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Direct Instruction with SAVI Learning Model to Improve Students' Mathematical Problem-Solving Ability: A Descriptive Study

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Abstract: This research aims to describe the ability to solve the problems of students' mathematics and through direct learners based on SAVI is expected to provide a change in the ability to solve problems of students class VII in Junior High School 6 Bualemo, especially on triangular material. This type of research is descriptive with a qualitative approach. The subjects in this study were two class VII students. The results of this study showed that students' math problem-solving abilities were still in the "low" category. The causes are: 1) difficulty identifying the problem given, 2) difficulty determining the height of the triangle, 3) difficulty in calculating, 4) difficulty puts value into the formula, and 5) difficulty in making a partition of the triangle story problem. So, based on this information, the alternative solution is to apply direct learning based on SAVI. SAVI-based hands-on learning can provide a student's math problem-solving skills change from a "low" category to a "high enough" category. This can be demonstrated by the change in the class's grade point average from 36.78 to 81.05.

Keywords: Mathematical Problem Solving Skills, Triangles, SAVI.

Abstrak: *Penelitian ini bertujuan untuk mendeskripsikan kemampuan pemecahan masalah matematika siswa dan melalui pembelajaran langsung berbasis SAVI diharapkan dapat memberikan perubahan kemampuan pemecahan masalah matematika siswa kelas VII SMP Negeri 6 Bualemo khususnya pada materi segitiga. Jenis penelitian ini adalah deskriptif dengan pendekatan kualitatif. Subjek dalam penelitian ini adalah dua orang siswa kelas VII. Hasil penelitian ini menunjukkan bahwa kemampuan pemecahan masalah matematika siswa masih berada dalam kategori "rendah". Penyebabnya adalah: 1) kesulitan dalam mengidentifikasi soal yang diberikan, 2) kesulitan menentukan tinggi segitiga, 3) kesulitan dalam perhitungan, 4) kesulitan dalam menempatkan nilai ke dalam rumus yang ada, dan 5) kesulitan dalam membuat pemisalan dari soal cerita segitiga. Sehingga, berdasarkan informasi tersebut alternative penyelesaianya yaitu dengan menerapkan pembelajaran langsung berbasis SAVI. Pembelajaran langsung berbasis SAVI dapat memberikan perubahan kemampuan pemecahan masalah matematika siswa dari kategori "rendah" menjadi kategori "cukup tinggi". Hal ini dapat ditunjukkan dengan adanya perubahan nilai rata-rata kelas dari 36.78 menjadi 81.05.*

Kata kunci: *Kemampuan Pemecahan Masalah Matematika, Segitiga, SAVI.*

▪ INTRODUCTION

Mathematics education has an important role in improving the mastery of science and technology. Mathematics education is also a basic science in learning that must be mastered by students properly and correctly. As expressed by (Rachmayani, 2012) that mathematics is basic science, both its applied aspects and its reasoning aspects have an important role in efforts to master science and technology. Therefore, mathematics is one of the important subjects to be taught to all students with the aim that students can think logically, critically, creatively, able to reason and be able to manage and utilize the information obtained to solve problems. Problem solving skills are 21st century skills that are needed by society and the world of work (Chalkiadaki, A. 2018; Kutlu &

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Kartal. 2018). Problem solving skills are the abilities to identify problems, search and select various alternative solutions and make decisions in solving all the problems at hand (Barriyah, 2021)

Mathematics as a compulsory subject in formal education has a very important position and role. One of the objectives of mathematics is problem solving ability (Peranginangin et al. 2019). Learning mathematics will never be separated from problem-solving. Because, in mathematics, there are many problems, both routine and non-routine, that need problem-solving to get a solution (Siregar, 2017). This is in line with the opinion (Nurfatanah, Rusmono, & Nurjannah, 2018) which states that mathematical problems are tools used not only to help students develop their thinking skills but also to help them to develop their basic skills in solving problems, both problems related to mathematics and problems in everyday life. Furthermore, according to (Purba, 2017) problem solving is part of the mathematics curriculum which is very important because in the learning process and its completion, students are possible to gain experience using the knowledge and skills they already have to be applied to problem-solving. Problem-solving in mathematics helps students to experience on how to solve daily life problems by applying their mathematical knowledge and skill (Osman et al, 2018; Mashuri et al; 2018). The importance of mathematical problem-solving skills is also expressed by (Utomo, 2012) who states that problem solving is a way of learning that is considered efficient to achieve teaching goals, one of which is the problem-solving heuristic according to Polya. The indicators of problem-solving ability according to Polya (Widyastuti, 2015) are: 1) Understanding the problem, 2) Developing a settlement plan, 3) Resolving the problem according to the plan, and 4) Re-examining.

However, the reality at school shows that many students do not like mathematics because it is considered difficult. Thus, resulting in low grades in mathematics at school. Based on the results of initial observations made in Class VII SMP Negeri 6 Bualemo, it was found that students' mathematics learning outcomes were still low. Where, of the 16 students who took the daily math test, only 6 students scored above the KKM. After getting this information, it was continued with an initial interview with the mathematics teacher, and information was obtained that, one of the causes of the low results of daily mathematics tests was because there were still many students who lacked mathematical problem-solving skills.

The phenomenon of the lack of mathematical problem-solving skills experienced by students occurs in the triangle material which is part of the geometry field (Phonapichat, et al. 2013; Intaros et al. 2014; Lubis et al. 2017). Students find it difficult to determine the value of the area of a triangle that is packaged in the form of story questions. For example, when students are given a question to determine the area of a triangle but one of the elements, such as the height of the triangle, is not known, most of the students are unable to solve the shape of the problem. Students are only able to solve problems in which all the elements of a triangle are known, so they only substitute their value in the formula for the area of a triangle. The problems that occur in class VII SMP Negeri 6 Bualemo are in line with the opinion expressed by (Runtukahu & Kandou, 2016) which states that errors or mistakes of students who have difficulty learning mathematics are errors in learning to count, errors in learning geometry and general errors in solving problems. story.

With these problems, one alternative that can be given to growing students' mathematical problem-solving skills is to apply SAVI-based direct learning. This is supported by the theory expressed by Meier (Nurussilmah, Santi, & Aziz, 2020) that the SAVI learning model from the words Somatic, Auditory, Visual, and Intellectual is a learning model that students expect to involve physical activity. This learning model will invite students to learn by doing and moving, talking and listening, observing and describing, and solving problems, so that students will use all their senses to learn. With students using all their senses in learning, it can be said that learning using the SAVI model involves a lot of students in the learning process. This is in line with the opinion (Sumawardani & Pasani, 2013) that the SAVI learning model is student-centered, where students are expected to be able to involve all their senses in learning. This model also emphasizes student learning activities, namely, somatic learning (learning by moving and doing), auditory learning (learning by listening and speaking), visual learning (learning by seeing and describing), and intellectual learning (learning to think and reflect/solve problems). Furthermore, the direct learning steps used in this study are the steps according to Kardi and Nur (Asmah, 2018) namely: 1) Delivering learning objectives and student preparation, 2) Demonstrating knowledge and skills, 3) Providing guided exercises, 4) Research understanding and provide feedback, and 5) Provide opportunities for further training. While the steps of the SAVI learning model according to (Rusman, 2011) are: 1) Preparation stage, 2) Delivery stage, 3) Training stage, and 4) Results from display stage.

Therefore, this study aims 1) to describe the mathematical problem-solving abilities of seventh-grade students of SMP Negeri 6 Bualemo in solving triangular story problems, and 2) to find out the application of SAVI-based direct learning models as an alternative in growing students' mathematical problem-solving skills in solving problems triangular story.

▪ METHOD

Participants

Research participants are seventh grade (VII) students of SMP Negeri 6 Bualemo, Banggai district, Central Sulawesi province. The technique of determining research participants used purposive sampling technique. Purposive sampling is a sampling technique with certain considerations that are selected based on the objectives to be achieved, which is the students' mathematical problem solving abilities (Sugiyono, 2012). Some considerations of researchers to select respondents as follows:

1. Collect data in the form of grades VII, Then, grouping student score data based on high category ($70 \leq x \leq 100$) and low category ($0 \leq x \leq 55$).
2. Selected respondents who have a high ability one student and one student low ability. The total respondents were two students.

Research Design and Procedures

Design and Procedures in this study using an action research design. Action research is part of a qualitative research design. The procedural stages of the action research design carried out are 1) planning, the selection of the SAVI learning model as direct instruction in learning activities, completeness of the Learning Device Plan (RPP), teaching materials, and tests materials; 2) action, the implementation of the

application of the SAVI learning model; 3) observation, the activity of observing behavior in the form of the cognitive domain of students relates to problem solving abilities; and 4) reflection, which is the activity of providing feedback whether action still needs to be taken in the next cycle or not. The purpose of the action research design is to improve problem solving ability, then describe it into results and overall discussion.

Instrument

The instrument used in this study is a diagnostic test instrument designed to identify problem solving abilities in class VII triangle material. The test results of diagnostic test instruments and test questions in class groups were obtained quite valid. While the data obtained from the instruments used were tested for validity using data triangulation techniques. The term valid in this study according to (Creswell & Poth, 2013) in qualitative research is it is trying to assess the "accuracy" of the results, as best described by the researcher. The instrument grid can be seen in the table 1 below.

Table 1. Instrument Grid of mathematical problem-solving abilities

No.	Learning indicators	Measured problem solving ability	Question items
1.	Able to explain the meaning of triangles, and explain the properties of triangles in terms of their sides and angles	1. Understand the problem. 2. Plan problem solving. 3. Implement problem solving plans.	1,2,3, 4,5,6,7
2.	Able to reduce the formula for the perimeter and area of a triangle	4. Recheck answers	

Data Analysis

The data were analyzed using data analysis from interactive Miles and Huberman. The stages of data analysis start from, First, Data Collection. The data obtained from the results of interviews, observations and documentation are recorded in field notes found, and are material for data collection plans for the next stage. Second, reduction, at this stage all information obtained from respondents in the form of answers to diagnostic tests and interview results is filtered, only answers that are considered credible are later. In this process, researchers also focus on data that are relevant to the research objectives. Simplify and systematically compile, describe, and organize data to make it easier for researchers to draw conclusions. Third, data presentation. In this process, the researcher has obtained an overview of the research data as a whole, then combines them and presents them in a narrative form. Presentation of data is important to see the overall research findings. Finally, drawing conclusions. This process is carried out when the data that has been collected, reduced, and presented has reached a saturation point, so for researchers the conclusion is the stage where all information is intact and complete.

▪ RESULT AND DISSCUSSION

The following will describe the results of research and discussion related to students' problem-solving abilities and also the alternatives offered, namely applying the

SAVI-based direct learning model. Below are presented the problem-solving ability test questions in this study.

Question 1 : A triangular painting will be framed. The area is 42 cm, and the height is 12 cm. What is the base of the triangular frame?

Question 2 : Rani has a birdcage in the shape of a triangle. If the area of the cage is 96 cm2 and the length of the sides is 12 cm. How tall is Rani's cage?

Question 3 : Pak Karto has a mini garden in the shape of a triangle and a fence will be installed around it. The length of each side of Pak Karto's garden is 6 m, 8 m, and 10 m, respectively. Because Pak Karto was curious about the size of his mini garden, he intended to calculate the area of the garden. Then calculate the area of Pak Karto's mini garden!

Question 4 : A prop is in the form of a right triangle with the length of the hypotenuse and the base of the right triangle being 20 cm and 24 cm, respectively. How wide is the prop?

Question 5 : Pak Budi will build a bedroom. He plans to build a bedroom with a building height of 16 m and a width of 14 m. How big is Mr. Budi's room?

Question 6 : A mini garden in the shape of a triangle will be repaired with a fence. The height and length of the fence are 7 m and 12 m. If the cost per meter is Rp. 35.000,00, then what is the total cost needed to repair the mini garden as a whole?

Data Reduction

Subject 1 (AK1)

In questions number 1 and 2, Subject 1 can understand the problem, and plan problem-solving. However, it has not been able to implement the settlement plan and has not re-checked the answer. While in questions number 3, 4, 5, and 6, subject 1 was able to fulfill all problem-solving indicators, namely understanding the problem, planning problem solving, implementing the settlement plan, and re-examining the answers. The following presents the results of the mathematical problem-solving ability test of subject 1.

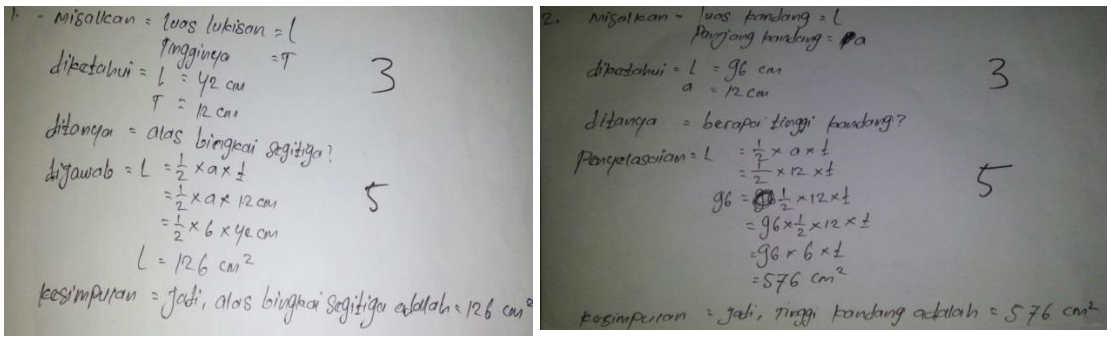

Figure 1. Answer to subject ak1 on questions numbers 1 and 2

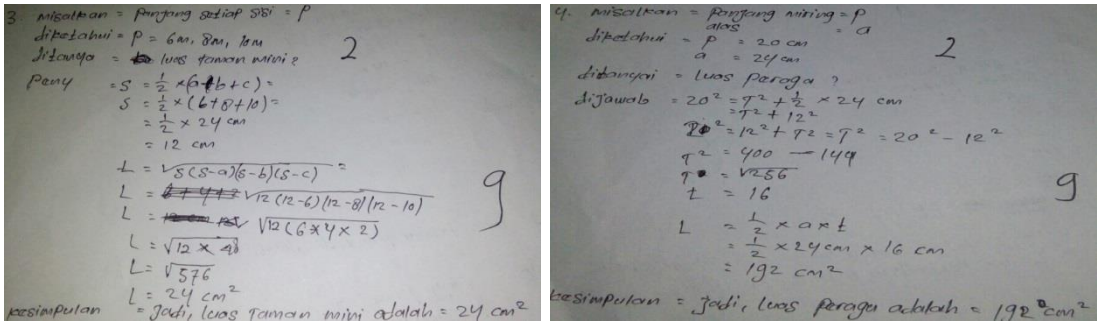

Figure 2. Answer to Subject AK1 on Questions Numbers 3 and 4

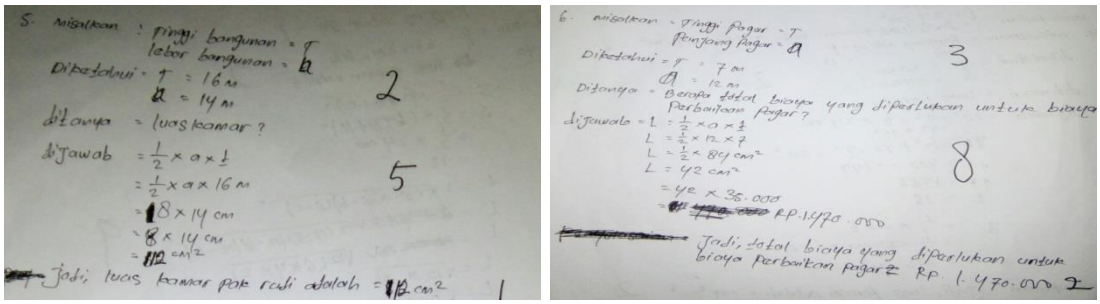

Figure 3. Answer to Subject AK1 on Questions Numbers 5 and 6

Subject 2 (SB2)

In questions number 1 and 2, subject 2 can understand the problem, and plan problem-solving. However, it has not been able to carry out the problem-solving plan, and re-check the answers. Furthermore, in questions number 3, 4, 5, and 6 subject 2 can understand the problem, plan problem solving, be able to carry out the solution plan and re-examine the answers. The following are the results of the mathematical problem-solving ability test of subject 2.

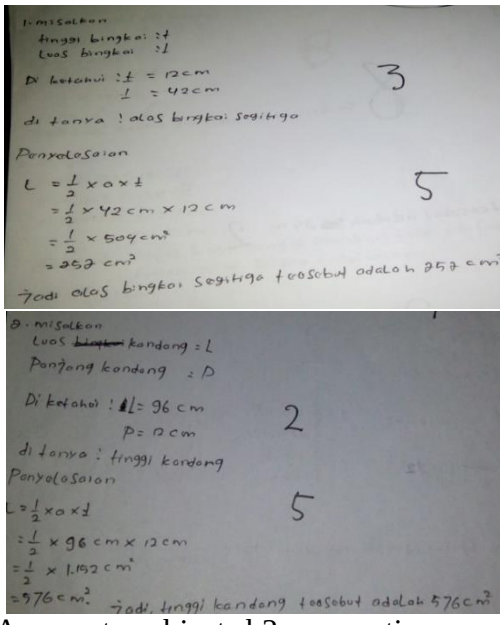

Figure 4. Answer to subject sb2 on questions numbers 1 and 2

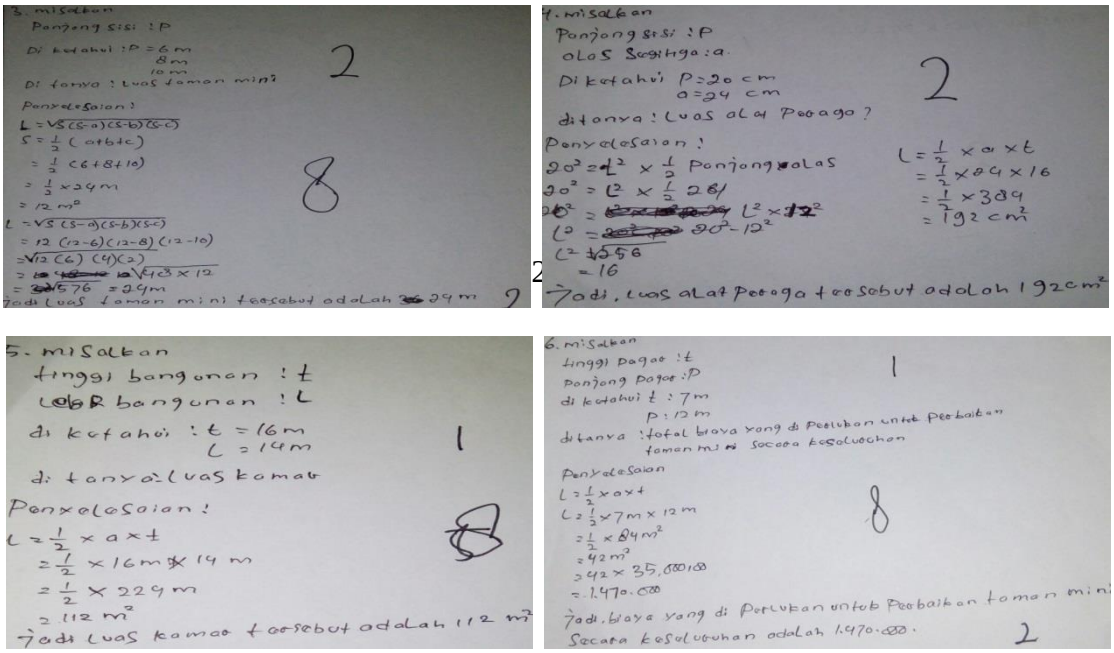

Figure 6. Answer to Subject SB2 on Questions Numbers 5 and 6

Data Presentation

Table 2. Presentation of Subject Data 1 (AK1)

No.	Problem Solving Skill	Elucidation	Causative Factor
1.	Able to implement indicators: ▪ Understand the problem. ▪ Planning problem solving Unable to implement indicators: ▪ Implement the completion plan. ▪ Review answers.	▪ Able to identify important information from the problem. ▪ Able to choose and write the formula to be used, namely $L = \frac{1}{2} \cdot a \cdot t$ ▪ Improper procedures. ▪ Unable to re-check answers. ▪ Make inaccurate conclusions.	▪ Difficulty in counting. ▪ Do not understand how to solve problems. ▪ Too rigid in one way of answering. ▪ Confused if only two elements are known in the problem.
2.	Able to implement indicators: ▪ Understand the problem. ▪ Planning problem solving Unable to implement indicators: ▪ Implement plans solution.	▪ Able to state the known data and also state the elements being asked of the question. ▪ Able to develop a plan of completion by writing formulas $L = \frac{1}{2} \cdot a \cdot t$. ▪ Improper procedural	▪ Difficult to determine the height of the triangle because only the base is known. ▪ Do not understand the procedure in

	▪ Recheck answers	process. ▪ Inaccurate results. ▪ Unable to re-check answers. ▪ Draw conclusions that are not right.	applying the formula. ▪ Difficulty in multiplication operations.
3.	Able to implement indicators: ▪ Understand the problem. Plan problem solving. ▪ Implement problem solving plans. ▪ Recheck answers.	▪ Able to write down what is known, asked, and for example. ▪ Able to choose and write the formula to be used namely: $L = \sqrt{s(s-a)(s-b)(s-c)}$ ▪ Able to perform procedural according to the selected formula. ▪ Able to re-examine by drawing up appropriate conclusions.	Subject 1 was able to answer question number 4 correctly because the height and base of the triangle were already known.
4.	Able to implement indicators: ▪ Understand the problem. ▪ Plan problem solving. ▪ Implement problem solving plans. ▪ Review answers.	▪ Able to identify the important things from the problem and state in the examples. ▪ Able to select and write area triangle formulas segitiga, namely $L = \frac{1}{2} \cdot a \cdot t$. ▪ Able to solve problems with existing formulas smoothly. ▪ Able to draw conclusions properly and correctly.	Subject 1 was able to answer question number 4 correctly because the height and base of the triangle were already known.
5.	Able to implement indicators: ▪ Understandingproblem. ▪ Plan problem solving. ▪ Implement problem solving plans. ▪ Review answers.	▪ Able to write down what is known, what is asked, and able to make an example. ▪ Able to choose and write formulas solving $L = \frac{1}{2} \cdot a \cdot t$. ▪ Able to get the value of the area of a triangle with the selected formula. ▪ Able to conclude with correct results.	Subject 1 was able to answer question number 5 correctly because the height and base of the triangle were already known.
6.	Able to implement indicators:	▪ Be able to assume the information that is known	Subject 1 was able to answer question

	▪ Understand the problem. ▪ Plan problem solving. ▪ Implement problem solving plans. ▪ Recheck answers.	and write down what is asked of the question. ▪ Able to write the correct formula, namely $L = \frac{1}{2} \cdot a \cdot t$. ▪ Able to apply formulas in solving and get the right answer. ▪ Able to re-examine by writing correct conclusions.	number 6 correctly because the height and base of the triangle were already known.

Table 3. Presentation of Subject Data 2 (SB2)

Number of Question	Problem Solving Skill	Elucidation	Causative Factor
1.	Able to implement indicators: ▪ Understand the problem. ▪ Planning problem solving Unable to implement indicators: ▪ Implement the completion plan. ▪ Review answers.	▪ Able to assume what is known and asked from the question. ▪ Able to develop a plan of completion by choosing a formula $L = \frac{1}{2} \cdot a \cdot t$. ▪ Less precise in getting the correct answer from the plan that has been prepared. ▪ Do not re-check answers and write conclusions that are less precise.	▪ Difficulty in calculation. ▪ Less precise in substituting values into existing formulas. ▪ Confused in placing the element in question.
2.	Able to implement indicators: ▪ Understand the problem. ▪ Planning problem solving Unable to implement indicators: ▪ Implement plans. solution. ▪ Review answers.	▪ Able to state important things that are known and also state the elements that are asked of the question. ▪ Able to write formula $L = \frac{1}{2} \cdot a \cdot t$ as a solution plan. ▪ Improper procedural process and result in inaccurate final results obtained. ▪ Drawing conclusions that are less precise because they do not re-examine the answers.	▪ Difficulty interpreting height and base with other terms in verbal sentences. ▪ Difficulty in substituting known values in formulas.
3.	Able to implement indicators: ▪ Understand the problem. ▪ Plan problem	▪ Able to identify and write down what is known, asked, and also make an example. ▪ Able to choose	Subject 2 is able to answer question number 3 correctly because all the elements of the

	solving. ▪ Implement problem solving plans. ▪ Review answers.	$L = \sqrt{s(s-a)(s-b)(s-c)}$ as planning. ▪ Able to obtain the correct results from the formula that has been selected. ▪ Able to re-examine by drawing up appropriate conclusions.	triangle are known.
4.	Able to implement indicators: ▪ Understand the problem. ▪ Plan problem solving. ▪ Implement problem solving plans. ▪ Recheck answers.	▪ Able to assume the known elements of the problem. ▪ Write down what is asked. ▪ Able to choose and write the formula for the area of a triangle $L = \frac{1}{2} \cdot a \cdot t$ for the planning step. ▪ Able to operate the values in the formula correctly. ▪ Re-examine the answers by making appropriate conclusions.	Subject 2 is able to answer question number 4 correctly because the height and base of the triangle are known.
5.	Able to implement indicators: ▪ Understand the problem. ▪ Plan problem solving. ▪ Implement problem solving plans. ▪ Review answers.	▪ Able to state in the form of example what is known, what is being asked of the question. ▪ Select and write the solution formula $L = \frac{1}{2} \cdot a \cdot t$. ▪ Obtaining the area of a triangle through the selected formula. ▪ Able to check answers and provide conclusions with correct results.	Subject 2 is able to answer question number 5 correctly because the height and base of the triangle are known.
6.	Able to implement indicators: ▪ Understand the problem. ▪ Plan problem solving. ▪ Implement problem solving plans. ▪ Recheck answers.	▪ Able to understand the problem in the problem by assuming the known elements and writing down what is being asked. ▪ Develop a solution plan by choosing a formula $L = \frac{1}{2} \cdot a \cdot t$. ▪ Able to operate values and formulas that have been known properly and correctly.	Subject 2 was able to answer question number 6 correctly because the height and base of the triangle were already known.

	▪ Re-examine the answers so as to be able to write the correct conclusions.

Drawing Conclusion

Based on the results of interviews with subjects 1 and 2 that the factors that caused this to happen to include the difficulty in identifying the questions given, the difficulty in determining the height of the triangle, the difficulty in calculations, the difficulty in placing values into the existing formula, and the difficulty in making an example of the problem. triangular story. This is in line with the results of previous research conducted by Adilla. et al (Syadiah, Yulianti, & Zanthy, 2020) namely students' mistakes in doing math problems tend to be story questions because students experience some difficulties. These difficulties are: (1) students do not understand the concept; (2) students are less precise in transforming questions; (3) students are less precise in doing calculations; and (4) mistakes in doing the questions in the form of stories.

From this description it can be concluded that subject 1 and subject 2 can meet the indicators of problem-solving ability, namely: 1) Understanding the problem, and 2) Planning problem-solving. However, subject 1 and subject 2 have not met the indicator of problem-solving ability, on 1) Implement the problem solving plan, and 2) Re-checking the answers. However, the indicators met by the two subjects only apply to a few questions. For example, a triangular story problem with its elements is fully known.

Description of Mathematical Problem Solving Abilities

Based on the research results can be described about the ability to solve mathematical problems. The term of ability is used more in this study than the term of skill. Regarding the distinction in terms used, it is not discussed further, although for researchers the term ability means the internal (cognitive) behaviors of respondents that can be observed by researchers to be given action, which in this study the ability in question is mathematical problem solving. Mathematical problem solving abilities in this study include understanding the problems, planning Problem solving (solutions), implementing problem solving plan , re-checking the answers.

For question number 3, subject AK1 is able to assume or state things that are known from the question, able to state the variable of the question being asked, these two characteristics are indications of the ability to understand the problem. Furthermore, AK1 subjects were able to choose the formula $L = \sqrt{(s(s-a)(s-b)(s-c))}$ as a formula for solving problems, this is an indication of the ability to plan problem solving, then with this equation, subject AK1 is able to operate and complete until obtaining results, until here subject AK1 can implement the problem-solving plan, and then subject AK1 makes conclusions from the answers given, obtained correctly. AK1 subjects were able to solve each item correctly, because AK1 subjects not only had excellent mathematical reasoning but also had fairly good mathematical abilities.

The subject of SB2, for question number 1. There is an indication for example or stating a variable that is known and wants to be searched. These two elements are the first indicator that is being able to understand the problem. Then choose an equation to solve the problem, namely the formula for the area of a triangle L=1/2.a.t. From this

equation, then the subject of SB2 solved the specified equation with mathematical operations, but has not yet obtained the expected result or obtained the correct result. This is affected by errors in mathematical operations and experiencing confusion in placing known numbers. This is influenced by poor mathematical reasoning and poor mathematical skills, but is quite good in problem solving skills because it can solve problems step by step.

Learning mathematics for each student will be more meaningful when the knowledge and mathematical skills possessed can be applied or used to solve various problems related to everyday life. Learning mathematics with various learning models, such as the SAVI learning model can improve the ability or skills to solve mathematical problems (Ahmed & Mohamed, 2021; Ismawanti et al, 2022).

Alternative Solutions by Applying SAVI-Based Direct Learning

As a follow-up to the conclusions above, then the application of SAVI-based direct learning as an alternative in growing the mathematical problem-solving ability of class VII students of SMP Negeri 6 Bualemo is still relatively low, as can be seen from the results of the initial test of problem-solving abilities given before the implementation of learning directly based on the following SAVI.

Table 4. Student test score data before being given alternative direct learning based on savi learning model

Number	Name of students	Score
1.	Anisa Karim	58
2.	Fahrizal Moito	36
3.	Ilham Konaya	43
4.	Mulyanti M	40
5.	Nuriyani Konaya	15.8
6.	Njrafini Salasa	61
7.	Rindianingsih Wilnas	30
8.	Rahmat Lamba	30
9.	Rasmi Tano	30
10.	Rifandi Tano	30
11.	Rizal Konaya	43
12.	Salsabila Samasodi	27.6
13.	Serawati Bado	33.8
	Sum	478.2
	Average	36.78

The SAVI-based direct learning is carried out based on the steps described in the research method. The results of the final evaluation of the application of direct learning based on SAVI showed a good change in problem-solving abilities. This is indicated by the increase in the class average score from 36.78 before SAVI-based direct learning was applied to 81.05 after SAVI-based direct learning was applied. The following are the test results obtained by students after receiving SAVI-based direct learning.

Table 5. Student test score data after being given alternative direct learning based on savi learning model

Number	Name of students	Score
1.	Anisa Karim	82
2.	Fahrizal Moito	76
3.	Ilham Konaya	81
4.	Mulyanti M	80
5.	Nuriyani Konaya	80
6.	Njrafini Salasa	81
7.	Rindianingsih Wilnas	81
8.	Rahmat Lamba	80
9.	Rasmi Tano	80
10.	Rifandi Tano	79
11.	Rizal Konaya	81
12.	Salsabila Samasodi	92
13.	Serawati Bado	80.7
	Sum	1053.7
	Average	81.05

Based on the data in table 5 above, it can be said that the application of SAVI-based direct learning is one of the learning models that can be used to grow mathematical problem-solving abilities, especially in triangle materials. This is reinforced by the results of previous research by (Taneo, 2016) where the results of his research stated that "The first phase of research showed that students who were taught using the SAVI model had a complete contextual approach, both individual and classical. The problem-solving ability of students in the class taught by the SAVI model with a contextual approach is better than the students taught by SAVI which is better than students with conventional learning". Related to contextual approach, (Surya et al, 2017; Hasibuan & Fauzi, 2020) in their finding said that contextual approach improve both mathematical problem solving abilities and self confidence of high school students. In addition to the SAVI learning model, several other studies, such as in (Siregar et al, 2018; Tambunan, 2019) mentions that problem-solving skills can be improved through problem solving strategy or problem solving learning model. Besides that, the implementation of the SAVI learning model has a significant effect on student achievement (Fajriah, L et al. 2020)

▪ CONCLUSION

Subject 1 and subject 2 have the same mathematical problem-solving ability in solving triangle story problems. Subjects 1 and 2 were only able to fulfill the problem-solving indicators on certain questions. The contributing factors, including the difficulty in identifying the questions given, the difficulty in determining the height of the triangle, the difficulty in the calculation, the difficulty in placing the value into the existing formula, and the difficulty in making an example of the triangle story problem. Thus, based on data from subject 1 and subject 2, an alternative application of direct learning based on SAVI is given with the result that there is a change in mathematical problem-solving ability for the better. Therefore, the application of SAVI-based direct

learning can be used as an alternative to growing students' mathematical problem-solving abilities.

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