 2

In the formulating process based on Figure 8 with code A1, the S2 subject could know/recognize aspects of the problem and identify the mathematical aspects that would be used in the second indicator problem. In the Using process based on Figure 8 with code B1 for the using process, subject S2 has not been able to determine the right strategy for solving the problem, has not been able to apply the concept of calculations, and is still unable to carry out calculations on the second question indicator. In the interpreting process based on Figure 8 with code C1 for the interpreting process, subject S2 has not been able to evaluate the results.
obtained. It is still unable to evaluate whether the conclusions are appropriate according to the second question indicator.

**Numeration Process of Elementary School Students with Low Concept Understanding in Socio-Cultural Context by S3 Subject**

The results of the numeracy answers using the numeracy process of formulating, using, and interpreting with two questions. Question number 1 concerns the threat of poverty due to Covid-19, while question number 2 concerns the 2023 Yosakoi Surabaya Festival Performance.

1) **S3 Numeration Question Answer Results on the First Question Indicator**

![Figure 9](image1.png)

In the formulating process based on Figure 9 with code A1 for the formulating process, S3 subjects were able to know/recognize aspects of the problem and identify mathematical aspects that would be used in the first indicator problem well. In the Using process based on Figure 9 with code B1 for process, subject S3 has been able to determine the strategy used in solving problems, has been able to use and apply calculation concepts well, and has not been able to carry out good calculations with accurate results. In the Interpreting process based on Figure 9 with code C1 for the interpreting process, subject S3 has been able to evaluate the mathematical results obtained and the conclusions that are appropriate or not by the results obtained, which are matched with the choice of statements properly and correctly.

2) **S3 Numeration Question Answer Results on the Second Question Indicator**

In the formulating process based on Figure 10 with code A1 for the formulating process, the S3 subject could know/recognize aspects of the problem and identify the mathematical aspects that would be used in the problem in the second question indicator well. In the Using process based on Figure 10 with code B1 for the using process, subject S3 has been able to determine the right strategy for solving the problem, has not been able to apply the concept of calculations, and has not been able to carry out calculations on the second indicator problem. In the interpreting process based on Figure 10 with code C1 for the interpreting process, subject S3 was not yet able to evaluate the results obtained. It could not correctly evaluate the appropriate or inappropriate conclusions to the second question indicator. The differences and similarities in numeracy processing abilities between subjects are presented below in Table 3.

```markdown
| □ The increase in poverty in Indonesia that occurred in projections III to IV was higher than projections I to II. |
| □ The increase in poverty in Indonesia that occurs in projections IV to V is the lowest compared to other projections. |
| □ Projections III to IV are the 3rd highest increase in poverty. |
| □ The second lowest increase in poverty is projection II to III. |
| □ The increase in poverty in Indonesia that occurred in projections I to II was the highest compared to other. |
```
Table 3. Differences and Similarities of Mathematical Processes Between Subjects

<table>
<thead>
<tr>
<th>Numeration Process</th>
<th>Difference</th>
<th>Equation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formulate</td>
<td>S1, S2, S3</td>
<td>S1, S2, S3</td>
</tr>
<tr>
<td>S1, S2, S3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Use</td>
<td>S1, S2, S3</td>
<td>S1, S2, S3</td>
</tr>
<tr>
<td>S1, S2, S3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Question number 1**
S1, S2, and S3 subjects could write down what they knew and identify mathematical aspects clearly and in detail.

**Question number 2**
S1, S2, and S3 subjects could write down what they knew and identify mathematical aspects clearly and in detail.

**Question number 2**
S1, S2, and S3 subjects have been able to determine strategies, apply calculation concepts, and perform calculations.

**Question number 2**
S1, S2, and S3 subjects have been unable to apply mathematical concepts or perform calculation results.
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Below are presented the Scores from the Concept Understanding Test and Numeracy Test, along with the Numeracy Scores, which are used to determine the achievements of the three numeracy subjects based on the level of understanding of mathematical concepts in Table 4.

**Table 4. Scores of Concept Comprehension Test Results and Numeration Tests along with Numeration Scores Obtained**

<table>
<thead>
<tr>
<th>Student</th>
<th>Concept Understanding Test Scores</th>
<th>Category</th>
<th>Numeration Test Scores No. 1</th>
<th>Numeration Test Scores No. 2</th>
<th>Numeration Test Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1</td>
<td>80</td>
<td>High</td>
<td>25</td>
<td>15</td>
<td>78</td>
</tr>
<tr>
<td>S2</td>
<td>70</td>
<td>Medium</td>
<td>25</td>
<td>8</td>
<td>64</td>
</tr>
<tr>
<td>S3</td>
<td>60</td>
<td>Low</td>
<td>24</td>
<td>16</td>
<td>78</td>
</tr>
</tbody>
</table>

Based on Table 4, it can be seen that there is a difference between student numeracy and their understanding of mathematical concepts. Subjects with a high understanding of mathematical concepts have medium numeracy ability. Subjects with a medium understanding of mathematical concepts have low numeracy ability. Subjects with low levels of understanding of mathematical concepts have medium numeracy ability. Therefore, researchers concluded that the categories of understanding concepts and students' numeracy abilities were unrelated. This depends on each student's understanding of numeracy while taking the numeracy test.

**Discussion**

**Numeration Process of Elementary School Students with High Concept Understanding in Socio-Cultural Context by S1 Subject**

The numeracy results found that subject S1 could master formulating two numeracy questions. In the process of answering question number 1, S1 was able to do it well. Meanwhile, for question number 2, subject S1 could not determine the right strategy to solve the problem in the second question indicator. It can be seen that the subject only determined three strategies out of the five that had to be determined; the subject is not yet able to apply the calculation concept. Of the three strategies, only two were correct, while one was wrong.
However, the other two strategies were not written down, and the subject could not perform calculations correctly.

It can be seen that one of the three calculation strategies did not write down the results. Using S1, subjects experienced difficulties, such as not knowing how and not understanding the questions well. This is in line with research by Maryati and Priatna (2018), which states that some students still cannot understand the problems given, so these students experience difficulty in presenting the problems. S1 subjects were able to interpret number 1 nicely. It can be seen that the subject has decided to choose the right and wrong answers in the statement box according to the results of his calculations. This is in line with the opinion of Rosnelli and Ristiana (2023), which states that when students can find solutions to problems, they have grasped the relevant concepts.

However, not all students can do this, so the study's conclusion indicates that students' efforts to improve their iteration and numeracy skills are sufficient. Because the subject could formulate, use, and interpret number 1 nicely. Meanwhile, interpreting number 2, subject S1 could not evaluate the results obtained. It can be seen that the subject has not listed two calculation strategies out of five strategies; the subject has not been able to evaluate whether the conclusion is appropriate or not according to the second question indicator. It can be seen that when determining the answer, the subject gives ticks and crosses at will without looking at the calculation results, thereby influencing the results of the interpreting process. This is also in line with research by Ningrum and Wardhani (2019), which states that students who do not understand the content of the questions and solve story problems poorly will impact the results of the answers they obtain.

Numeration Process of Elementary School Students with Understanding Medium Concepts in Socio-Cultural Context by S2 Subject

From the numeracy results, it was found that subject S2 could master formulating two numeracy questions. In the process of using question number 1, subject S2 could use it well. Meanwhile, for question number 2, subject S2 could not determine the right strategy to solve the problem in the second question indicator. It can be seen that the subject only determined two of the five strategies that had to be determined; the subject is not yet able to apply the calculation concept. It can be seen that none of the two calculation concept strategies is correct, and the subject has been unable to carry out calculations correctly because the results are incorrect. It can be seen that neither of the two calculation strategies is correct.

In line with The research conducted by Yayuk et al. (2020) shows that grade V elementary school students still have difficulty in dealing with problem-solving lessons using non-routine questions; students have difficulty understanding the questions because the solutions proposed are not well structured, not thorough, and unsystematic. So, they face difficulties in implementing strategies to solve problems. From using S2, subjects experienced difficulties determining the right strategy for solving problems, applying calculation concepts, and carrying out calculations.

So that it influences the subject in determining conclusions; apart from that, the errors made by the subject are in line with research by Rezky et al. (2022), which states that errors occur in choosing a solution strategy due to reasoning and argumentation abilities, as well as the ability to use the wrong symbols. Therefore, the generalization given is a form of the solution to this question, which is also incorrect.

S2 subjects were able to interpret number 1 nicely. Meanwhile, interpreting number 2, subject S2 could not evaluate the results obtained. It can be seen that the subject has not listed three calculation strategies out of five strategies; the subject has not been able to evaluate whether the conclusion is appropriate or not according to the second question indicator. It can be seen that when determining the answer, the subject gives ticks and crosses at will without looking at the calculation results, thereby influencing the results of the interpreting process. This is in line with Udil et al. (2021), which states that a mistake that sometimes occurs to
students when solving problems is an error in writing the final answer, where the student does not write the conclusion of the problem given correctly.

**Numeration Process of Elementary School Students with Low Concept Understanding in Socio-Cultural Context by S3 Subject**

The numeracy results found that subject S3 could master formulating two numeracy questions. In using question number 1, subject S3 could use it well. Meanwhile, for question number 2, subject S3 was able to determine the right strategy to solve the problem in the second question indicator. It can be seen that the subject has been able to determine five calculation strategies for each statement; the subject is not yet able to apply the concept of calculation. Of the five strategies written, only two of the calculation concepts are correct, namely in the first and fourth calculations using the concept of subtraction. In comparison, the other three strategies have the calculation concept incorrect, and the subject has been able to perform calculations correctly.

It can be seen that of the five strategies, the results were correct; only two strategies, namely the first and fourth calculations, the results were incorrect because the concept was not applied correctly. From using S3 subjects, they experienced difficulties applying calculation concepts and carrying out calculations. Because the subjects still have difficulty conceptualizing and applying what they know in mathematical form, the calculation results are less precise, thus influencing the subjects to determine conclusions.

This is in line with research by Siregar et al. (2021), which states that students mostly make errors in the use of data and technical or calculation errors. If students are more thorough in solving them, then errors made by students in this aspect can be anticipated. This is in line with research by Dwiyani et al. (2021), which states that students who are not of high ability tend to only manipulate the numbers in the problem into the form of a mathematical algorithm without understanding the problem. S1 subjects were able to interpret number 1 nicely. Meanwhile, interpreting number 2, S3 subjects could not evaluate the results obtained. The five calculation strategies can be seen. The subject could only calculate two strategies correctly and not evaluate whether the conclusion was appropriate according to the second question indicator. It can be seen that when determining the answer, the subject gives ticks and crosses at will without looking at the calculation results. However, in evaluating whether the conclusions are appropriate or not according to the results obtained, the conclusions of subject S3’s answers in the first to fifth boxes are all correct. This is in line with research (Iswara et al., 2022), which states that although the students' answers are correct, the students solve problems that are not quite right. As a result, if you ask other similar questions, students may do it wrong because they do not understand the problem and do not re-examine the answers used.

**CONCLUSION**

The results of this research imply that students can find out their numeracy abilities in a socio-cultural context according to their high, medium, and low conceptual understanding abilities. Teachers can determine students' numeracy abilities in elementary schools by assessing conceptual understanding in a socio-cultural context. The conclusion from the results of this research is that the number of students who understand high concepts is found in the process of formulating. Students have been able to write down things that are known and identify aspects of mathematics; in the process of using, namely, students have not been able to determine calculation strategies, have not been able to apply the concept of calculation, have not been able to do calculations; in the process of interpreting, students have not been able to evaluate mathematical results and have not been able to evaluate the conclusions of statements.

Numeracy of students' understanding of medium concepts is found that in the process of formulating, students have been able to write down things that are known and identify aspects
of mathematics; in the process of using, students have not been able to determine calculation strategies, have not been able to apply the concept of calculation, have not been able to do calculations; In the process of interpreting, students have not been able to evaluate mathematical results and have not been able to evaluate the conclusions of statements. Numeracy of students’ understanding of low concepts is found in the process of formulating. Students have been able to write down known things and identify aspects of mathematics; in the process of using, students can determine calculation strategies, but they are not yet able to apply the concept of calculation and can perform calculations. In the process of interpreting, students have not been able to evaluate mathematical results and have not been able to evaluate the conclusions of statements. As a result of this research, students are expected to be able to understand numeracy skills so that students can learn more and hone their numeracy skills. Moreover, teachers can also help improve students' numeracy skills in learning.

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