Kemampuan Pemecahan Masalah Matematis Topik PLSV Pendekatan Pemodelan Matematika Menggunakan Media Pembelajaran Berbasis ICT

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Abstrak

Pemecahan masalah merupakan salah satu aspek keterampilan berfikir tingkat tinggi yang penting dimiliki oleh siswa. Pemecahan masalah erat kaitannya dengan pemodelan matematika, hal ini dikarenakan pemodelan matematika biasanya dianggap sebagai seni penerapan matematika pada permasalahan dunia nyata. Penelitian ini merupakan penelitian deskriptif kualitatif dan subjek penelitian ini adalah 32 peserta didik kelas VII C SMP Negeri 1 Pagar Alam. Penelitian ini bertujuan untuk mengetahui kemampuan pemecahan masalah matematis peserta didik untuk topik PLSV dengan pendekatan pemodelan matematika menggunakan media pembelajaran berbasis ICT. Teknik pengumpulan data yang digunakan pada penelitian ini adalah tes tertulis dan wawancara. Berdasarkan hasil penelitian diperoleh bahwa pembelajaran pemodelan matematika dengan menggunakan media *Google Sites* mampu memberikan kontribusi yang cukup signifikan terhadap kemampuan pemecahan masalah peserta didik SMP Negeri 1 Pagar Alam. Hasil pencapaian kemampuan pemecahan masalah peserta didik VII C dengan rata-rata 53,90% yang dikategorikan cukup. Peserta didik lebih tertarik menggunakan pembelajaran pemodelan matematika menggunakan *Google Sites*.

Kata Kunci: kemampuan pemecahan masalah, media pembelajaran berbasis ICT, pemodelan matematika

Mathematical Problem-Solving Ability with a Mathematical Modeling Approach Using ICT-Based Learning Media

Abstract

Problem-solving is one aspect of high-level thinking skills that is important for students to have. Problem-solving is closely related to mathematical modeling, this is because mathematical modeling is usually considered the art of applying mathematics to real-world problems. This research is a qualitative descriptive study and the subjects of this study were 32 students of class VII C junior high school number 1 at Pagar Alam. This study aims to determine students' mathematical problem-solving abilities for the one variable linear equation topic with a mathematical modeling approach using ICT-based learning media. Data collection techniques used in this study were written tests and interviews. Based on the results of the study, it was found that learning mathematical modeling using Google Sites media was able to make a significant contribution to the problem-solving abilities of senior high school number 1 at Pagar Alam students. The results of the achievement of problem-solving abilities of VII C students with an average of 53.90% are categorized as sufficient. Students are more interested in using mathematical modeling learning using Google Sites.

Keywords: ICT learning media; mathematical modeling; problem-solving skills

INTRODUCTION

Problem-solving ability as an aspect of higher-order thinking skills is a very important ability (Ulandari et al., 2019). Even though problem-solving abilities are very important and useful and closely related to everyday life, the problem-solving abilities of Indonesian students are still relatively low (Wulandari & Jailani, 2015). This is reinforced by a preliminary study conducted by (Fasni et al., 2017) which describes that students' problem-solving abilities are still lacking because students tend to feel distressed when given non-routine problems.

The Ministry of National Education (Rahmawati et al., 2018) details the mathematical competencies that students must know, one of which is solving problems which includes the ability to understand problems, draw mathematical models, complete models, and interpret solutions obtained. Through problem-solving, students gain experience and understand the use of mathematics (Surya & Putri, 2017). Problem solving is central to discovery and application and relates to the overall mathematics curriculum which provides a context for learning and applying mathematical ideas. Students who want to learn to develop their problem-solving abilities will receive advantages in complex investigations (Murtafiah et al., 2018).

In connection with mathematics and problem-solving abilities, an approach is needed to connect abstract concepts with problems, because this type of problem-solving requires special steps to solve it. Mathematical modeling is usually considered the art of applying mathematics to real-world problems to better understand problems so mathematical modeling is closely related to problem-solving (Cahyati & Kharisudin, 2020). There are four reasons why mathematical modeling is taught to students, namely (1) to help students better understand mathematical concepts; (2) to help students plan stages or solutions to solve math problems; (3) to comparable but less abstract or semi-concrete than algebraic methods; and (4) encourage students to solve more difficult problems (Oktaviani et al., 2016).

In addition to the mathematical modeling skills needed to solve mathematical problems, students also currently need the presence of Information and Communication Technology (ICT) at the stage of searching for relevant material for source search, namely by using internet media and designing the implementation of models using mathematics learning media. Along with the development of an increasingly modern era marked by the development of technology due to the COVID-19 pandemic case, it is hoped that an educator can optimize the learning process, especially the use of ICT-based learning media. In line with this, the digitalization of systems in the Industrial Revolution 4.0 requires teachers and students to quickly adapt to existing changes. One of them is the learning system which was originally carried out face-to-face, so it is possible to replace it with an integrated learning system via the internet (online) (Arizona et al., 2020).

Media in the learning process is an intermediary or introduction to the source of the message with the recipient of the message, stimulating thoughts, feelings, concerns, and desires so that they are motivated and involved in learning (Abi Hamid et al., 2020). The learning process is also a communication process, so the media used in learning is called learning media. Information technology that is currently developing can be used in the learning environment created. The benefits of using information technology in education include ease of obtaining complete sources, flow of information at any time without time and place restrictions, increasing learning activities, and increasing learning outcomes qualitatively and quantitatively (Taufik et al., 2018). An easy way to create web-based learning materials for teachers is to use Google Sites. Google Sites is an online application launched by Google to create classes, schools, or other websites. Google Sites allows users to combine various information in one place (including videos, slides, attachments, text, and more) in one place that can be shared according to user needs. The use of Google Sites is free and can be used by anyone who has a Google account (Taufik et al., 2018).

The results of the Program for International Student Assessment (PISA) survey in 2018 showed that Indonesia was ranked 72 out of 79 (Schleicher, 2018) countries with an average score of 379 in the mathematics category (Kemendikbud & Abduh, 2019). This achievement is still below the international average score of 500. This shows that the learning of mathematics in Indonesia is still not optimal, including at the junior high school level. One of the questions tested on PISA is algebraic material, including one-variable linear equations.

The low ability of students in algebraic material, especially one-variable linear equations can also be seen from the results of the Trends in International Mathematics and Science Study (TIMSS) in 2011 which stated that the mathematical ability of Indonesian junior high school students was ranked 38th out of 42 countries and students in solving problems in the form of one-variable linear equations (Mullis et al., 2012). Therefore, the material of one variable linear equation is important for students to master well.

From the results of the discussion, it can be concluded that students' mistakes in solving problems can be used as a benchmark for the extent to which students understand the material being studied. Thus, a detailed error analysis is needed to identify students' errors and their causative factors and then seek a solution. Therefore, the novelty of this research is to analyze the mathematical problem-solving abilities of seventh-grade junior high school students in the material of one variable linear equation with a mathematical modeling approach using ICT-based learning media.

METHOD

Based on the problems that have been described, the method that will be used in this research is to use descriptive qualitative research methods, descriptive research is research that aims to find out the circumstances and conditions where the results are explained in the form of research reports while qualitative research is research on descriptive research and inclined to analysis (Bernard et al., 2018).

This study aims to determine the mathematical problem-solving abilities of class VII students with a mathematical modeling approach using ICT-based learning media for the subject matter of one variable linear equation system. The variable in this research is students' problem-solving abilities. Student problem-solving ability is the ability of students to build confidence in making decisions to solve mathematical difficulties in everyday life with the knowledge they (Salvia et al., 2022).

Figure 1. Display of Google Sites Learning

The research subject is the main source of research data, namely having data about the variables studied, the research subject will produce a research conclusion. In this study, the researcher will take the subject of class VII students of Junio High School number 1 at Pagar Alam. This research will be carried out in the odd semester of 2022/2023. Location or place of research is a place used to obtain research problem-solving. Several kinds of research places, depending on the field of science behind the study. Research in the field of education can take the form of classes, schools, or educational institutions in one area. The research location took place at Pagar Alam 1 Public Middle School in class VII C in the odd semester of the 2022/2023 academic year with 32 students.

There are 3 stages in this research procedure, namely 1) the research preparation stage, this stage the preparation of learning tools and research instruments in the form of lesson plans, preparing Google

Sites learning media, and preparing test questions and conducting validation by the validator. 2) implementation stage, activities to be carried out at the implementation stage of the learning process, giving exercises, conducting introductions and providing directions regarding working on questions through Google Sites learning media, giving test questions to research subjects. To strengthen the data they have, researchers will conduct interviews with research subjects so they can see students' views on the problems given. 3) The final stage, at this stage data analysis is carried out, from the analysis of the data that has been obtained the researcher will describe the ability to solve mathematical problems based on indicators of students' mathematical problem-solving supported by quotations that support the results of research data and end with concluding the results study.

In this study, researchers used data collection techniques in the form of written tests and interviews. 1) Written test, in this test the subject is given story questions, in this test students are required to write down all their knowledge regarding the material of a system of one-variable linear equations by answering questions that aim to measure students' ability to solve mathematical problems in material linear equations one variable, 2) Interview, the interview activity was carried out to know more about the problem-solving abilities of seventh-grade junior high school students using ICT-based learning in mathematical modeling problems on the material of one variable linear equation.

Data Analysis Techniques
1. Test Data Analysis
Check the results of students' work in completing written tests and give scores according to the guidelines for scoring written questions. Guidelines for scoring the written test are as follows:

Table 1. Written Test Scoring Guidelines

Measured ability	Score	Rubric
Understand the problem	2	• Score 0 if there is no writing at all • Score 1 if writing down what is known and asked • Score 2 if writing correctly what is known and asked
Designing a settlement plan	2	• Score 0 if you do not write down the formula that is used incorrectly • Score 1 if writing the formula but the formula used is not correct • score 2 if the formula used is right with the problem
Solve the problem	2	• score 0 if not carrying out mathematical calculations • score 1 if the mathematical calculations are partially correct • score 2 if implementing the strategy correctly
Check again	2	• score 0 if you do not write a conclusion • score 1 if writing conclusions but not precise • score 2 if writing the conclusion correctly

(Ariani et al., 2016)

a. Calculating the value of the written test based on the score obtained

$$Score = \frac{the\ total\ score\ obtained}{maximum\ number\ of\ scores} \times 100 \quad …… (1)$$

b. Determine problem-solving categories based on written test scores

Table 2. Problem-Solving Ability Category

Value Range	Category
$80 < Score \leq 100$	Very Good
$60 < Score \leq 80$	Good
$40 < Score \leq 60$	Enough
$20 < Score \leq 40$	Not Enough
$0 < Score \leq 20$	Very Less

(Ariani et al., 2016)

c. Calculating the percentage of each indicator of problem-solving ability

$$indicator\ percentage = \frac{\Sigma\ nth\ indicator\ score}{\Sigma\ the\ maximum\ score\ of\ the\ nth\ indicator} \times 100\% \quad \ldots\ldots (2)$$

2. Interview Analysis

The results of interviews with students were packaged into verbal data in the form of screenshots of video calls on the WhatsApp application which were then transcribed into written sentences. The aim is to find out more deeply about the problem-solving abilities of class VII students of Junior High School number 1 Pagar Alam using ICT-based learning on one-variable linear equation material, then with this interview activity so that students know their views on everyday problems using mathematical modeling.

RESULT

This study presents a description or elaboration of the problem-solving abilities of class VII students of junior high school number 1 at Pagar Alam when solving given problems utilizing ICT-based learning using mathematical modeling learning. This study has three stages, namely: 1) the preparation stage, 2) the implementation stage, and 3) the final stage.

In the first stage, research is carried out and the data collection process is carried out, the researcher prepares all the instruments that will be used during the research. After the research was prepared, the researcher then carried out instrument validation to the validator. Next is to conduct observations at the junior high school that will be the research subject, namely junior high school number 1 Pagar Alam. This process aims to obtain information related to schools that will be used as research locations, such as subject schedules, time allotted for each meeting, student entry schedule systems, and carrying out administrative arrangements in obtaining research permits.

At the implementation stage, this research was conducted in the computer laboratory of junior high school number 1 at Pagar Alam with class VII.C students at junior high school number 1 Pagar Alam consisting of 32 people. This research was conducted on September 26 - September 28 2022 with 2 Lesson Hours of 1×40 minutes. In this study using ICT-based mathematical modeling learning on the topic of one-variable linear equations. This research was conducted in three meetings at each stage, namely collecting data from practice questions that were done individually, then listening to explanations of the material on ICT-based learning media that had been provided on each computer, then students worked on the test questions and interview regarding the results of his work. In the implementation of learning activities carried out, the researcher acts as a teacher.

In the final stage of the research, data analysis was carried out by analyzing the results of the student's answers to the test questions and analyzing the interview data. The test results were analyzed according to the assessment rubric and then the scores were obtained along with the categories of students' problem-solving abilities. The table below is the data on students' problem-solving ability test results:

Table 3. The Results of the Problem-Solving Ability Test

Value Range	Frequency	Percentage (%)	Category
$81 < Score \leq 100$	4	12,50	Very Good
$61 < Score \leq 81$	6	19	Good
$41 < Score \leq 61$	14	43,75	Enough
$21 < Score \leq 41$	8	25,00	Not Enough
$0 < Score \leq 21$	0	0,00	Very Less
Total	32		
Average	53,90		
Category	Enough		

Based on Table 3, it can be seen that the average score of class VII C students' test results was 53.90 in the sufficient category. In working on the test questions which contained 2 questions, it can be seen that there were 4 people in the very good category, 6 people in the good category, 14 people in the

sufficient category, 8 people in the less category, and 0 people in very less. The following is the percentage of occurrence of each indicator of problem-solving ability based on the test results as follows:

Table 4. Percentage of Students' Problem-Solving Ability Indicators

No	Problem-Solving Ability Indicator	Percentage (%)
1.	Identify information and formulate questions in the problem.	85,94
2.	Determine the right method or strategy to solve the problem.	69
3.	Solve problems and get answers to existing problems.	41,41
4.	Re-examine and draw appropriate conclusions from the problems encountered.	15,63

Based on table 4 above shows the problem-solving ability of mathematical models based on indicators. It can be seen that the first indicator has the largest percentage compared to other indicators. Identifying information and formulating questions in the questions scored 85.94%. The lowest percentage is in the fourth indicator, namely re-examining and drawing appropriate conclusions from the problems faced, namely 15.63%. This can be seen from the results of students' work on the test questions given.

It can be concluded from the results of the student's work on the test questions that have been given, to confirm the data, the researcher conducted interviews with several students to find out the problem-solving abilities of class VII C students in solving problems by learning mathematical modeling and testing students' perspectives in doing questions in everyday life after studying learning mathematical modeling. Students are given a problem in the form of a one-variable linear equation which reads, "Currently the age of Gres's mother is three times that of Gres. The difference in the ages of Mrs. Gres and Gres is 30 years. Determine a) The mathematical model, b) Gres' age, and c) Gres's Mother's age ". The following are the answers from some students:

color description:

☐ : Indicator 1, identify information and formulate questions in the problem.

☐ : Indicator 2, determine the right method or strategy to solve the problem.

☐ : Indicator 3, solve problems and get answers to existing problems.
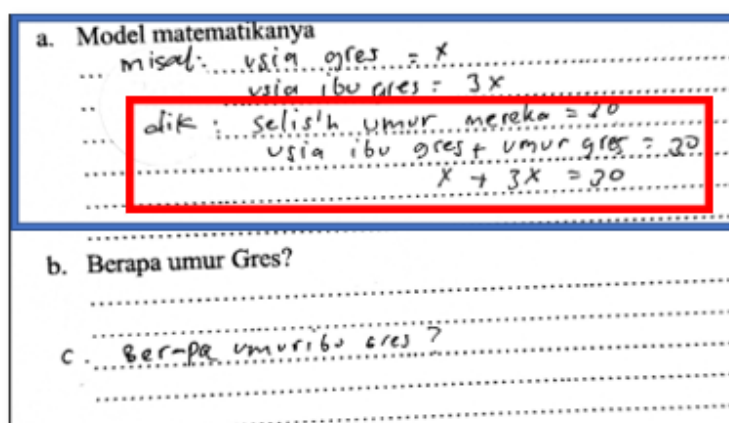
☐ : Indicator 4, review and draw conclusions.

Figure 2. The Results of AAD Answers in the Less Category

Transcription 1. AAD Interview

G : "Hello, AAD. Can you re-explain what is understood from this problem?" 1

AAD : "So from this problem, I use the example of Gres's age to be x and the new mother's 2
age to be $3x$. Then look for a mathematical model of the known problem." 3

G	: "From the questions given, what is known and asked?"	4
AAD	: "What is known is the difference in the ages of Gres and Gres's mother, I changed the	5
	difference in the ages of Gres's mother and Gres's age which is 30 to the mathematical	6
	form 30 $years$. To be honest, I don't understand the meaning of the word difference,	7
	ma'am."	8
G	: "Then how do you solve this problem?"	9
AAD	: "Sorry mom. I don't understand how to continue solving the problem that you gave	10
	me."	11

In the excerpt of the interview transcript 1 it can be seen (lines 2-3) that AAD is correct in making examples or mentioning the information in the questions correctly using abbreviations. That is, AAD is correct in assuming the age of Gres with the variable x and the age of the mother Gres using the variable $3x$. However, AAD is less precise in planning solutions that are known in the problem (line 7) but can already say or write down what is being asked through symbols or words (lines 6-7).

From AAD's explanation, it can also be concluded that AAD has not been able to make a problem-solving plan and a mathematical model correctly according to what was taught by the previous teacher (lines 10-11). AAD also cannot explain the steps in solving the problem because they do not understand the meaning of the word difference in the problem (line 8). AAD also could not conclude correctly from the results he had worked on because he had not completed the previous indicators and had not re-examined them.
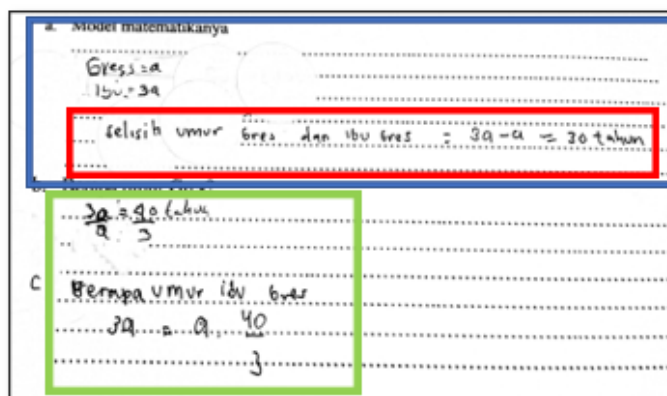

Figure 3. The Results of Answer A With Enough Category

Transcription 2. An Interview

G	: "Hello, A. Can you explain again regarding what is understood from this problem?"	1
A	: "By the questions you gave, I use an example by changing Gres' age to a and new	2
	mother's age to $3a$. Then make a mathematical model from the problem that you gave.	3
	And using one variable linear equation operation."	4
G	: "From the questions given, what is known?"	5
A	: "I changed the difference between Gres's mother's age and Gres' age of 30 into the	6
	mathematical form $3x - x = 30$ $years$."	7
G	:" Then what is asked in this question?"	8
A	: "What was asked was the mathematical model, Gres' age, and Gres' mother's age."	9
G	: "Then how do you solve this problem?"	10
A	: "As for the solution, I don't understand, ma'am, so I'll just skip to the next question."	11

In the interview excerpt transcript 2, it can be seen that A is correct in making examples or mentioning the information in the questions correctly using abbreviations (line 3). A is also appropriate for assuming Gres' age with variable a and Gres' mother's age using variable 3a. And A is right in planning the known solution to the problem (lines 6-7) and writing down what is asked through symbols or words.

From the explanation above, it can be concluded that A can make a problem-solving plan and a mathematical model that is appropriate to what was taught by the previous teacher. However, A cannot explain the steps in solving the problem because he does not understand the material (lines 11). A also could not conclude correctly from the results he had worked on and did not re-examine because he had failed on the previous indicator.
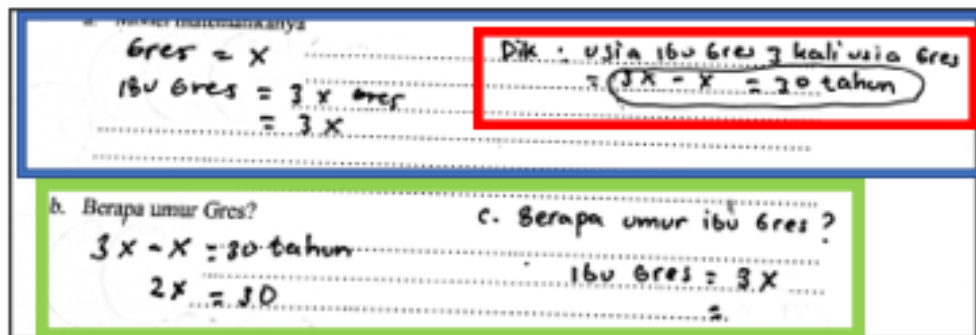

Figure 4. The Results of Answer AKU with Good Category

Transcription 3. AKU Interview

G	: "Hello, AKU. Can you explain again what is understood from this problem?"	1
AKU	: "Yes, ma'am. So from this problem using an example. So I changed Gres' age to x to make it easier and the new mother's age to $3x$ because as explained in the problem."	2 3
G	: "From the questions given, what is known?"	4
AKU	: "I changed Gres' Age to x to make it easier to operate and Gres's mother's age to $3x$ because the question is known that Gres's mother's age is 3 times Gres' age. As well as changing the difference in the age of Gres' mother and Gres' age is 30 to the mathematical form $3x - x = 3$ years. "	5 6 7 8
G	: "How do you solve this problem?"	9
AKU	: " To solve this problem I do not understand ma'am. Because I'm still confused about distinguishing the use of one-variable linear equation operations in the form of adding/subtracting both sides with the same number and multiplying/dividing both sides with the same number"	10 11 12 13
G	: " From the answers you have done, what conclusion??"	14
AKU	: " Since I didn't finish my work, I don't know the conclusion of the question."	15

In excerpted transcript 3 of the Aku interview, it can be seen that Aku is right in making examples or mentioning the information in the questions correctly using abbreviations (lines 2-3). I also correctly exemplify Gres' age with the variable x and the age of Gres' mother using the variable 3x. I can also plan a known solution to the problem and write down what is asked through symbols or words (lines 5-8).

From ME's explanation, it can also be concluded that I can plan problem-solving and mathematical models appropriately by what was taught by the previous teacher. However, I have not been able to make the planned steps in solving the problem because I do not understand the difference between using the operations of adding or subtracting both sides with the same number and multiplying or dividing both sides with the same number (lines 10-13). I have not correctly concluded from the results he has done, and have not re-examined (lines 15).
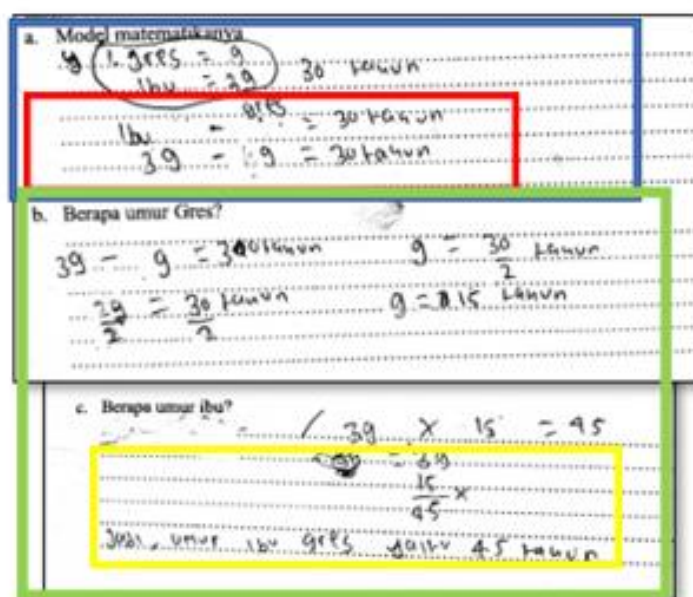
Figure 5. The Results of Answer A with Very Good Category

Transcription 4. RA Interview

G	: "Hello RA. Can you explain again regarding what is understood from this problem?"	1
RA	: "What I understand from this problem is that this problem uses the solution of a one-variable linear equation because it has only 1 variable. Then after getting the value of the variable, I will get the answer from the next question using the substitution method."	2 3 4 5
G	: "From the questions given, what is known?"	6
RA	: "The first thing I saw in this problem was the subject I was going to turn into a variable, and then I found that the main subject was New Age. After that, I changed Gres' Age to a variable form, namely g and Gres's mother's age was $3g$ because the question was known that Gres's mother's age was 3 times Gres' age. The question stated that the age difference between Gres' mother and Gres' age is 30. So a mathematical model can be made $3g - g = 30\ years$. "	7 8 9 10 11 12
G	: "Then what is the conclusion?"	13
RA	: "So the conclusion is that Gres's age is 15 years old, and Gres's mother's age is 3 times Gres's age, which is 45 years."	14 15
G	: "Are you sure about the answers you have done??"	16
RA	: "Sure, ma'am."	17

In the RA interview excerpt transcript 4 it can be seen that the RA is correct in making examples or mentioning the information in the questions correctly using abbreviations (lines 8-9). RA is correct for assuming the age of Gres with the variable g and the age of Gres`s mother using the variable 3g. RA is also able to plan solutions that are known in the problem (lines 3-5) and write down what is asked through symbols or words (lines 10-12).

From RA's explanation from the interview, it can also be concluded that RA can plan problem-solving and mathematical models correctly according to what was taught by the previous teacher. RA also shows his understanding by explaining the steps he has taken to solve the problem he has (lines 7-12). RA has also been able to conclude correctly from the results he has worked on (lines 14-15) and has re-examined them.

DISCUSSION

Based on the results of the research on the stages of problem-solving with a mathematical modeling approach for the topic of one-variable linear equations, the subject has been able to bring up aspects of problem-solving ability and the first stage of mathematical modeling, namely the stages of understanding the task and understanding the problem, namely in the second In this stage, the process of understanding related problems is found by understanding the characteristics of the questions, such as the age of Gres with the variable x and the age of Gres`s mother with the variable $3x$, so that an indicator of the problem-solving ability of the mathematical model is raised with a percentage of 85.94%, which can be seen in Table 4. In this indicator, the students were able to write down the information on the questions, but there were still some students who incompletely wrote down the information they knew. If seen from the work of students who are still incomplete in writing down the information that is known, it can be seen that students still do not understand in reading the problems given. The results of this study are in line with the theory put forward by (Harahap & Surya, 2017) which states that solving problems requires complex rules or high-level rules and high-level rules can be achieved after mastering defined rules and concepts.

The second stage is searching mathematics which is in line with devising a plan (developing a plan for completion), where in these two stages the preparation of plans and the process of simplification of information is carried out, so that correct mathematical models can be developed, such as changing the sentence "the difference in the age of Gres`s mother and Gres is 30 years" becomes the mathematical form $3x - x = 30$ years. In this second indicator, students are quite capable of writing strategies and mathematical models of math problems on Google Sites and have a percentage of 69%, which can be seen in Table 4. Some students have been able to create and determine a mathematical model of the questions given. However, some other students are still unable to determine a mathematical model for solving problems. Students still make mistakes because the written information is incomplete, so in this second indicator, there are still some students who have difficulty completing problem-solving plans (Silviana & Simarmata, 2021).

In the third stage, namely using mathematics (using mathematics) and carrying out the plan (implementing the completion plan), in this process, a solution is found using pre-planned mathematical steps in solving the given problem such as the first problem to find Gres age and age Gres' mother requires a solution using substitution. Then it will get the value of a problem that is sought and has a percentage of 41.41%, which can be seen in Table 4. In this indicator, students are quite capable of making strategies that have been determined according to what has been taught by the teacher. It can be seen from the students' answers, that some students still have difficulty finding solutions because students still make mistakes at the stages of determining variables and determining settlement plans, causing the next step for students to experience problems. Students made mistakes in determining formulas, so they could not answer questions based on the problems given (Fitriyah et al., 2020).

The fourth stage is explaining the result and looking back. At this stage, the results obtained are analyzed and re-checked for errors in solving the problem given and get a percentage of 15.63%, which can be seen in Table 4. In this fourth indicator, a few students do a re-examination and make conclusions from the results of the answers that have been obtained. There are still many students who still make mistakes, and there are still students who don't know how to write conclusions on the answer sheet. This is in line with (Rahmatiya & Miatun, 2020) where students did not re-examine because, in the previous step, students could not fill in the answers correctly, therefore most students did not re-check. The results of tests and interviews show that learning mathematical modeling through Google Sites learning media can help students more easily understand learning mathematics material One Linear Equation One Variable (PLSV). The average problem-solving ability of class VIIC Junior high school number 1 Pagar Alam students is in the sufficient category. Based on the results of the interviews, students were interested and happy to learn mathematics using Google Sites learning media. Creating websites such as Google Sites will facilitate the learning process with all the functions provided, making it easier for teachers to prepare learning messages effectively (Krismanto, 2018).

CONCLUSION

In this study, the results showed that the problem-solving abilities of class VII C students of SMP Negeri 1 Pagar Alam were included in the sufficient category. Students have been able to achieve indicators of problem-solving abilities, namely 1) Identify information and formulate questions in the problem 85.94%; 2) Determine the right method or strategy to solve the problem 69%; 3) Solve problems and get answers from existing problems 41.41%; 4) Re-examine and draw appropriate conclusions from the problems faced by 15.63%. Using learning modeling mathematics assisted by Google Sites learning media can help students solve mathematical problems that require the ability to solve mathematical model problems.

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