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Mathematical Literacy of Junior High School Students in Solving Problems PISA in Minang Context

Fathur Rahmi[1], Iltavia[2], Ramzil Huda Zarista[3]
[1,2]Mathematics Education, Universitas Islam Negeri Sjech M. Djamil Djambek Bukittinggi, Indonesia
[3]Mathematics Education, Sekolah Tinggi Keguruan dan Ilmu Pendidikan Sinar Cendekia, Indonesia
fathurrahmi08@gmail.com[1], ilta.rangbuki@gmail.com[2], ramzilhudazarista01@gmail.com[3]

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ABSTRACT

Often the use of repeated questions and answers is given by the teacher so that they cannot analyze students' mathematical literacy abilities. There needs to be a solution to the PISA problem so that student competencies can be seen clearly. The teacher should analyze this so that it does not happen continuously so that a way can be found to overcome it. The purpose of this study was to determine the mathematical literacy of junior high school students when working on PISA questions in the Minang context. This type of research is descriptive qualitative research. The results of the PISA test and interviews became the data in this study. To find out more detailed data, the authors took the research subjects based on the results of the PISA test later and categorized the subjects into the highest, medium and lowest. In this study, researchers used indicators of mathematical literacy level according to PISA. The results of this study indicate that in formulating the situation mathematically is 75%, reasoning 33.05% and solving problems 14.44%. That is, on average, students are only able to answer problems only up to level 2 PISA, that the ability to formulate situations mathematically.

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A. INTRODUCTION

The OECD have done a study to assess about mathematical literacy ability of students in 65 countries using PISA. Emphasis on students' skills and competencies that are usually found in everyday life as well as schools is the focus of PISA (Johar, 2012) . So, it is clear that mathematical literacy can be seen through solving PISA questions. Using an innovative literacy approach by paying attention to knowledge and skills, analyzing, communicating effectively and being able to apply problem solving in various conditions are characteristics of PISA (Setiawan, Dafit & Lestari, 2014). It is according by Bybee & McCrae (2011) that PISA increases the importance of students' competencies related to literacy because of their knowledge and attitudes. Emphasized by opinion Zhu (2021) that Student achievement is very important by reading achievement. It is clear that the levels in PISA should be a concern of teachers, because they are related to mathematical literacy skills.

The concept of literacy and other concepts in mathematics education are interrelated (Edo, Hartono & Putri, 2013). Bansilal & Debba (2013) explain that mathematical literacy was introduced as a subjects related to daily life. When conditions are uncertain, being able to make decisions with the ability to read and assess information is called literacy (Langrall, 2010). Then

the opinion of Wardhani (2011) explains that the ability to formulate and apply mathematics in different contexts by using facts, concepts, principles, and procedures to describe, explain, and solve the problem of an event is called literacy mathematics. This study is an important part of contributing to a study is the understanding of mathematization related to literacy (Botha & Putten, 2018). Reinforced by the opinion which states that mathematical literacy is a person's ability to formulate, use, and interpret mathematics in various contexts by thinking mathematically and using concepts and tools to help a person understand the usefulness of mathematics in daily life (Fahmy, Wardono & Masrukan, 2018). Based on some of the definitions above, it can be concluded that mathematical literacy is a person's ability to formulate situations mathematically, to reason, and to solve problems in various contexts. The program to evaluate mathematical literacy skills is the PISA.

PISA prioritizes measuring literacy skills, namely the assessment of science, reading and mathematics (Masjaya & Wardono, 2018). Emphasized by Sáenz (2009) explain Contextual, conceptual and procedural applied to a problem productively become a mathematical competence. Of course, knowledge variables in schools will be created with PISA. Indonesian students have poor mathematical literacy as seen from the PISA results with a rank of 55 out of 65 countries, it is proven that Indonesian students are only able to solve problems up to level 3 only. Definitely different from schools in other developed countries, which are at level 4, 5 and 6 (OECD, 2009). Indonesia has even been in the 3rd lowest rank of mathematical literacy of all participants who took part (Stacey, 2014). So, it is clear that the mathematical literacy of Indonesian students as seen through the PISA test is still low.

Hong Kong, which consistently ranks high in international science assessments, such as the PISA and TIMSS, has several factors that can influence this. In accordance with the research Lam & Lau (2014) stated that the important factors that influence the increase in ability are attitudes, self-efficacy and liking learning. Emphasized by Sun, Bradleya & Akersb (2014) that factors that influence the assessment are socioeconomic status, higher motivation and self-confidence. In addition, gender also affects (male students are superior). Coupled with students who get parental attention. These factors will affect students in getting better achievements. At school, teaching time per week is also a concern. Many factors influence efforts to improve students' abilities when working on PISA questions. In addition, the most important factor is that it is necessary for teachers to analyze the abilities of their students in order to find solutions to overcome this.

Hebel, Tiberghien, Montpied & Fontanieu (2017) say about when the process of identifying the competencies being tested, the teacher usually has difficulty. Teachers still have difficulty in making questions to measure students' abilities. Emphasized by Hebel, Tiberghien, Montpied & Fontanieu (2019) that the focus of the assessment is what makes the question difficult. Students have not been able to build their own concepts and only know about the concepts being taught (Rahmi, Sampoerno & Ambarwati, 2020). Students must have confidence and certainty when solving a given problem in the same way that was previously the goal of teaching for the teacher. In addition, getting used to memorizing formulas is one of the mistakes in instilling a solution to a problem so that it is not able to help in growing students' mindsets (Rahmi, Iltavia & Zarista, 2021). Weber, Mejía-Ramos & Volpe (2020) often the use of repeated problems and answers is given by the teacher so that they cannot analyze students'

mathematical literacy skills. There needs to be a solution to the PISA problem so that student competencies can be seen clearly. Teachers should analyze this so that it doesn't happen continuously so that they can find ways to overcome them.

One of the things to pay attention to in giving questions is the context. According to Julie (2013) that the choice of context in mathematical literacy by teachers can contribute to changes that occur in society such as the curriculum. Emphasized by opinion Ngcobo & Julie (2013) explain when choosing a context according to the student's environment, it will foster student interest because it is directly faced with real life. Of course, the use of the right context aims to enable students to be able to analyze the questions given as well as possible in accordance with their daily lives and have the ability to reason and argue about how the problem can be solved. The selection of PISA questions in this study was adapted to the lives of students, namely as Minang people, the aim was to help students think in solving problems. The purpose of this study was to determine students' mathematical literacy skills using PISA questions in the Minang context.

B. METHODS

This type of research is descriptive qualitative. The research was carried out in MTs Muhammadiyah Sulit Air, Kabupaten Solok, West Sumatera. Subjects were 18 students who participated in mathematics competition training. The selection of students was based on the recommendation of the mathematics teacher at the school. Data collection techniques in this study were questionnaires in the form of tests, interviews, and documentation. The tests tested cover all levels in PISA and are taken from the PISA model of mathematical literacy questions with an ethnomathematical approach (Socio-Cultural Context of the Kutai Community) (Rizki & Priatna, 2018) so that the reliability and validity tests were not carried out, because they were in accordance with PISA standards. Cognitive abilities developed by PISA through six categories of mathematical abilities can be seen. Check to Table 1 below (Johar., 2012), as shown in Table 1.

Table 1. Level PISA

Level	Description
1	Able to solve problems that are routine in nature and contexts that are commonly used
2	Able to understand problems and solve directly using existing formulas
3	Able to use steps in solving problems and strategies well
4	Able to make good models, select and integrate with different representations, and can be related to real situations
5	Able to create models and solve complex problems
6	Able to reason when finding solutions to problems, making generalizations, formulating and concluding answers

Based on Table 1, it can be seen from the level of mathematical ability through PISA which consists of 6 levels. Levels 1 and 2 include a group of questions with a lower scale that measures reproductive competence. The questions are arranged based on a context that is quite familiar to students with simple mathematical operations. Levels 3 and 4 include a group of medium-scale questions that measure connection competence. Medium-scale questions require student interpretation because the given situation is unknown or has never been experienced by

students. Meanwhile, levels 5 and 6 include a group of questions with a high scale that measures reflection competence. These questions require a high-level interpretation in a context that is completely unexpected by students (Maryanti, 2012) . Based on this level, the questions on the test are made from number 1 to number 6. The instrument is a PISA-oriented math problem in the Minang context with a description of 6 questions. Figure 1, Figure 2, Figure 3, Figure 4, Figure 5 and Figure 6 show some examples of items that have been adapted, as shown in Figure 1.

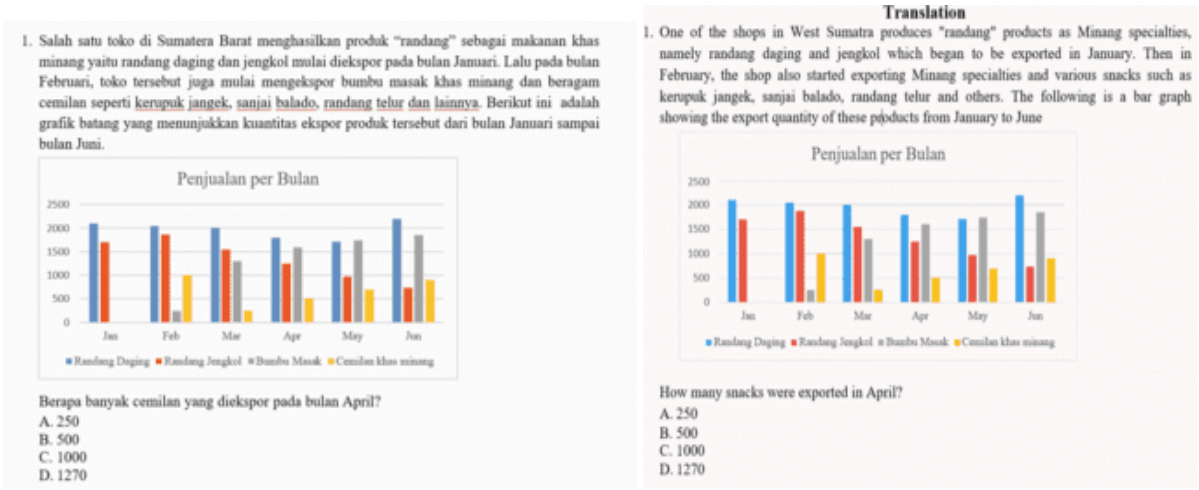


Figure 1. Example of Problem about Purchase Snacks from "Minang"

Figure 1 describes the sales of snacks originating from Minang which are exported from January to June. In this problem, students are expected to be able to read the existing diagram, so that they can answer the problem. The goal is to see if it is true that students are able to solve PISA level 1 problems, as shown in Figure 2.

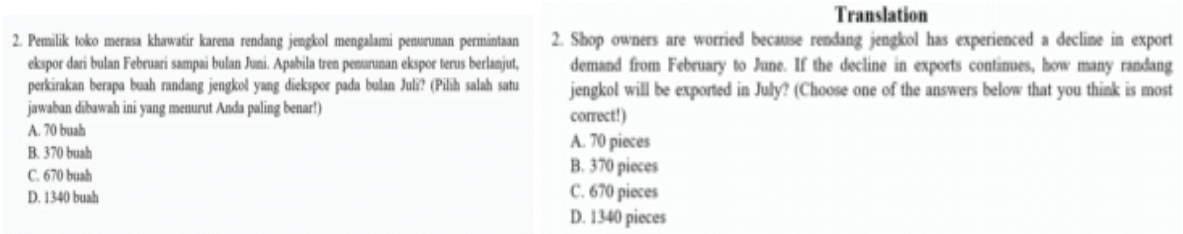


Figure 2. Example of Problem about Decline in Export Demand

Figure 2 describes the sales of snacks from Minang which are exported from January to June that decline. Students are expected to be able to interpret problems and solve them with formulas, as shown in Figure 3.

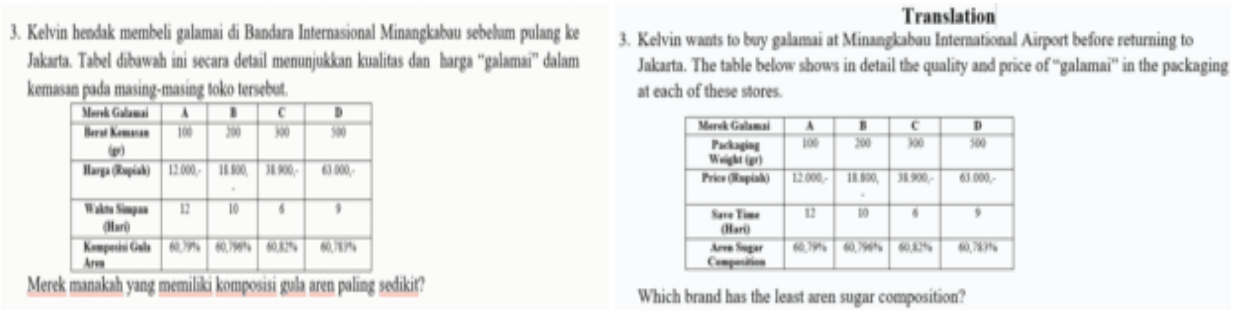
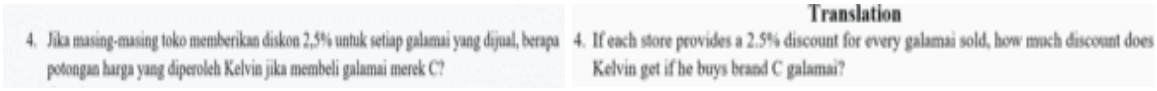


Figure 3. Example of Problem about Aren Sugar Composition

Figure 3 describes about choice least aren sugar composition. In this question a little trick students to be able to answer the problem carefully. Students are able to understand the problem in general. So that students will be able to answer the problem according to what is asked, as shown in Figure 4.

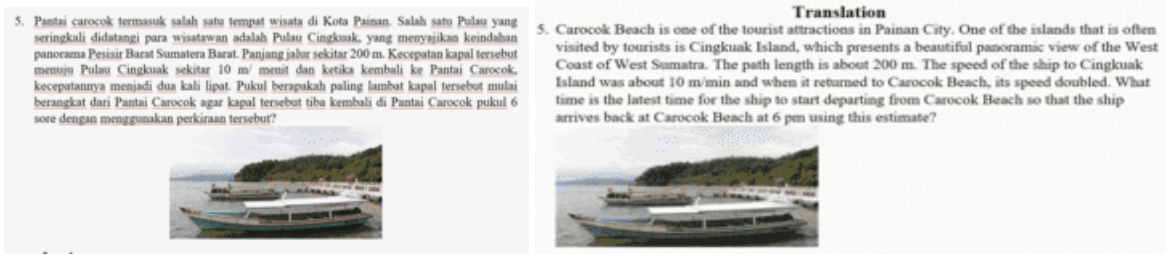

4. Jika masing-masing toko memberikan diskon 2,5% untuk setiap galamai yang dijual, berapa potongan harga yang diperoleh Kelvin jika membeli galamai merek C?

Translation

4. If each store provides a 2.5% discount for every galamai sold, how much discount does Kelvin get if he buys brand C galamai?

Figure 4. Example of Problem about Discount

Figure 4 describes describes Kelvin's choice of Galamai for sale. Students are able to work well in representing it differently and then relating it to everyday life, as shown in Figure 5.

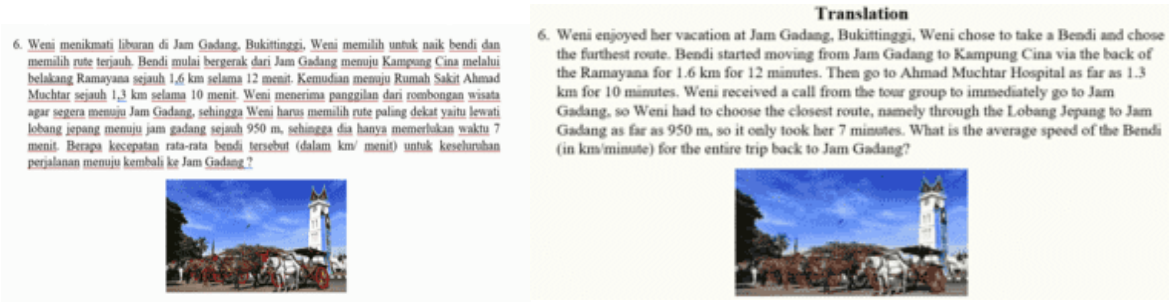

5. Pantai carocok termasuk salah satu tempat wisata di Kota Painan. Salah satu Pulau yang seringkali didatangi para wisatawan adalah Pulau Cingkuak, yang menyajikan keindahan panorama Pesisir Barat Sumatera Barat. Panjang jalur sekitar 200 m. Kecepatan kapal tersebut menuju Pulau Cingkuak sekitar 10 m/ menit dan ketika kembali ke Pantai Carocok, kecepatannya menjadi dua kali lipat. Pukul berapakah paling lambat kapal tersebut mulai berangkat dari Pantai Carocok agar kapal tersebut tiba kembali di Pantai Carocok pukul 6 sore dengan menggunakan perkiraan tersebut?

Translation

5. Carocok Beach is one of the tourist attractions in Painan City. One of the islands that is often visited by tourists is Cingkuak Island, which presents a beautiful panoramic view of the West Coast of West Sumatra. The path length is about 200 m. The speed of the ship to Cingkuak Island was about 10 m/min and when it returned to Carocok Beach, its speed doubled. What time is the latest time for the ship to start departing from Carocok Beach so that the ship arrives back at Carocok Beach at 6 pm using this estimate?

Figure 5. Example of Problem about Trip to Cingkuak Island

Figure 5 describes the journey to Cingkuak Beach. Students are expected to be able to answer these problems well. Students are able to work on models and solve complex problems, as shown in Figure 6.


6. Weni menikmati liburan di Jam Gadang, Bukittinggi, Weni memilih untuk naik bendi dan memilih rute terjauh. Bendi mulai bergerak dari Jam Gadang menuju Kampung Cina melalui belakang Ramayana sejauh 1,6 km selama 12 menit. Kemudian menuju Rumah Sakit Ahmad Muchtar sejauh 1,3 km selama 10 menit. Weni menerima panggilan dari rombongan wisata agar segera menuju Jam Gadang, sehingga Weni harus memilih rute paling dekat yaitu lewati lobang jepang menuju jam gadang sejauh 950 m, sehingga dia hanya memerlukan waktu 7 menit. Berapa kecepatan rata-rata bendi tersebut (dalam km/ menit) untuk keseluruhan perjalanan menuju kembali ke Jam Gadang ?

Translation

6. Weni enjoyed her vacation at Jam Gadang, Bukittinggi, Weni chose to take a Bendi and chose the furthest route. Bendi started moving from Jam Gadang to Kampung Cina via the back of the Ramayana for 1.6 km for 12 minutes. Then go to Ahmad Muchtar Hospital as far as 1.3 km for 10 minutes. Weni received a call from the tour group to immediately go to Jam Gadang, so Weni had to choose the closest route, namely through the Lobang Jepang to Jam Gadang as far as 950 m, so it only took her 7 minutes. What is the average speed of the Bendi (in km/minute) for the entire trip back to Jam Gadang?

Figure 6. Example of Problem about Average Speed of the Bendi

Figure 6 describes the problem regarding the average speed of Bendi's speed. From the questions, students are expected to be able to analyze the problems given so that they are able to answer the problems. Students can use their reasoning in solving mathematical problems, can make generalizations, formulate and communicate their findings.

C. RESULT AND DISCUSSION

1. Overview of the Students' Result

The number of participants who took this test was found to be 18 people, 6 people each with high ability were taken from each class. The selection of research subjects is adjusted to the objectives. The research subjects that will be seen later are low, medium and high subjects in answering PISA problems related to mathematical literacy. Based on the results of the

written test obtained, then we can calculate the percentage score of each question based on student answers. The proportion can be seen in Table 2.

Table 2. Percentage of Achievement Criteria According to PISA Level

Level	Score (%)	Achievement Criteria
1	83,33%	Well
2	66,67%	Enough
3	58,89%	Enough
4	7,22%	Very Low
5	11,11%	Very Low
6	3,33%	Very Low

Based on Table 2, it is clear that the students' ability is only average up to level three, while for the next level it is very low. So, can concluded with OECD (2013), Wijaya, van den Heuvel-Panhuizen, Doorman & Robitzsch (2014) about the relationship between PISA questions and mathematical literacy that level 1 and 2 questions are related to indicators of systematically formulating situations, then level 3 and 4 are related to reasoning and level 5 and 6 are related to solving problems. Based on this, it is clear that students' ability to reason is still not visible, as shown in Table 3.

Table 3. Percentage of Achievement Criteria According to Matehmatical literacy

Criteria	Score (%)	Achievement Criteria
Formulating the Situation Mathematically	75%	Well
Reasoning	33,05%	Low
Solve the problem	14,44%	Very Low

It is clear that in general, students' abilities to formulate situations systematically and students' reasoning abilities are still relatively low only at the problem-solving stage. The data are students with the results of interviews with teachers who are accustomed to working on questions given by the teacher and not questions that are applicable so that they do not solve the problems given. In addition, the teacher knows that the students at the school will not be able to, so the teacher only gives repeated questions until the students really understand the problem. He added that the questions that will usually be tested are the same questions when studying so that they can reach the grade limit in class.

2. Students' Answers (High, Middle, Lowest Mathematical Literacy Students')

This study pays attention to six subjects, Subject 1 and Subject 2 with low mathematical literacy, subject 3 and subject 4 with middle mathematical literacy, subject 5 and subject 6 with high mathematical literacy.

a. PISA Level 1 Questions

Question number one is about PISA level one, some Subjects answered the question as seen from Subject 1 below, as shown in Figure 7.

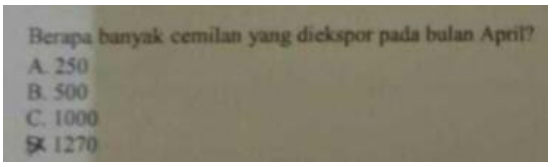


Figure 7. S1's Answer PISA Level 1 Questions

Following is the interview process with Subject 1:

Teacher : Do you understand how to read the table?
S1 : Yes, Ms.
Guru : Why is the answer D?
S1 : That's right D not Ms
Guru : Take another look.
S1 : (See again), sorry Ms, I saw it wrong. That's the answer to randang jengkol, Ms.

It is also seen that there are research subjects who answer doubtful questions, so it is necessary to know the causes in more depth about this, as shown in Figure 8.

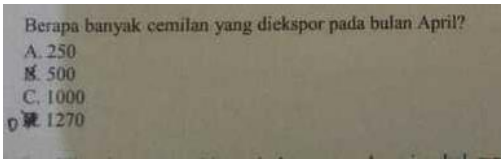


Figure 8. S2's Answer PISA Level 1 Questions

Following is the interview process with Subject 2:

Teacher : Did you previously answer D?
S2 : Hehe, yes Ms.
Teacher : Why is the answer D?
S2 : Looks like I misread the graph at the beginning Ms

For to this question, only a few subjects experienced wrong in answering It can be seen that students in general have been able to solve PISA level 1 questions. Students are able to formulate situations systematically, meaning that for the routine nature of the questions and applications like this, students are able to solve them well.

b. PISA Level 2 Questions

Question number two is a level two PISA question, some Subjects answered the problem incorrectly as seen from Subject 1 below, as shown in Figure 9.

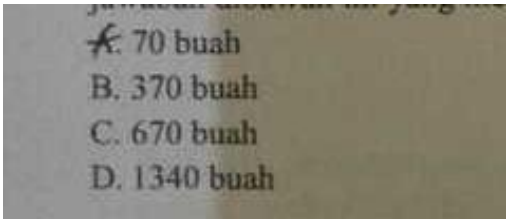


Figure 9. S1's Answer PISA Level 1 Questions

Following is the interview process with Subject 1:

Teacher : Why did you answer 70?
S1 : There's a decline in sales, isn't it?
Teacher : Why not 370?
S1 : There are two answers Ms, that's why I chose the smallest.
Teacher : If you look at the previous decline, the sales are not too far away.
S1 : (See again), I don't know Ms

It can be seen that Subject 1 has not been able to estimate the magnitude of the decrease. Of course, this is related to students' mathematical literacy when looking at the graphs that occur. The following answers from Subject 3 related to the same question, as shown in Figure 10.

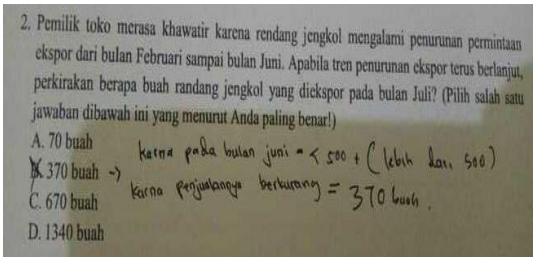

2. Pemilik toko merasa khawatir karena rendang jengkol mengalami penurunan permintaan ekspor dari bulan Februari sampai bulan Juni. Apabila tren penurunan ekspor terus berlanjut, perkirakan berapa buah randang jengkol yang diekspor pada bulan Juli? (Pilih salah satu jawaban dibawah ini yang menurut Anda paling benar!)
A. 70 buah
B. 370 buah
C. 670 buah
D. 1340 buah
karena pada bulan juni = < 500 + (lebih dari 500)
karena penjualannya berkurang = 370 buah.

Figure 10. S3's Answer PISA Level 2 Questions

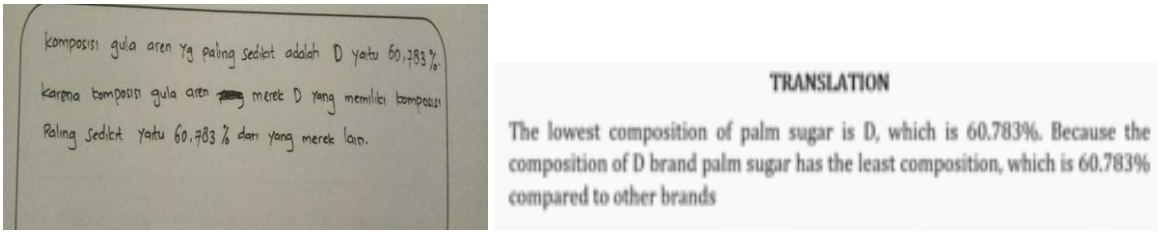
Following is the interview process with Subject 3:

Teacher : Why did you answer 370?
S3 : Because according to what was asked about Ms
Teacher : Why not 70?
S3 : If you look at the graph between months, the difference is not too much, Ms. My estimate is a decrease of 250 every month. For example, the decline is 70 too far. So, my answer is 370 Ms.

It can be seen from the answers and interviews that when answering the problem Subject 3 was able to predict the answers to the problems given. So, from the problems in the PISA questions with level two, it is illustrated that almost all subjects are able to answer the problems correctly and only a few subjects have not been able to answer correctly. This indicates that in general the subject's ability is good at level 2.

c. PISA Level 3 Questions

Question number three is a level three PISA question, some of the subjects answered the problem incorrectly as seen from Subject 1 below:


komposisi gula aren yg paling sedikit adalah D yaitu 60,783%.
karena komposisi gula aren [redacted] merek D yang memiliki komposisi
Paling sedikit yaitu 60,783 % dari yang merek lain.

TRANSLATION

The lowest composition of palm sugar is D, which is 60.783%. Because the composition of D brand palm sugar has the least composition, which is 60.783% compared to other brands

Figure 11. S1's Answer PISA Level 3 Questions

Following is the interview process with Subject 1:

Teacher : Why did you choose brand D?
S1 : The composition is less than the others.
Teacher : You don't pay attention to the weight of the packaging?
S1 : It doesn't matter, Ms.
Teacher : Why does it not affect the composition of palm sugar?
S1 : (See again, then confused)

Many research subjects answered this problem the same as Subject 1. However, there were some who were still able to answer the problem correctly. The following answers from Subject 5 that answer the problem correctly, as shown in Figure 11.

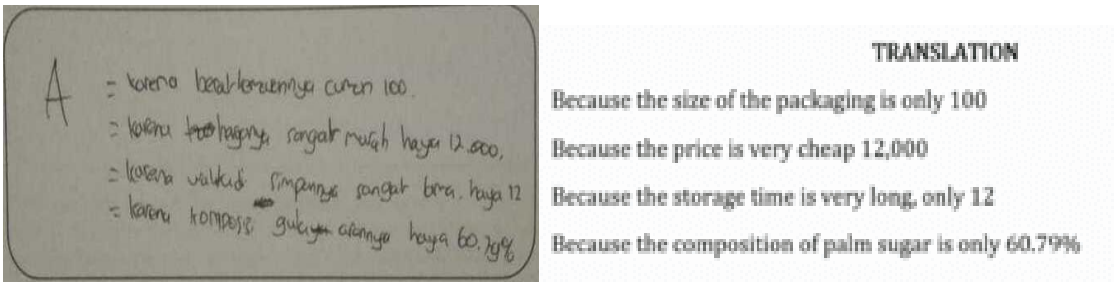


Figure 12. S5's Answer PISA Level 3 Questions

Following is the interview process with Subject 5:

Teacher : Why did you choose brand A?
S4 : If you only look at the composition of the D brand, it's a little bit. It's just that there is weight. So, more brand D and less brand A

It can be seen from the problem that the actual percentage of composition will be greater if the weight of the galamai is also greater. There are still many students who only pay attention to numbers in percentages without considering the weight of the galamai. This shows that students' reasoning ability to work on PISA questions at level 3 is still low. This is certainly influenced by students' mathematical literacy skills when solving problems that require students' ability to reason.

d. PISA Level 4 Questions

The following questions are PISA level 4 questions by paying attention to mathematical literacy skills whose indicator is reasoning. There are still some students who answered the problem incorrectly. As can be seen in Figure 13.

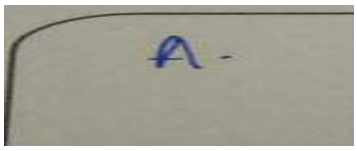


Figure 13. S1's Answer PISA Level 4 Questions

Subject 1 only answered the question with answer A without providing an explanation of the answer. Following is the interview process with Subject 1:

Teacher : Why is the answer A?
S1 : I don't really understand the question given

Teacher : Take a look at the questions given? What was asked?
S1 : The price discount.
Teacher : If the price discount means what is the answer?
S1 : The price, Ms

It can be seen that subject 1 does not really understand the problem given. Problems also occur in Subject 3 in answering questions. Same as in Subject 3, it is seen that the answer given is the price after the discount, as shown in Figure 14.

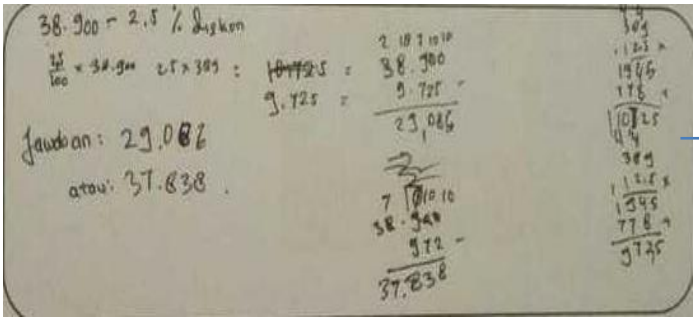


Figure 14. S3's Answer PISA Level 4 Questions

Following is the interview process with Subject 3:

Teacher : Why do you have two answers?
S3 : I'm a little confused for decimal multiplication. So, I made two answers. The first one, subtracted by 9,725, the other subtracted by 972.
Teacher : Then why is it substracted?
S3 : That's according to the matter.
Teacher : Try reading it again. If the price discount means what is the answer?
S3 : The price is discounted. That means it's only up to 9,725

The subject is still confused when working on the problem. Another thing also happened to Subject 5 as seen from Figure 15.

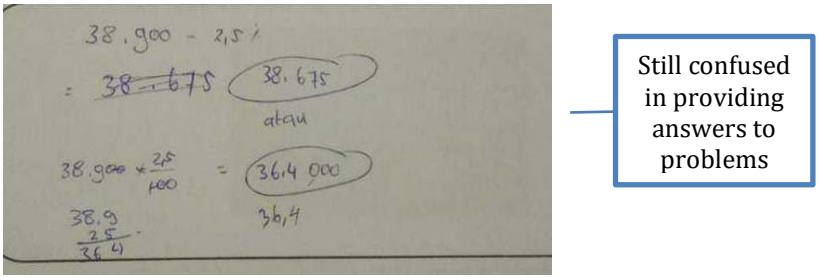


Figure 15. S5's Answer PISA Level 4 Questions

Following is the interview process with Subject 5:

Teacher : Why do you have two answers?
S5 : The first added and others subtracted
Teacher : The reason?
S5 : Because I'm looking for pieces
Teacher : Then why do you subtract 2.5?
S5 : It's a 2.5% discount.

Teacher : Where did the percentage go?

It is clear that students in solving problems are not able to use the correct process because they do not know what to solve. It can certainly be concluded that students have not been able to relate the concepts and connectedness of the facts that have been given. It can be assumed in general, that almost all students are unable to answer the problems given at level 4. Another thing is that students are still not able to do decimal multiplication, conclude the problems given the questions and use percentages.

e. PISA Level 5 Questions

This question measures students' ability to solve problems. This of course greatly affects mathematical literacy. Based on the results of the research that has been done, it can be seen that there are still many students who have not been able to achieve the ability on this PISA level 5 question. The following is one of the answers of students who have not been able to answer the problem, as shown in Figure 16.

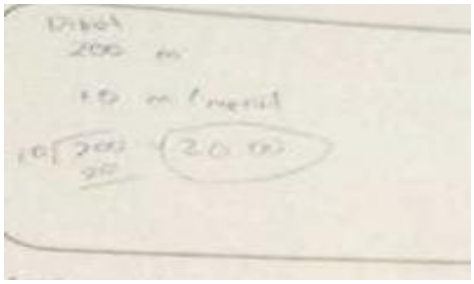


Figure 16. S3's Answer PISA Level 5 Questions

Following is the interview process with Subject 3:

Teacher : Why did you answer 20.00?
S3 : Divided, Ms.
Teacher : Why use 00 two behind?
S3 : (Silence). Because there is still a 0 after the comma.
Teacher : It's not necessary to make a 0 after the comma
S3 : No, Ms

It can be seen that Subjects are still not able to answer the problem correctly. Subjects perform operations without understanding what form the problem is given. Subjects do not understand beforehand, plan what will be done after that. Subjects just do it right away by doing the division operation. There are also Subjects who have been able to answer half of the problems, such as Subject 5 below, as shown in Figure 17.

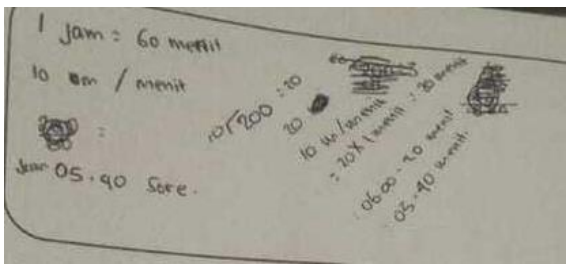


Figure 17. S5's Answer PISA Level 5 Questions

Following is the interview process with Subject 5:

Teacher : From your answer, do you think you have been able to answer this question?
S5 : I just said go, not counting the countdown again
Teacher : If you go back to the beach, what should it be like?
S5 : If the speed is twice from the beginning, it means 20m/minute when you come back.
Teacher : Do you know where you went wrong?
S5 : Yes

It can be seen that the subject knows his mistake, this illustrates that the subject is less careful in solving the problem. Apart from these subjects, it can be seen from the correct answers given by S6 in Figure 18.

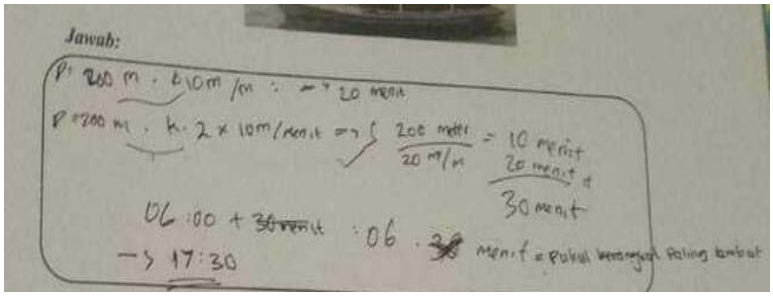


Figure 18. S6's Answer PISA Level 5 Questions

The picture given by Subject 6 shows that the research subject has been able to solve problems for PISA questions well at level 5. Of course this shows that mathematical literacy skills for problem solving indicators are good. But in general, to complete the ability level 5 all subjects are still relatively low. Only one person can answer the problem properly and correctly

f. PISA Level 6 Questions

One indicator of mathematical literacy ability is problem solving. This can certainly be seen when students complete PISA questions at level 6, as shown in Figure 19.

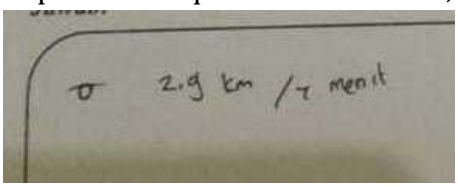


Figure 19. S1 Answer to PISA level 6 questions

On average, students answered exactly the same as Subject 1, adding up the distance of km so that the answer was like that. This indicates that students do not understand how to solve appropriate problems and students are not able to answer systematically. Of course, this indicates that students' mathematical literacy skills at this level of PISA questions are still very low. It can also be seen in Figure 20 that it is clear that students only added and do not know how the work steps should be, as shown in Figure 20.

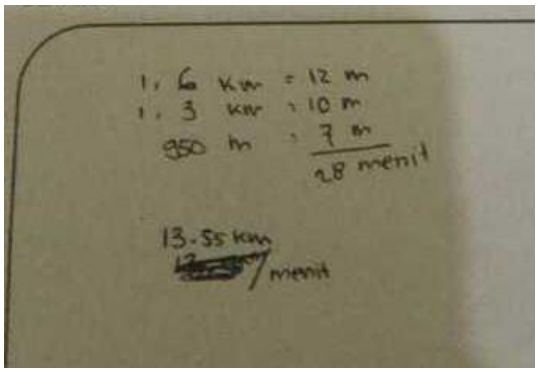


Figure 20. S4 answers to PISA level 6 questions

Following is the interview process with Subject 4:

Guru : How did the results get to 13.55 km/min?
S4 : All added.
Guru : Please tell me what is the added?
S4 : (Silence). Everything is km, after that subtracted the same minutes.
Guru : Why do you answer like that?
S4 : Because what you are asking for is km/minute

It is clear that students have not been able to answer the problems given and only give a few reasons for their answers. Of course, this is not based on students' logical abilities. Students answer the problem according to what they want, not systematically. Reinforcing this, also the following shows the results of S5's answer in Figure 21.

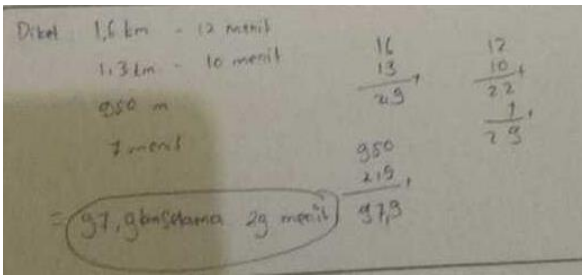


Figure 21. S5 Answers to PISA Level 6 Questions

It can also be seen from Subject 5's answer that in the addition between km and m, unit equations are not carried out, and the same is true for minutes. The error made by Subject 5 was in the addition of km and also not being able to change the unit of km/minute. This shows that the subject still has not solved the problem systematically. In this case, it shows that students' problem-solving abilities are still not visible in general. All students were unable to answer the given PISA level 6 problems.

Results Based on the research, it can be seen that some students have high mathematical literacy skills which are equivalent to level 4 in PISA, were students who had middle mathematical literacy skills equivalent to level 3 and were students who had lowest mathematical literacy skills equivalent to level 2. In addition, on average, students are only able to answer questions only up to level 2 PISA, namely the ability to formulate situations mathematically. In accordance with the results Wati, Sugiyanti & Muhtarom

(2019) from the research, students have stages of the mathematical literacy process well but not optimal, such as the process of identifying mathematical aspects related to a context of daily life, determining mathematical models and problems. Mathematical literacy is not enough just to use knowledge and understanding, but to be able to use it effectively (Sari, 2015). So,it is necessary to use questions such as PISA that have been adapted to the closest context of students to see students' mathematical literacy abilities.

D. CONCLUSION AND SUGGESTIONS

In general, students are only able to work on questions well at level 3. In specific, who had high mathematical literacy skills equivalent to level 4, were students who had middle mathematical literacy skills equivalent to level 3 and were students who had lowest mathematical literacy skills equivalent to level 2. Students still experience problems in solving them even though the PISA questions that have been made have been adjusted and cannot be separated from the context of students' daily lives. Of course it affects students' mathematical literacy skills. The students' mathematical literacy ability in general is only to formulate the situation systematically, but the ability to reason and solve problems is still relatively low. It was also emphasized that this was because the teacher did not familiarize students with questions that were applicable.

Educators can use other questions related to mathematical literacy. Researchers can use different contexts to create problems related to PISA. Researches can use question PISA for to assesement mathematical literacy. Besides that, familiarizing students with the practice method through PISA questions will make students accustomed to practicing mathematical literacy skills because they are interrelated.

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