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Numeracy of prospective elementary school teachers with low self-efficacy: A case study

Via Yustitia*, Universitas Negeri Surabaya Ringgold standard institution, Mathematics education, Surabaya, West Java, Indonesia

Tatag Yuli Eko Siswono, Universitas Negeri Surabaya Ringgold standard institution, Mathematics education, Surabaya, West Java, Indonesia

Abadi Abadi, Universitas Negeri Surabaya Ringgold standard institution, Mathematics education, Surabaya, West Java, Indonesia

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Abstract

Numeracy can develop the self-capacity of prospective elementary school teachers in the 21st century. One of the factors that influence success in numeracy is self-efficacy. Those with low self-efficacy will often avoid tasks and quickly give up when encountering problems. This study aims to describe the numeracy of prospective elementary school teachers with low self-efficacy. This study was qualitative research with a case study. Samples were selected using the purposive sampling technique, in which they were students majoring in Elementary School Teacher Education with low self-efficacy. The employed research instruments were valid and reliable numeracy tests and self-efficacy questionnaires and interview guidelines. Qualitative data were collected through tests and interviews. Furthermore, the validity of the obtained data was examined by source triangulation, researchers' persistence, and attendance extension. The collected data were then analySed using the interpretative method, consisting of data condensation, data presentation, data validity checking, and verification. The results show that the numeracy of prospective elementary school teachers with low self-efficacy had been in the stage of being able to identify problems according to context and present problems even though they still made conceptual errors, calculation, and had difficulty in re-communicating the solution to the numeracy problems in context.

Keywords: Elementary school teacher, numeracy, self-efficacy.

* ADDRESS OF CORRESPONDENCE: Yustitia Via, Universitas Negeri Surabaya Ringgold standard institution, Mathematics education, Surabaya, West Java, Indonesia
Email address: via.18010@mhs.unesa.ac.id

1. Introduction

The development of the world in various aspects of life is a big challenge, especially in preparing quality future generations. The era of globalization requires a person to experience fundamental changes related to his/her quality. Future generations are required not only to have the ability to understand certain sciences but they must also have more than that. They must be able to utilize knowledge optimally for being more intelligent, critical, and creative in receiving and processing information (Spector & Ma, 2019). One of the 21st-century skills that must be possessed to meet the demand is numeracy (Ginsburg *et al*., 2006; Geiger *et al*., 2015; Gravemeijer *et al*., 2017; Tout, 2020).

Numeracy allows a person to use knowledge as a tool to solve increasingly complex problems. In addition, numeracy can develop self-capacity in the use of number concepts. Numeracy is a person's ability to manage data and numbers to evaluate statements based on certain contexts (Lange, 2003). Steen (2003) stated that numeracy is related to the ability to interpret numbers. Numeracy does not only develop basic mathematical skills about numbers but is also part of mathematical literacy in the form of broad abilities, such as measuring, implementing, & interpreting information, understanding and using the form, design, location, and direction, and applying critical thinking about quantitative and mathematical information (Goldenberg, 2014; Geiger *et al.*, 2015; Lange, 2003; Lerman & Zevenbergen, 2004; Tout & Gal, 2015; White & Joyakarta, 2017). Numeracy needs to be a part of the mathematics curriculum so that it can be applied in the formal learning process (Goos *et al.*, 2014; Bennison, 2015; Gittens, 2015). Therefore, one of the interesting topics in modern education at a higher level is numeracy.

Numeracy plays a role in solving problems in life, e.g., shopping and using public transportation. In addition, numeracy can train the ability to reason, interpret data, and identify information (Butcher, 2004; Cassen, McNally, Vignoles, and McNally, 2018; Nortvedt & Wiese, 2020). Many studies discussing the topic of numeracy have been carried out. For example, a study conducted by Mahmud and Pratiwi (2019) on 34 fourth-grade students at one of the schools in Bandung indicates that the results of solving unstructured problems carried out by the samples are not satisfactory. Furthermore, samples have difficulty in creating a solution. Another study with the type of descriptive research conducted by Nahdi *et al*. (2020) on 60 prospective teachers in Majalengka University showed that high-ability prospective teachers can solve problems related to numeracy but those having moderate-to-low ability have not shown good performance. A case study conducted by Callingham *et al*. (2015) reported that teachers in remote areas of Tasmania did not recognize the complexity of numeracy but they argued for the urgency of it. The preliminary study conducted by the researchers showed that high-ability prospective elementary school teachers can identify, locate, and access some objective-relevant mathematical information, involve the use of known mathematical procedures & rules, and develop opinions about that information. However, they still make some errors in communicating according to the content referring to their interpretation. Apart from that, those having low abilities have been able to identify, find, or access some mathematical information that is relevant to their objective. However, they have not been able to involve procedures and develop opinions about information (V. Yustitia *et al*., 2021). This phenomenon attracts the researchers' attention for conducting further research.

Numeracy is not only a mathematical ability but also a skill and attitude of confidence in handling and interpreting quantitative data. Self-efficacy is one part of the social cognitive theory that affects motivation and learning achievement (Garvis & Pendergast, 2016). Self-efficacy is an important factor in the process of solving mathematical problems (Tariq *et al*., 2013; Ozgen, 2013). In addition, self-efficacy may influence the formulation of information and the interpretation of mathematical problems. Cheema (2018) argues that there is a positive relationship between self-efficacy and mathematical literacy of secondary school students in Greece. High self-efficacy may make students motivated to solve problems. Conversely, students with low self-efficacy often avoid tasks and quickly give up when encountering problems. It can be concluded that differences in students' self-efficacy affect mathematics learning outcomes.

Studies on teacher self-efficacy have also been widely carried out. Some show that teacher self-efficacy affects student learning success in secondary schools (Gerde *et al*., 2018; Maher *et al*., 2014; Skaalvik *et al*., 2015). In other words, teacher self-efficacy may affect the quality of learning, student success, and personal satisfaction of a teacher. Self-efficacy can be considered to be one of the important factors that form the basis of teacher psychological success, including personal achievement, commitment to achievement, and satisfaction with performance (Blömeke *et al*., 2020). This is in line with the results of a study conducted by Via Yustitia *et al*. (2021) that self-efficacy affects the numeracy of prospective elementary school teachers. They conducted a study on 293 prospective elementary school teachers from universities throughout Surabaya. The results showed that (1) there was a positive relationship between self-efficacy and numeracy skills for elementary school teachers, and (2) the effect of self-efficacy on numeracy skills was 20.1% (Via Yustitia *et al*., 2021). This is also in line with the results of previous studies showing that there is a positive and significant relationship between self-efficacy and mathematical ability of students in Indonesia (Arifin et al., 2021; Muhtadi, 2022; Trihatun & Jailani, 2019).

Based on the elaboration above, the researchers analysed that no research specifically reveals how the numeracy of prospective elementary school teachers with low self-efficacy is. This study is expected to be able to contribute to determining the direction and level of numeracy and self-efficacy to increase the numeracy of elementary school students.

2. Methods

2.1. Research design

The researchers applied the qualitative research with a case-study design, aiming to describe in depth the numeracy of prospective elementary school teachers with low self-efficacy.

2.2. Research subjects

Subjects were the 7th-semester college students majoring in Elementary School Teacher Education at the public University in Surabaya, Indonesia. For determination of the research subjects refers to the results of the self-efficacy questionnaire. The researchers gave out a self-efficacy questionnaire to 244 students to fill out. The results of the self-efficacy questionnaire were analysed through the scores obtained by each student, then categorized into high and low self-efficacy as presented in Table 1.

Tabel 1 *Self-efficacy Category of Prospective Research Subjects*

No	Self-efficacy category	Result	
		Frequency	Percentage
1	High	78	31.96
2	Medium	110	45.08
3	Low	56	22.95
	Jumlah	244	

Table 1 shows that 78 (31.96%) students of prospective research subjects have high self-efficacy, 110 (45.08%) students of prospective research subjects have moderate self-efficacy, and 56 (22.95%) students of prospective research subjects. have low self-efficacy. Subject selection considers the level of equality of mathematical ability based on the academic achievement index. Based on the results of the questionnaire, each category was grouped, through purposive sampling the researchers chose three subjects who have low self-efficacy. The selected subjects are Ani, Budi, and Cinta

2.3. Method of data collection

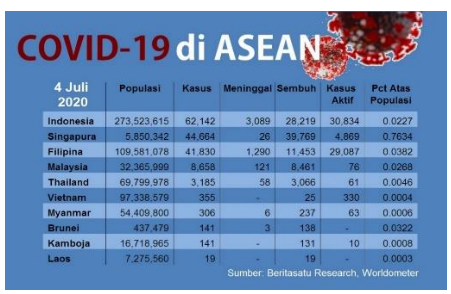
Data were collected using questionnaires, numeracy tests, and interviews. The questionnaire will be used to categorize subjects. Meanwhile, the numeracy test aims at finding out data on student work outcomes regarding numeracy skills possessed. Furthermore, the interviews are used to obtain the credibility of the data (validating previously obtained data).

2.4. Research instruments

The main instrument in this study are the researchers themselves. Furthermore, the auxiliary instruments are self-efficacy questionnaires, numeracy tests, and interviews. The mathematics self-efficacy questionnaire consists of 13 statement items. The questionnaire was compiled from Albert Bandura's theory and the dimensions of self-efficacy. The questionnaire in this study was adapted from May (2009). The questionnaire was been tested on 83 prospective teachers to determine its validity and reliability. The results of the product-moment correlation indicated that, from 13 items, 10 of them were declared valid and 3 were invalid. The obtained Cronbach's alpha value was 0.716, indicating that the questionnaire is reliable. Therefore, the self-efficacy questionnaire can be stated as a valid and reliable instrument.

The numeracy test used in this study consists of three description questions developed by the researchers based on numeracy indicators. The numeracy test was tested for validity using logical validity in the form of validity by experts. This test consists of two items, that examine (1) numbers, (2) speed and distance, and (3) geometry and measurement. The results of the product-moment correlation indicated that two items were valid, while the result of Cronbach's alpha analysis indicated a score of 0.692. Therefore, the numeracy test was considered a valid and reliable instrument. Apart from that, the researchers also will use the interview guide which is adjusted to the numerical indicators. The following is an example of the numerical instrument used in this research.

The following is the Covid-19 data in Asean as of July 4, 2020.



COVID-19 di ASEAN

4 Juli 2020	Populasi	Kasus	Meninggal	Sembuh	Kasus Aktif	Pct Atas Populasi
Indonesia	273,523,615	62,142	3,089	28,219	30,834	0.0227
Singapura	5,850,342	44,664	26	39,769	4,869	0.7634
Filipina	109,581,078	41,830	1,290	11,453	29,087	0.0382
Malaysia	32,365,999	8,658	121	8,461	76	0.0268
Thailand	69,799,978	3,185	58	3,066	61	0.0046
Vietnam	97,338,579	355	-	25	330	0.0004
Myanmar	54,409,800	306	6	237	63	0.0006
Brunei	437,479	141	3	138	-	0.0322
Kamboja	16,718,965	141	-	131	10	0.0008
Laos	7,275,560	19	-	19	-	0.0003

Sumber: Beritasatu Research, Worldometer

The ratio of recovered patients to Covid-19 outbreak patients in ASEAN countries is different from one another. Which country has the lowest cure rate? Explain your opinion.

2.5. Techniques of data analysis

Here is a description of the numerical indicators analysed in this study.

Table 2. *The Description of Numeracy Indicators*

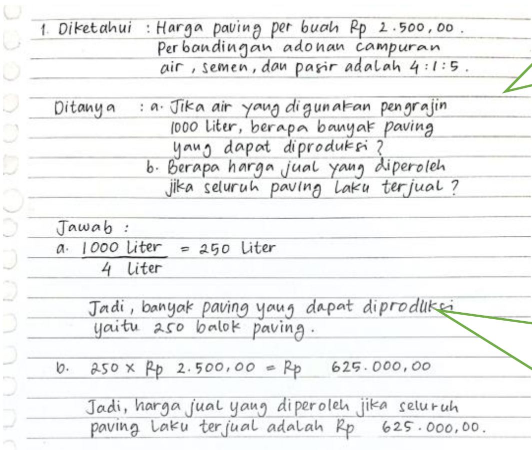
No.	Components of the Numerical Process	Indicators
1	Identifying	a. Identifying the mathematical information of the given problem in context. b. Recognizing mathematical structures (e.g., regularities, relationships, and patterns) in context. c. Presenting situations mathematically using appropriate variables, symbols, and diagrams.
2	Using	a. Using symbolic, formal, and technical language and operations. b. Developing and implementing strategies to find mathematical solutions. c. Using information and formulas that serve as a model of the situation. d. Performing calculations.
3	Interpreting	a. Interpreting mathematical results back into context. b. Evaluating the correctness of the solution in context.
4	Communicating	a. Explaining mathematical ideas, situations, and relationships orally or in writing with real objects, pictures, graphs, or algebra. b. Explaining whether the obtained solution has been in context based on the results of interpretation.

The technique used in determining the validity of the data in this study consists of four stages: (1) the data credibility using the data triangulation technique with the source triangulation, namely comparing the results or re-checking the degree of credibility with different sources through numeracy tests and interviews with informants/subjects; (2) the data transferability which is obtained by describing student numeracy in detail and systematically; (3) the data dependability which is conducted by taking one subject from each self-efficacy category; and (4) the data confirmation which is obtained by avoiding subjectivity when collecting data by making interview guidelines and test assessment guidelines.

3. Result and discussion

3.1 Numeracy of Ani

Here the results of the analysis of the numeracy process for Ani.


1. Diketahui : Harga paving per buah Rp 2.500,00.
Perbandingan adonan campuran air, semen, dan pasir adalah 4 : 1 : 5.
Ditanya : a. Jika air yang digunakan pengrajin 1000 liter, berapa banyak paving yang dapat diproduksi ?
b. Berapa harga jual yang diperoleh jika seluruh paving laku terjual ?
Jawab :
a. $\frac{1000 \text{ liter}}{4 \text{ liter}} = 250$ liter
Jadi, banyak paving yang dapat diproduksi yaitu 250 balok paving.
b. 250 x Rp 2.500,00 = Rp 625.000,00
Jadi, harga jual yang diperoleh jika seluruh paving laku terjual adalah Rp 625.000,00.

Known: The price of paving per piece is IDR 2,500,00. The ratio of the mixture of water, cement, and sand is 4: 1: 5.
Question: If the water used by the craftsmen is 1000 liters, how much paving can be produced? What is the selling price if all the paving is sold?

Answer: $\frac{\mathbf{1.000}\ \boldsymbol{liter}}{\mathbf{4}\ \boldsymbol{liter}} = \mathbf{250}\ \boldsymbol{liter}$

So, the number of paving that can be produced is 250 paving.
250 x Rp 2.500,00 = Rp 625.000,00
So, the price of paving if all sold is Rp 625,000.00.

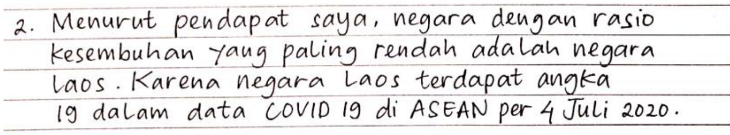
Figure 1. *ANI's Answer to Question 1*

Based on Figure 1, Ani mentions all the information in the problem but it is incomplete. Ani writes down what is known and asked regarding question 1. Ani does not present the situation mathematically using appropriate variables, symbols, and diagrams. Ani writes the ratio 4: 1: 5 according to what is stated in the question. Ani does not identify all the information in the context, including the picture in question 1 (paving size). Based on the results of the interview, Ani stated that he did not recognize the content or structure of mathematics in the context of the problem. Based on the results of the interview, Ani stated that the content contained in the problem was only ratio content. this shows that Ani does not recognize the content or mathematical structure in the context of the problem.

Ani has used symbolic and technical language and operations to solve question 1, but it is yet incorrect. Based on the results of the interview, Ani attempted to develop and implement strategies to find mathematical solutions. Ani still has difficulty in solving problems, especially in determining the steps to solve. Ani also used information and formulas that serve as situation models. This can be seen from the answer to Ani which writes the amount of water available, which is 1,000 l divided by the water ratio, which is 4. Ani has no difficulty in doing calculations because the written solution is a simple calculation.

Ani attempted to interpret mathematical results back into context. This can be seen from Ani's answer in Figure 1. Ani writes 'So, the paving produced is 250 paving blocks'. The results of the interview with Ani show that Ani did not evaluate the reasonableness of the solution in context. Ani is still unsure about the answer written, but does not have other ideas and strategies to solve question 1 and so believes that the answer is correct.

Ani does not explain mathematical ideas, situations, and relationships in writing with real objects, pictures, graphics, or algebra. The results of interviews with Ani show that Ani explains ideas, situations, and mathematical relationships verbally in solving question 1. Ani has not been able to explain that the solution obtained is in accordance with the context or not based on the results of its interpretation.


2. Menurut pendapat saya, negara dengan rasio kesembuhan yang paling rendah adalah negara Laos. Karena negara Laos terdapat angka 19 dalam data COVID 19 di ASEAN per 4 Juli 2020.

Laos is the country with the lowest recovery. Because the country of Laos has the number 19 in the Covid 19 data in ASEAN as of July 4, 2020.

Figure 2. *ANI's Answer to Question 2*

Based on figure 2, Ani does not mention the information in the problem. Ani immediately wrote the answer to question 2 and did not present the situation mathematically using appropriate variables, symbols, and diagrams. Based on the results of the interview, Ani stated that the content contained in the problem was only ratio content. this shows that Ani does not recognise the content or mathematical structure in the context of the problem. Ani does not use symbolic, formal, and technical language and operations to solve questions 2.

Ani also does not develop and implement strategies to find solutions. Ani states that there are still difficulties in solving problems, especially in determining the steps for solving them. Based on the results of the interview, Ani only reads the data in question 2 and determines the answer 'Laos'. Ani does not use information and formulas that function as situation models, and does not perform calculations. Ani interprets mathematical results back into context, but does not evaluate the reasonableness of the solution in context. Ani is not able to explain mathematical ideas, situations, and relationships orally or in writing, with real objects, pictures, graphs, or algebra correctly.

3.2 *Numeracy of Budi*

Here are the results of the analysis of the numeracy process for Budi.

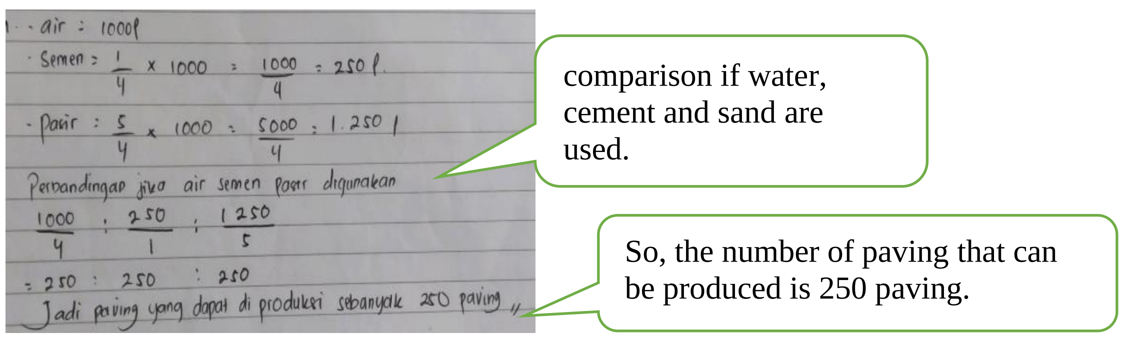


Figure 3 *Budi's Answer to Question 1*

Based on Figure 3, Budi does not write down what is known and asked about question 1. The results of the interview show that Budi is sure of the answer. Budi can understand the problem well because it mention the information that is known correctly and completely. Budi was able to identify mathematical information in question 1, which is about the materials needed to make paving blocks. Budi had to read question 1 over and over again to understand the problem that lies in the context. Budi states that the mathematical content used is an equivalent comparison, without relating it to the geometric content. So the picture in question 1 (paving size) is not used. Budi writes the ratio of water and sand used to make paving. Budi has not been able to identify all the information in question 1. Budi does not mention other mathematical structures found in the problem of question 1. Steps taken by Budi in interpreting problem are incorrect. Budi does not present the situation mathematically using appropriate variables, symbols, and diagrams.

Budi has used symbolic and technical language and operations to solve question 1, but it is not yet correct. Based on the results of interviews, Budi did not compose and apply strategies to find mathematical solutions. Budi had difficulty in solving problems, especially in determining the steps to solve. Budi only performed comparison calculations by multiplying the required amount of water (1,000 l). Budi used information and formulas that served as a situation model but are incorrect. Budi has no difficulty in doing calculations because the written solution is a simple calculation.

Budi attempted to interpret mathematical results back into context. Budi writes 'So, the paving produced is 250 paving blocks'. The results of the interview with Budi show that Budi does not evaluate the reasonableness of the solution in context. Budi has not been able to understand mathematical ideas, situations, and relations orally or in writing, with real objects, pictures, graphs, or algebra well. During the interview, Budi hesitated in explaining the solution obtained.

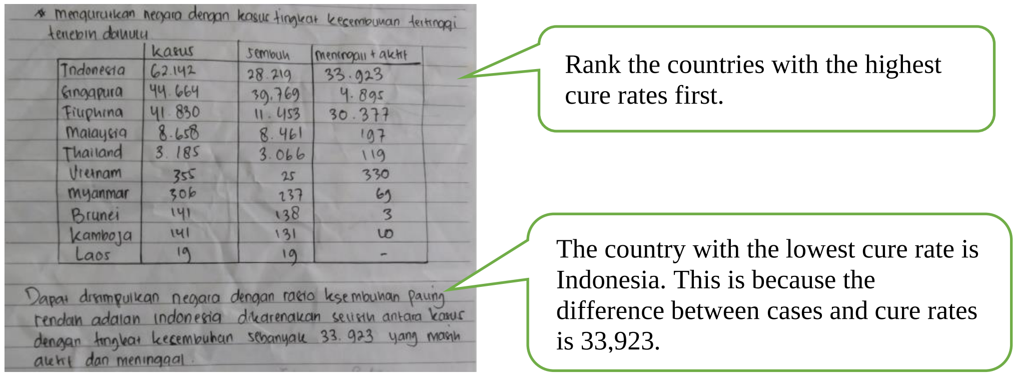


Figure 4. *Budi's Answer to Question 2*

Based on Figure 4, Budi does not write down what is known and asked about question 2. However, based on the results of the interview, Budi reads the questions repeatedly to understand the problem according to the context of question 2. Budi Recognise the mathematical structure in the context of a ratio. Budi represents the situation mathematically, using tables cases, recovered, and died and active. Budi uses formal language to solve the problem of question 2. Based on the results of the interview, Budi tried to develop strategies to find mathematical solutions. However, the correctness of the solution was still a doubt. Finally, the strategy applied was not in accordance with the initial strategy that was prepared.

Budi used information that served as a situation model and performed calculations. The countries were ranked with the highest cure rates first. Budi made a table like figure and performed arithmetic operations, looking for the difference between cases and cures. SL2. interpreted the mathematical results back into context, namely determining that Indonesia is the country with the lowest cure ratio. Based on the results of interview, Budi did not evaluate the reasonableness of the solution in context. Budi has not been able to understand mathematical ideas, situations, and relations orally or in writing, with real objects, pictures, graphs, or algebra well. During the interview, Budi hesitated in explaining the solution obtained.

3.3 Numeracy of Cinta

Here are the results of the analysis of the numeracy process for Cinta.

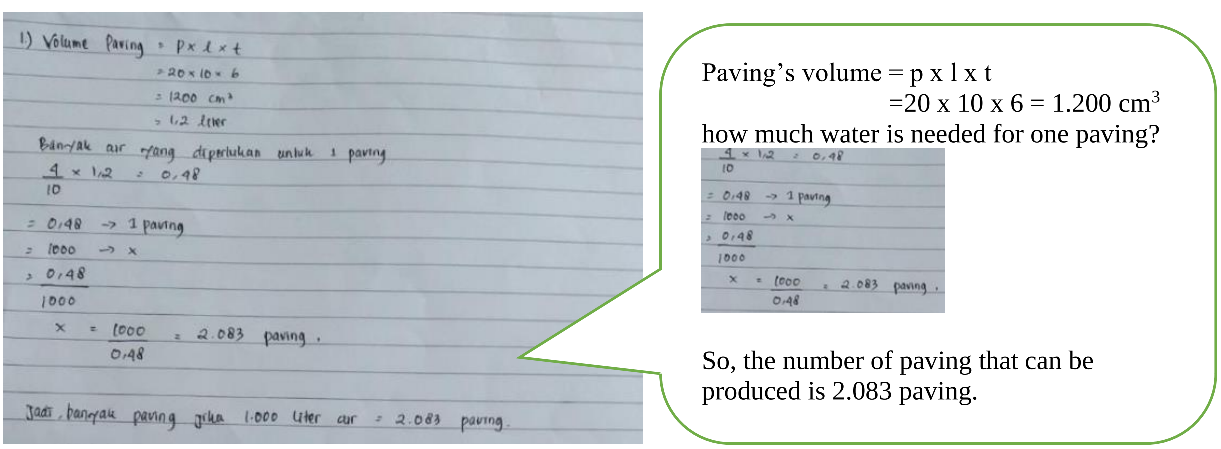


Figure 5. *Cinta's Answer to Question 1*

Based on Figure 5, Cinta does not write down what is known and asked about question 1. However, based on the results of the interview, Cinta was able to identify mathematical information in question 1, which is about the materials needed to make paving blocks. Cinta was able to recognise mathematics in context, namely paving and the comparison of materials to make paving. Cinta represented the situation mathematically accordingly. For example, variable the paving size by specifying volume = $p \times l \times t$.. Cinta uses the concept of worth comparison to solve the problem of question 1. The required paving is assumed by the variable x.

Cinta used symbolic, formal, and technical language and operations to solve the problem of question 1. Based on the results of interview, Cinta has developed and implemented strategies to find mathematical solutions. Cinta still has difficulty in solving problems, especially in determining the steps to solve. In Figure 5 it can be seen that Cinta is able to describe the important elements (keywords) of a mathematical problem and then solve it coherently, namely determining the volume of one paving, the amount of water used for 1 paving block, and the number of paving that can be made with 1,000 l of water using the equivalent ratio. Cinta uses information and formulas that serve as situation models. Cinta determines the volume of one paving by utilizing information on the length, width, and height of the paving. Cinta has no difficulty in doing calculations.

Cinta is able to interpret mathematical results back into context. After finding the value of *x*, which is 2,083. Cinta writes that the paving blocks that can be produced with 1,000 l of water are 2,083 paving blocks. However, when asked whether he was sure about the answer to question number 1, Cinta hesitated in answering. Cinta did not evaluate the correctness of the solution in context.

Based on the results of interview, Cinta was able to explain ideas, situations, and mathematical relationships verbally about solving problem 1. Cinta was able to explain whether the solution obtained is in accordance with the context based on the results of a coherent and clear interpretation. Based on the results of the interview, Cinta was able to answer question 1 because he had experience working on questions of a similar type. However, Cinta has doubts about the correctness of the solution worked out.

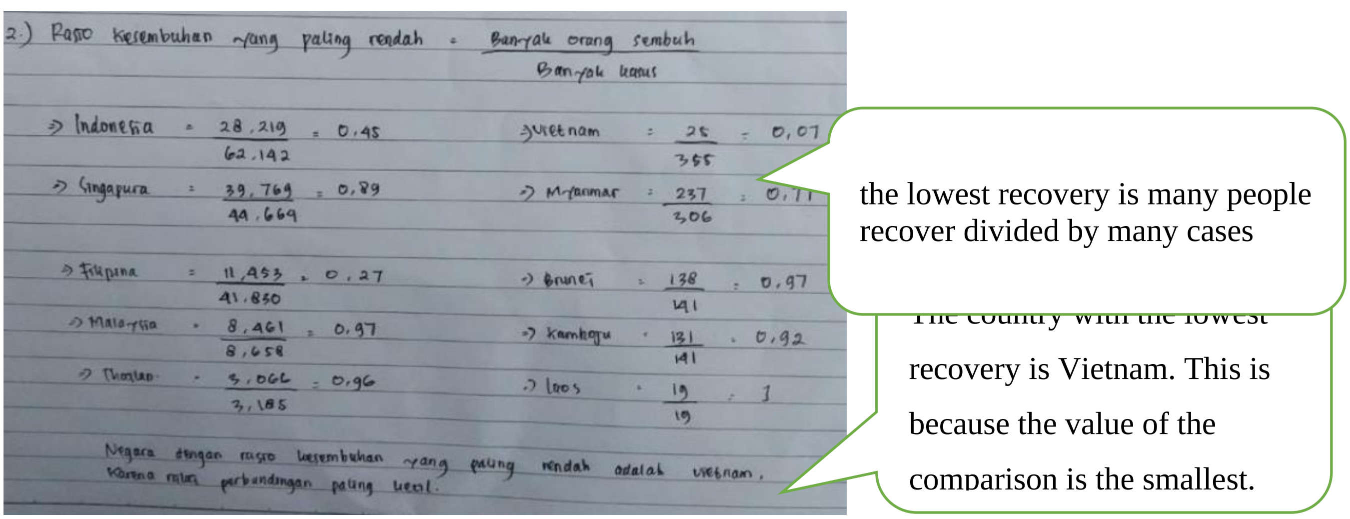


Figure 6. *Cinta's Answer to Question 2*

Based on Figure 6, Cinta does not write down what is known and asked about question 2. However, based on the results of the interview, Cinta is able to identify mathematical information from a problem located in context. Cinta reads the questions repeatedly to understand the problem according to the context of question 2. The data in the table in question 2 helps provide information to solve the problem.

Based on the results of interview, Cinta tried to develop strategies to find mathematical solutions. In determining the strategy, Cinta must repeatedly change the strategy to solve the problem in question 2. Cinta states that there are still difficulties in solving problems, especially in determining the steps for solving them.

Cinta represents the situation mathematically by writing the ratio of the number of recovered people to the number of cases. Then, Cinta performs a ratio calculation for each country. Cinta has no difficulty in doing calculations. Cinta interpreted the mathematical results back into context, namely determining that Vietnam is the country with the lowest cure ratio. Based on the results of interview, Cinta did not evaluate the reasonableness of the solution in context. when asked whether he was sure about the answer to question 2, Cinta hesitated in answering. Cinta does not evaluate the correctness of the solution in context. Cinta has not been able to understand mathematical ideas, situations, and relations orally or in writing, with real objects, pictures, graphs, or algebra well. During the interview, Cinta hesitated in explaining the solution obtained.

Numeracy of prospective elementary school teacher students based on self-efficacy is carried out by analysing the results of the numeracy test and the results of interviews with subjects with low self-efficacy. There were 56 prospective subjects in the group of students with low self-efficacy, but 3 subjects with equal abilities and different answer patterns were selected. The results of the numeracy test show that prospective elementary school teacher students with low self-efficacy do not always give low test results.

Subjects with low self-efficacy were only able to achieve aspects of the numeracy process, namely identifying. After get a question, initially the subject of low self-efficacy tried to understand every sentence in the question first then identified the problems in context. Subjects with low self-efficacy were able to identify mathematical information from a given problem in the context of numeracy. Subjects with low self-efficacy are able to recognise mathematical structures or mathematical content in the context of numeracy problems. In addition, subjects with self-efficacy are also able to present situations mathematically using variables, symbols, and diagrams to solve numeracy problems. This is in line with the results of the study by Rahmawati et al., (2021) that students with a low level of self-efficacy are only able to fulfil only one problem solving indicator, namely understand the problem.

Meanwhile, the aspects of using, interpreting, and communicating have not been fulfilled optimally. Subjects with low self-efficacy still have difficulty in developing and implementing strategies to find mathematical solutions and using information and formulas that serve as a model of the situation. Students with low self-efficacy feel doubtful about their own abilities and have low motivation to solve numeracy problems. Self-efficacy influences a person to be motivated to solve problems well (Ramos Salazar & Hayward, 2018). As for factors that encourage students to have high self-efficacy provide good appreciation, motivation and experience towards learning mathematics, thereby improving numeracy skills (Siegle & McCoach, 2007).

Although not always appropriate, subjects with low self-efficacy have tried using symbolic, formal, and technical language and operations. Subjects with low self-efficacy have difficulty developing strategies to solve numeracy problems and so that the implementation of the strategy is inappropriate. Sometimes there is a change between the initial strategy and the implementation of solving numeracy problems. According to Bouffard Bouchard (in Bandura, 2006), students who have high self-efficacy show high flexibility in finding solutions. It is not suitable with subjects with low self-efficacy, because they cannot explain concepts and plans appropriately. The low self-efficacy of students in mathematics is indicated by not wanting to try more to do math problems, and tend to give up quickly when they get difficult problems (Smit et al., 2022).

Subjects with low self-efficacy tried to interpret mathematical results back into context but it was incorrect. Subjects with low self-efficacy did not evaluate the correctness of the solution in the context. Subjects with low self-efficacy did not explain mathematical ideas, situations, and relationships in writing with real objects, pictures, graphics, or algebra. The results of the interviews show that Subjects with low self-efficacy explains ideas, situations, and mathematical relationships verbally in solving question 1. Subjects with low self-efficacy have not been able to explain that the solution obtained is in accordance with the context or not based on the results of its interpretation. This is in line with the results of the study that there is a positive correlation between self-efficacy and students' communication skills (Ichsan et al., 2020).

4. Conclusion

The results of the numeracy test show that prospective elementary school teacher students with low self-efficacy do not always give low test results. The results also showed that the numeracy of prospective elementary school teachers with low self-efficacy had been in the stage of being able to identify problems according to context and present problems even though they still made conceptual errors, calculation, and had difficulty in re-communicating the solution to the numeracy problems in context.

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