Research Paper

Students' Thinking Process in Solving Math Problems in Terms of Learning Style

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ABSTRACT

This study aims to analyze students' thinking processes in solving mathematics problems in terms of visual, auditory and kinesthetic learning styles. The research method used is a descriptive qualitative approach using various data collection techniques, such as observation, learning style questionnaires, mathematics tests, interviews, and documentation in the school environment. Therefore, triangulation techniques were used in data analysis. The results showed that each learning style has different stages of the thinking process. Subjects with visual, auditory, and kinesthetic learning styles have a similar flow of thought process, starting from understanding the problem, planning, and executing the plan. The difference lies in the checking back stage, visual learning style subjects check back starting from understanding, making a plan, to implementing the plan, then just draw conclusions. For auditory learning style subjects, checking back is only at the stage of implementing the plan, then drawing conclusions. For kinesthetic learning style subjects do not check back and immediately draw conclusions.

INTRODUCTION

The thinking process is one of the essential aspects in the context of education, especially in the development of knowledge, because to solve or overcome a challenge requires a thinking process. The importance of the thinking process is expressed by Kabiran et al. (2020) stated that by understanding the thinking process of students, teachers can understand how students think in processing the information received while guiding students to develop their way of thinking. According to Bakry & Bin Bakar (2015) The thinking process is a process of gathering information, storing, creating opinions, performing operations, and making conjectures or conclusions. From the perspective of understanding thinking and the thinking process, it can be concluded that the thinking process begins with information that will be processed in the individual's cognitive; information received by the receptor is then transformed and processed in the individual's brain until it reaches the conclusion stage. (3) stated that the thinking process in learning mathematics is a mental activity that occurs in the minds of students. The thinking process steps according to Suryabrata (2011) (in

Lusianisita & Rahaju, 2020) there are three steps, namely: (1) Formation of understanding, which is the result of the thinking process which is a summary of the main characteristics of an item or reality expressed in a word. (2) Formation of opinion, namely putting the relationship between two or more understandings. and (3) Drawing conclusions, namely as a result of the work of the mind to form new opinions based on existing opinions. (5) One strategy to stimulate students' thinking process is to give them a math problem. When students solve these problems, they will actively think and try to find solutions. In connection with (6) that to improve and train students' thinking skills, it is important to use the right learning methods, namely by focusing on problem solving.

Solving a problem is a fundamental skill that must be possessed by students to succeed in living their lives. Polya (in Hayuningrat & Listiawan, 2018) Problem solving is an active process to find a solution to a difficulty with the aim of achieving results that are not immediately achieved. According to Subandar (in Purwanto, Sukestiyarno, Junaedi, 2019) said that problem solving is a skill that must be mastered and improved thinking as the main goal in learning mathematics. According to Purwanto et al. (2019) stated that problem solving is an effective approach in learning to train students to think. One of the strategies that can be used in solving math learning problems is the Polya strategy whose steps can be simplified into four steps, namely (1) understanding the problem, (2) making a solution plan, (3) implementing the plan, and (4) checking back. (9) (Yani et al., 2016) stated that problem solving questions can serve as a tool to observe students' thinking processes in dealing with problems.

Based on the experience carried out by researchers in the implementation of the 5th batch Teaching Campus program in February - June 2023, researchers obtained data from the results of interviews with 5th grade teachers and 6th grade teachers, that students do not fully understand in solving the mathematics problems given, especially for story problems that require long solution steps and complex thought processes. There are still students in identifying problems who cannot write what is known and asked in the problem, and there are still students in working on problems who tend not to be able to solve problems to draw conclusions, so that students' abilities in problem solving have not been trained.

(10) stated that one of the factors that influence students' ability to solve problems is students' learning style. According to Purbaningrum (2017) learning style is a learning style is a consistent pattern used by a person in processing the information received. Retno Kuncoro & Martila Ruli (2022)explains that learning styles not only aim to achieve success in learning, but also to develop students' abilities in problem solving, creative thinking, and experimentation. Variations in the delivery of material or activities tailored to students' learning styles will increase the meaning of the learning process. Students will find it easier to understand the material because it is presented according to the way they receive information. With the differences in students' learning styles, it is important for teachers to analyze students' learning styles to gain insights that can help them be more sensitive to individual differences in the classroom and implement meaningful learning (Willia, Annurwanda, & Friantini 2020).

According to DePorter & Hernacki (2002) (in Purbaningrum 2017) there are three learning styles of a person, namely visual, auditory, and kinesthetic learning styles. According to Erhardt (2014)(in Mulawakkan Firdaus 2023) Students who have a visual learning style tend to have a tendency to learn through observation of books and pictures, students with auditory learning styles are effective in

absorbing information through hearing oral instructions, and students with kinesthetic learning styles use hand and body movements as a whole to explore in learning. According to (14) Learning style refers to an individual's way of receiving and processing information. In the context of education, a deep understanding of students' learning styles can help educators in designing more effective learning strategies, so as to improve the quality of learning.

Based on the background that has been described, it is important to understand the thought process of students in solving math problems by considering learning styles. U to get the right focus, the research is limited to the material of the system of linear equations of two variables. By referring to the problems described, the researcher analyzed the students' thought process in solving math problems in terms of learning styles.

RESEARCH METHODS
This type of research is descriptive research with a qualitative approach to identify junior high school students' thinking processes in solving mathematics problems in terms of students' V-A-K (visual, auditory, kinesthetic) learning styles. The thinking process in this study was identified based on Suryabrata's thinking process steps.

Table 1. Problem solving indicators

No.	Problem Solving	Indicator
1.	Forming an understanding	Students can determine what is known from the problem.
		Students can determine what is asked from the question.
2.	Forming an Opinion	Students can determine other unknown conditions in the problem such as formulas or other information if they exist.
		Students can use all the information in the problem.
		Students can make a plan or solution steps from the given problem
3.	Implementing the Plan	Students can solve the existing problems according to the steps that have been made from the beginning.
		Students can answer the questions correctly.
4	Checking Back	Students can recheck the answers that have been obtained by using the correct method or steps.
		Students can believe the truth of the answers that have been made

This research is classified as descriptive qualitative research because it aims to provide a description of a situation without conducting special treatment of the object under study, with the research results expressed through data in the form of words.

The research was conducted at SMPN 1 Ngadiluwih, Kediri Regency, with the research subjects as many as 3 students of class VIII who were selected based on the V-A-K learning style (visual, auditory, kinesthetic) with the highest score from the learning style questionnaire. The focus of this research is on 1 student with visual learning style, 1 student with auditory learning style, and 1 student with kinesthetic learning style, all of whom have the highest score in their class. For data collection, observation, learning style questionnaire, math problem test, and interview were used.

The research instruments consist of the main instrument (researcher) and auxiliary instruments, which include: 1) Learning Style Questionnaire, 2) Test of Mathematics Problems in the form of one math problem in the form of a story problem, and 3) interview guidelines based on the steps of the thinking process.

To observe the thinking process according to (15) To observe the thinking process according to (Visitasari & Siswono, 2013), students' thinking process in solving mathematical problems is observed based on how to do the test and the results written in order, coupled with in-depth interviews about how students work. Data collection techniques to observe students' thinking processes include giving Test of Mathematics Problems to subjects, followed by in-depth interviews using interview guidelines.

The triangulation used is technical triangulation, including interviews and observations of student work on Test of Mathematics Problems. The interview process was carried out by asking questions to the subjects related to the math problems given, while observing to identify significant differences between the learning styles of the subjects studied. Data validation is an important factor in qualitative research, so the technique triangulation method is used to strengthen the validity of data obtained from the field.

RESULTS AND DISCUSSION
1. Students' Thinking Process in Solving Math Problems with Visual Learning Style Understanding the Problem
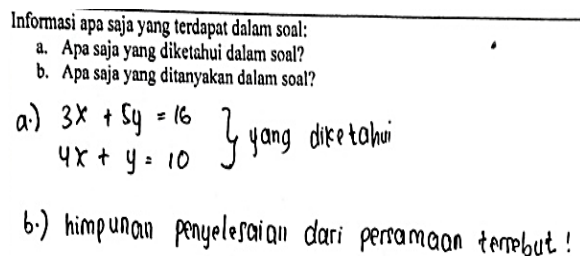
Figure 1. Visual subject's answer in understanding the problem

The following is a summary of the interview of the visual subject's thinking process in understanding the problem:
Receive data to form an understanding
P   : *"When given the problem, what do you see?"*
SV   : "*this is mom, $3x + 5y = 16$ and $4x + y = 10$*"
P   : "*How many times did you read question number 1?*"
SV   : *"one time"*
Form an opinion from the data obtained
P   : *"in question number 1, what information do you know?"*
SV   : "*Here, ma'am, equation 1 and equation 2 are known*" (while using his finger to point to the question paper).
P   : "*Can you tell me the equation?"*

SV   : *"equation 1, 3x + 5y =16 and equation 2, 4x + y = 10"*
P   : "*Then what is the question?"*
SV   : *"The solution set, finding the x and y values"*
Draw Conclusions
P   : "*Can you explain the information in the problem?*"
SV   : "*You know equation 1 is 3x + 5y =16, equation 2 is 4x + y =10, and what is asked is the value of x and y*"
Based on the interview transcript above, on the indicator of understanding the problem of the visual subject's thinking process, namely at the stage of receiving data to form an understanding, the visual subject only needs to read once to find out the problem in the problem to obtain and explain the information completely, at the stage of forming an opinion from the data obtained, the visual subject can explain the information known and asked in the problem clearly, at the stage of drawing conclusions, the visual subject describes the details of the information received in his own language.
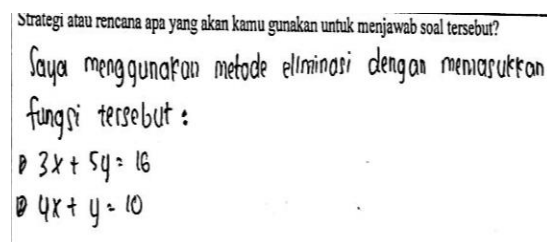
Creating a Plan

Figure 2. Visual subject's answer in making a plan

The following is a summary of the interview of the visual subject's thinking process in making plans:
Receive data to form an understanding
P   : *"After knowing what is known and what is asked in the problem, what kind of plan do you use?*
SV   : *"I plan to use the elimination method"*
Form an opinion from the data obtained

P   : *"Please explain what the elimination method is?*
SV   : *"For elimination, the x or y must be equalized first by multiplying it by*
Draw Conclusions
P   : *"are you sure that the method you used is applicable?*
SV   : *"Yes, sure"*
P   : *"Is there any other way you can answer this question?*
SV   : *"There is, substitution. But I'm a bit confused"*
Based on the interview transcript above, on the indicator of making a plan for the visual subject's thinking process, namely at the stage of receiving data to form an understanding, the visual subject mentions the elimination method used as a plan or strategy for solving the problem, at the stage of forming an opinion from the data obtained, the visual subject can briefly explain the method used to solve the problem, at the stage of drawing conclusions, the visual subject states that there are other methods that can be used to solve the problem, but experiences obstacles if choosing that method.

Implementing the Plan

Figure 3. Visual Subject's Answer in Implementing the Plan

The following is a summary of the interview of the visual subject's thinking process in implementing the plan:
Receive data to form an understanding
P   : *"After using the elimination method plan, what steps did you take"*

SV   : *"First I will choose to eliminate the y first to determine the value of x, then eliminate x to determine the value of y"*
Form an opinion from the data obtained
P   : *"Try to explain your working steps using the elimination method"*
SV   : *"for equation 1 multiplied by 1 and equation 2 multiplied by 5, this step is used to eliminate the value of y, then the results of the multiplication of each equation are obtained, namely equation 1 obtained 3x + 5y = 16 and equation 2 obtained 20x + 5y = 50, the value of y is the same, namely 5y, so y is eliminated by subtracting, so 3x-20x = 16-50 results in -17x = 34, then -17 is moved internally so the division of -34 divided by -17 x is equal to 2. So the value of x is 2 "* (while pointing in explaining the steps). *Then to find the value of y, equation 1 is multiplied by 4 resulting in 3x multiplied by 4 equals 12x, 5y multiplied by 4 equals 20 y, and 16 multiplied by 4 equals 64 so that equation 1 becomes 12x + 20y = 64. Equation 2 is multiplied by 3 resulting in 4x multiplied by 3 equals 12x, y multiplied by 3 equals 3y, and 10 multiplied by 3 equals 30, equation 2 becomes 12x + 3y = 30 then the two equations are reduced for the missing x, 20y-3y = 17y, and 64-30 = 34, so it becomes 17y = 34, then 17 moves the segment to divide y equals 34 divided by 17 is 2, so the value of y is 2."*
Draw Conclusions
P   : *"So we get the value of x is 2 and y is 2*
SV   : *"Yes"*
P   : *"Did you have any difficulties while working on this?"*
SV   : *"No"*

Based on the interview transcript above, on the indicator of carrying out the thinking process plan of the visual subject, namely at the stage of receiving data to form an understanding, the visual subject explains the flow of the elimination method briefly, at the stage of forming an opinion from the data

obtained, the visual subject clearly tells the data processing process as an implementation of the previously made plan, at the stage of drawing conclusions, the visual subject can provide the resulting answer statement and does not experience difficulties or make calculation errors in processing the data.

Checking Back

Apakah penyelesaian yang kamu dapatkan merupakan jawaban dari pertanyaan ?
Dan berikan kesimpulannya!

Ya, Jadi himpunan penyelesaiannya adalah (2,2)
x,y

Figure 4. Visual Subject's Answer in Rechecking

The following is a summary of the interview of the visual subject's thinking process in checking back:

Receive data to form an understanding

P : *"After getting the result, did you check it again?"*

SV : *"Yes, check again from above, ma'am and I also check the answer by entering the results of the x and y values into equation 1 or equation 2"*

Form an opinion from the data obtained

P : *"Explain how you checked your answer?"*

SV : *"I obtained the values x = 2 and y = 2, so I substituted them into equation 2, namely 4x + y = 10 to become 4(2) + 2 = 10, 10 = 10. if they are the same then the answer is correct"* (explained by showing the equation only).

P : *"Does the answer you get match what is asked in the question?"*

SV : *"Yes, it is appropriate"*

Draw Conclusions

P : *"Can you explain the conclusion of your answer again?"*

SV : *"So the solution set of equation 1 is 3x + 5y =16 and equation 2 is 4x + y = 10, the result is x is 2 and y is 2."*

Based on the interview transcript above, on the indicator of carrying out the plan of the visual subject's thinking process, namely at the stage of receiving data to form an understanding, the visual subject checks again by reviewing to check from the beginning starting from understanding the problem, making a plan, to doing the plan and checking the answer, checking the answer is done by entering the answer into the problem equation, at the stage of drawing conclusions after checking his work the visual subject writes the conclusion and can answer the question correctly.

2. Students' Thinking Process in Solving Math Problems with Auditory Learning Style
Understanding the Problem

Informasi apa saja yang terdapat dalam soal:
  a. Apa saja yang diketahui dalam soal?
  b. Apa saja yang ditanyakan dalam soal?

a. $3x + 5y = 16$
   $4x + y = 10$
b. Nilai x dan y

Figure 5. Auditory Subject's Answer in Understanding the Problem

The following is a summary of the interview of the Auditory subject's thinking process in understanding the problem:

Receive data to form an understanding

P : *"When given a problem, what do you do?"*

SA : *"I read it first then I do it in a scribble book then I move to the answer sheet column"*

P : *"How many times did you read question number 1?"*

SA : *"one time"*

Form an opinion from the data obtained

P : *"On the question sheet, what information do you know?"*

SA : *"this is it, the equation is equation 1, 3x + 5y =16 and equation 2 is 4x + y = 10"*

P : *"Then what is the question?"*

SA   : *"What is asked in the question is the value of x and the value of y"*
Draw Conclusions
P   : *"Can you explain the information in the problem?"*
SA   : *"It is known that equation 1 is 3x + 5y =16, equation 2 is 4x + y =10, and what is asked is the value of x and y"*

Based on the interview transcript above, on the indicator of understanding the problem of the Auditory subject's thinking process, namely at the stage of receiving data to form an understanding, the auditory subject only needs to read once to find out the problem in the problem and explain the flow of work, at the stage of forming an opinion from the data obtained, the auditory subject can explain the information known and asked in the problem clearly, at the stage of drawing conclusions, the Auditory subject describes the details of the information received in his own language.

Creating a Plan

Figure 6. Auditory Subject's Answer in Making a Plan

The following is a summary of the interview of the Auditory subject's thinking process in making plans:
Receive data to form an understanding
P   : *"After knowing what is known and what is asked in the problem, what kind of plan do you use?"*
SA   : *"My plan uses mixed methods"*
Form an opinion from the data obtained
P   : *"Please explain why you chose the mixed method?*

SA   : *"I think the mixed method is simpler and faster in the process and I am more proficient in the mixed method"*
Draw Conclusions
P   : *"Are you sure that the method you used is applicable?*
SA   : *"Yes, sure"*
P   : *"Is there any other way you can answer this question?*
SA   : *"There is, elimination. But I think I want to save more time in working on the problem, I prefer the mixed method"*

Based on the interview transcript above, on the indicator of making a plan for the auditory subject's thinking process, namely at the stage of receiving data to form an understanding, the auditory subject mentions the mixed method used as a plan or strategy for solving the problem, at the stage of forming an opinion from the data obtained, the auditory subject can briefly explain the reasons for using the method used to solve the problem, at the stage of drawing conclusions, the auditory subject states that there are other methods that can be used to solve the problem, but the auditory subject is more comfortable using the mixed method because it is more time efficient.

Implementing the Plan

Figure 7. Auditory Subject's Answer in Implementing the Plan

The following is a summary of the interview of the Auditory subject's thinking process in implementing the plan:

Receive data to form an understanding

P : *"After using the mixed-method plan, what steps do you take"*

SA : *"So first I do elimination first, this elimination I equalize the y or eliminate the y then get the x value, then I use the substitution method by entering the x value into one of the equations to find the y value"*

Form an opinion from the data obtained

P : *"Try to explain your working steps using the mixed method"*

SA : *"So first I will use the elimination method, the step is that I equalize the y so in equations 1 and 2 I equalize the y to be reduced or eliminated, resulting in -17x = -34 then just divided, because the same is negative so just cross it out, the x is equal to 2. Then enter the substitution of pe equation 1, 3x + 5y = 16, put x = 2 into 3(2) + 5y = 16 so that 6 + 5y = 16, then the 6 is moved to the right segment because the 6 is positive after moving the segment to become negative, so 5y = 16-6, then 5y = 10, now here the 5y is 5 times y right so move it to the right segment so that this 5 becomes divided or becomes the denominator then y = 10/5, so the y is 2 (while pointing in explaining the steps).*

Draw Conclusions

P : *"So you get the value of x is 2 and y is 2*

SA : *"yes"*

P : *"Did you have any difficulties while working on this?"*

SA : *"No."*

P : *"Are you sure that this solution step is correct?"*

SA : *"Yes, sure"*

Based on the interview transcript above, on the indicator of carrying out the auditory subject's thinking process plan, namely at the stage of receiving data to form an understanding, the auditory subject explains the flow of the mixed method clearly, at the stage of forming an opinion from the data obtained, the auditory subject clearly tells the data processing process as an implementation of the previously made plan, at the stage of drawing conclusions, the auditory subject can provide a statement of the resulting answer and the subject does not experience difficulties or make calculation errors in processing the data.

Checking Back

Figure 8. Auditory Subject's Answer in Rechecking

The following is a summary of the interview of the Auditory subject's thinking process in checking back:

Receive data to form an understanding

P :*"After getting the result, did you double-check your answer?"*

SA :*"I didn't check the whole thing, because I have done the proof alone is enough to check my answer"*

Form an opinion from the data obtained

P : *"Explain how you rechecked the steps until you got the answer"*

SA : *"The way to prove it I wrote 4x + y = 10, we input the value of x = 2 and y = 2 to become 4 (2) + 2 = 10, 10 = 10 this is the proof in equation 2, for equation 1, 3x + 5y = 16 to become 3 (2) + 5 (2) = 16 the result is 16 = 16. if the right and left segments are the same then the answer is correct"* (explained coherently and carefully).

P :*"Does the answer you get match what is asked in the question?"*

SA : *"Yes, it is appropriate"*

Draw Conclusions

P : *"Can you explain the conclusion of your answer again?"*

SA : *"So the results of the equations 3x + 5y =16 and 4x + y = 10 are x = 2 and y = 2."*

Based on the interview transcript above, on the indicator of carrying out the plan of the Auditory subject's thinking process, namely at the stage of receiving data to form an understanding, the Auditory subject thoroughly checks again because he is sure of the proof of the answer obtained, at the stage of forming an opinion from the data obtained, the Auditory subject checks again at the stage of carrying out the plan by reviewing the answer by entering the answer into the problem equation, at the stage of drawing conclusions after reviewing his work, the Auditory subject writes the conclusion and can answer the question correctly.

3. Students' Thinking Process in Solving Math Problems with Kinesthetic Learning Style
Understanding the Problem

Figure 9. Kinesthetic Subject's Answer in Understanding the Problem

The following is a summary of the interview of the Kinesthetic subject's thinking process in understanding the problem:
Receive data to form an understanding
P   : *"When given a problem, what do you do?"*
SK   : *"read the question"*
P   : *"How many times did you read question number 1?"*
SK   : *"twice"*
Form an opinion from the data obtained
P   : *"In problem number 1, what information do you know from the problem?"*
SK   : *"Known from the problem are 3x + 5y =16 and 4x + y = 10"*

P   : *"Then what does the question ask?"*
SK   : *"The solution set of the following problem"*
Draw Conclusions
P   : *"Can you explain the information in the problem?"*
SK   : *"Given 3x + 5y =16 and 4x + y =10, and asked the solution set of the following equations"*
Based on the interview transcript above, on the indicator of understanding the problem, the Kinesthetic subject's thinking process, namely at the stage of receiving data to form an understanding, namely the kinesthetic subject needs to read the problem twice to find out the problem in the problem, at the stage of forming an opinion from the data obtained, the kinesthetic subject can explain the information known and asked in the problem clearly, at the stage of drawing conclusions, the Kinesthetic subject describes the details of the information received in his own language.

Creating a Plan

Figure 10. Kinesthetic Subject's Answer in Making a Plan

The following is a summary of the interview of the Kinesthetic subject's thinking process in making plans:
Receive data to form an understanding
P   : *"After knowing what is known and what is asked in the problem, what kind of plan do you use?*
SK   : *"I plan to use the elimination method"*
P   : *"On the answer sheet, the method you used is mixed, so what about it?"*
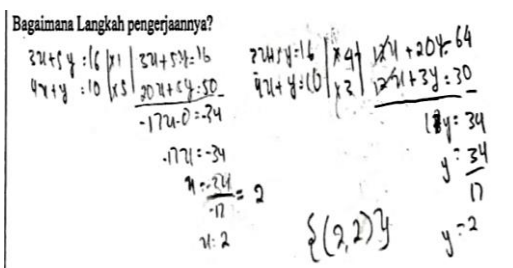SK   : *"Oh yeah I wrote it wrong, hehe"*
P   : *"It's okay."*
Form an opinion from the data obtained

P: *"Why choose the elimination method?"*
SK   : *"Because it's more convenient than substitution*
P   : *"Please explain what the elimination method is?*
SK   : *"If the elimination is x or y, it must be equalized first by multiplying it by*
Draw Conclusions
P   : *"Are you sure that the method you used is applicable?*
SK   : *"Yes, sure"*
P   : *"Is there any other way you can answer this question?*
SK   : *"There is a mixed method, but I prefer to use the elimination method.*

Based on the interview transcript above, on the indicator of making a plan for the Kinesthetic subject's thinking process, namely at the stage of receiving data to form an understanding, the kinesthetic subject mentions the elimination method is used as a plan or strategy for solving the problem but there is a discrepancy regarding the answer and statement, at the stage of forming an opinion from the data obtained, the kinesthetic subject can briefly explain the reasons for using the method used to solve the problem, which is easier than using the substitution method, at the stage of drawing conclusions, the Kinesthetic subject states that there are other methods that can be used to solve the problem, but the kinesthetic subject is more comfortable using the elimination method because it is easy.

Implementing the Plan

Figure 11. Kinesthetic Subject's Answer in Implementing the Plan

The following is a summary of the interview of the Kinesthetic subject's thinking process in implementing the plan:
Receive data to form an understanding
P   : *"After using the elimination plan, what steps did you take"*
SK   : *"3x + 5y =16 and 4x + y =10, we will eliminate y first, then we will eliminate x"*
Form an opinion from the data obtained
P   : *"Try to explain your working steps using the elimination method"*
SK   : *"for 3x + 5y =16 multiplied by 1 and 4x + y =10 multiplied by 5, so 3x + 5y = 16 and 20x + 5y = 50, then subtracted so 3x - 20x = -17x, 5y - 5y = 0, 16 - 50 = -34 resulting in -17x = -34, then -17 is moved internally so dividing -34 divided by -17, x is equal to 2. So the value of x is 2."*
P   : *"Okay, then how do you find the y-value?*
SK   : *"for 3x + 5y =16 multiplied by 4 and 4x + y =10 multiplied by 3, so 12x + 20y = 64 and 12x + 3y = 30, then subtract so 12x - 12x = 0, 20y - 3y = 17y, 64 - 30 = 34 results in 17y = 34, then 17 is moved internally so dividing 34 by 17, y is equal to 2. So the value of x y is 2 "*
Draw Conclusions
P   : *"So you get the value of x is 2 and y is 2*
SK   : *"Yes"*
P   : *"Did you have any difficulties while working on this?"*
SK   : *"No."*
P   : *"Are you sure that this solution step is correct?"*
SK   : *"Yes, sure"*

Based on the interview transcript above, on the indicator of carrying out the thinking process plan of the kinesthetic subject, namely at the stage of receiving data to form an understanding, the kinesthetic subject explains the flow of the elimination method briefly, at the stage of forming an opinion from the data obtained, the kinesthetic subject

clearly explains the data processing process as an implementation of the previously made plan, at the stage of drawing conclusions, the kinesthetic subject can provide a statement of the resulting answer and the subject does not experience difficulties or make calculation errors in processing the data.
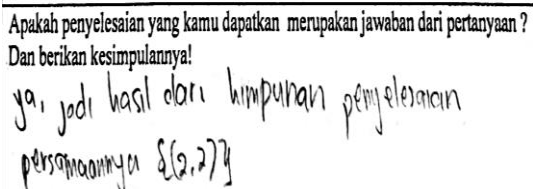
Checking Back

Figure 12. Kinesthetic Subject's Answer in Checking Back

The following is a summary of the interview of the Kinesthetic subject's thinking process in checking back:

Receive data to form an understanding
P : *"After getting the result, did you check again?"*
SK : *"no kak"*
Form an opinion from the data obtained
P : *"why not double check the steps"*
SK : *"because I was careful and cautious when working, so I didn't double-check"*
P : *"Does the answer you get match what is asked in the question?"*
SK : *"Yes, it's appropriate"*
Draw Conclusions
P : *"Can you explain the conclusion of your answer again?"*

SK : *"So the result of the completion set is {2,2}."*
Based on the interview transcript above, on the indicator of carrying out the Kinesthetic subject's thinking process plan, namely at the stage of receiving data to form an understanding, the kinesthetic subject does not re-examine his work, at the stage of forming an opinion from the data obtained, the reason the kinesthetic subject does not re-examine his work is because he is sure he is careful and careful when working on the problem, at the stage of drawing conclusions, the kinesthetic subject immediately writes the conclusion and can answer the question correctly.

Summary
Based on the results of the analysis and discussion that has been carried out, the following conclusions can be drawn.
1. The thought process of students with visual learning styles in solving math problems, students understand the problem can capture information well. In making plans, students obtain data based on the information obtained and connected to form an opinion and the right plan. Implementing the plan, students process the data until they get the right results. Then students check back by reviewing starting from understanding the problem, making plans, implementing plans. From the results of the review, a conclusion is made that can answer the question of the problem.
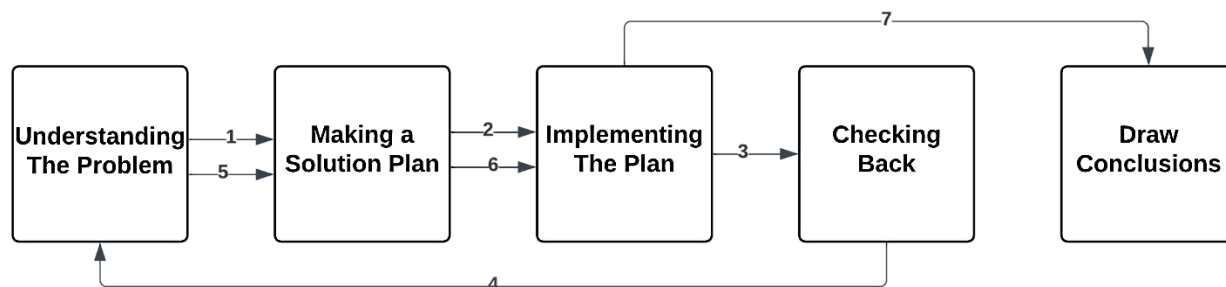

Figure 13. Thinking Process Patterns of Visual Learning Style Subjects in Solving Math Problems

2. The thought process of students with auditory learning styles in solving math problems students understand the problem can capture information well. In making plans students obtain data based on the information obtained and connected to form an opinion and the right plan. Implementing the plan students do the data processing process to get the right results as well. Then students check back by reviewing at the stage of implementing the plan. From the results of the review, a conclusion is made that can answer the question of the problem
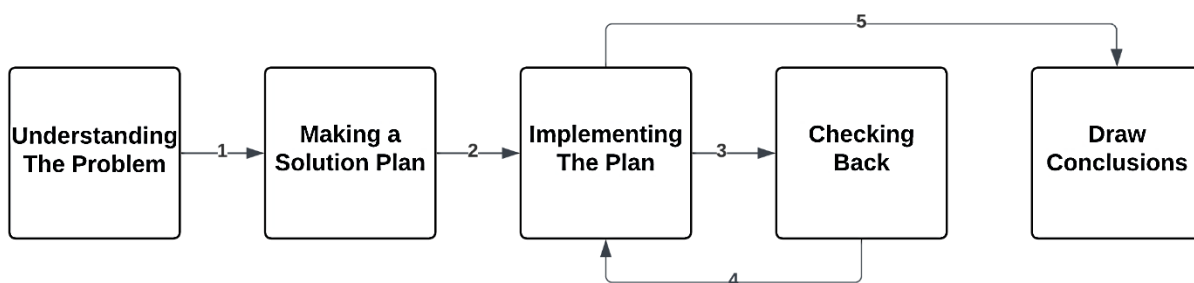
Figure 14. Thinking Process Pattern of Auditory Learning Style Subjects in Solving Math Problems

3. The thinking process of students with kinesthetic learning styles in solving math problems, students understand the problem can capture information well. In making plans, students obtain data based on the information obtained and connected to form an opinion and the right plan, but there is a mistake in writing. Implementing the plan, students process the data to get the right results. However, students do not check back. Then write the conclusion correctly according to the question from the problem.
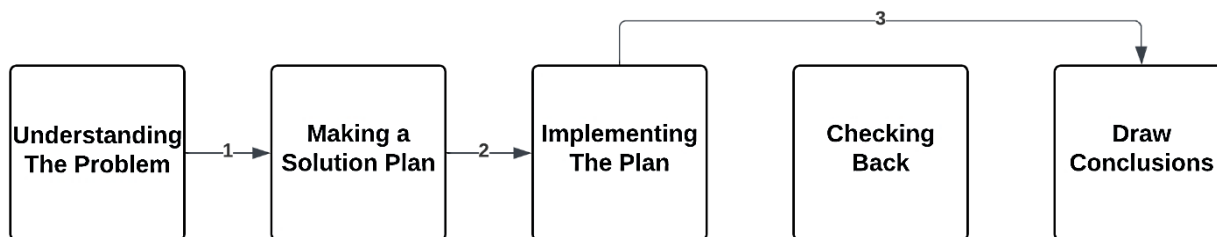
Figure 15. Thinking Process Pattern of Kinesthetic Learning Style Subjects in Solving Math Problems

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