



Description of Student Errors in Solving the Volume Of Cube and Beam For Class IX SMP Negeri 2 Mattiro Bulu, Pinrang Regency

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ABSTRACT

This research includes qualitative research. This study aims to find out how to analyze the types of errors and the factors that cause errors in class IX.1 students of SMP Negeri 2 Mattiro Bulu, Pinrang Regency on the volume of cubes and blocks. This type of error analysis assessment consists of a test sheet and an interview guide sheet. The analysis of the types of errors produced in the study is indicated to be able to meet the indicators of the types of errors. The trial respondents in this study were students of class IX.1 of SMP Negeri 2 Mattiro Bulu, Pinrang Regency, as many as 24 students. Analysis of the types of errors in this study uses 3 (three) types of errors, namely: (1) *reading error*, (2) *transformation error*, and (3) *encoding error* . The factors that cause student errors in solving the volume problems of cubes and blocks are: (1) less thorough in answering questions, (2) forgetting formulas, and (3) making mistakes in operating.

Keywords : Analysis of Error Types, Volume of Cubes and Blocks.

1. INTRODUCTIONS

Mathematics is eye lessons that have enough role _ big for student because mathematics working for develop ability communicate with symbols as well as sharpness reasoning that can clarify and complete the problem that happened in life daily (Suwakbur , 2015).

the truth still many students who experience the difficulties that lead to happening error in work question math . Soedjadi (2010) says that the difficulties experienced student will allow occur error when answer question test .

Lots factors that cause student To do the error that resulted low study math . Factors the originated from outside and in self students . Factor from outside self student or external like environment study , family , friends and so on . Factor from in self student or internal like interest , less careful in answer question and so on .

Based on results Interview with a math teacher , obtained information that the average value of mathematics student reached 68, but still under. Criteria Minimum completeness (KKM) set at school i.e. 72. Apart from that conducted observation with give question to student , result profession student show existence mistakes in work question that . Sahriah et al (2012) say that error is something form deviation to the real answer is _ systematic . Besides that ,



Rosyidi (Wijaya et al , 2012) said error as something form deviation to things considered Correct or established procedure before .

Study about analysis error in complete questions cube and beam once conducted by Ecce (2010). Results the research uncover that student experience error concept , error algorithm , and error technical , where error most algorithms occur because student no capable doing solution .

Based on study before and observations that have been done , then study this focus on “ Analysis Type Error in Complete Cube Volume Problem and Beam Student Class IX SMP Negeri 2 Mattiro Hair Regency Pinrang ”.

Based on background back above, then formula problem that will investigated in study this are :

1. how analyze type error student on moment complete cube volume problem and beam ?
2. Factors what causes happening error in complete cube volume problem and beam student?

2. RESEARCH METHOD

Study this is use approach qualitative with type study descriptive . Study conducted with destination for obtain data and information about types error as well as factors reason error experienced _ student in complete cube volume problem and beam .

Instrument main in study qualitative is researcher alone , because according to Moleong (2013) in study qualitative researcher is planner , implementer data collector , analysis , data interpreter , and whistleblower results research . Research also need instrument supporters who can help performance researcher in the research process . Instrument supporter in research that is sheet test (test written) and lembar p guidelines w interview (*Interview*) .

According to Sugiyono (2015) deep data analysis study qualitative , done on moment data collection in progress and after done data collection in period certain . Miles and Huberman (Sugiyono , 2015) said there are 3 (three) analyzes data that is data reduction, data presentation and conclusion drawing/verification.

1. Data reduction

Data reduction refers to the process of selecting, focusing, simplifying, abstracting and transforming the raw data that occurs in the researcher's field notes.

2. Data Presentation

In presenting the data, the researcher groups the data or information that allows drawing conclusions.

3. Withdrawal/Verification

At this stage, it is done by comparing the results of student work with the results of interviews so that it can be concluded that the errors made by students in solving the problem of the volume of cubes and blocks.



3. RESULTS AND DISCUSSION

Based on the results of tests and interviews conducted, it was shown that grade IX.1 students of SMP Negeri 2 Mattiro Bulu, Pinrang Regency, had errors in solving questions. In the first type of error indicator, *reading error*, the type of error made by students is not writing down the known elements and the elements stated in the questions. This is in accordance with Newman's opinion (White, 2005) that students cannot read keywords or symbols in writing so that students cannot further process the information for problem solving.

In the second type of error indicator, namely *transformation error*, the type of error made by students is incorrect in determining the formula used. This is in accordance with Newman's opinion (White, 2005) that students can understand the desired question but cannot identify the operation or series of operations needed to solve the problem.

In the third type of error indicator, namely *encoding error*, the type of error made by students is incorrectly writing mathematical notation and students do not write conclusions in determining the final answer to the question. This is in accordance with the opinion of Gunawan (2012) that students were wrong in writing the final answer, did not write the final answer, were wrong in writing the unit or object properties in the final answer to the question and did not write down the units or properties of the object in the final answer to the question.

In fact, there are still many students who have difficulty which results in errors in doing math problems. Soedjadi (2010) said that the difficulties experienced by students will allow errors to occur when answering test questions. According to Dewi et al (2014) the factors that cause student errors include internal factors, namely factors that come from within students and external factors, namely factors that come from outside of students. The factors that cause students to make mistakes in solving the volume problems of cubes and blocks are seen from within the students, namely, being less thorough in answering questions, forgetting formulas and making mistakes in operating.

4. CONCLUSION

Based on the results of research and discussion, it can be concluded that:

1. Analysis of the types of errors experienced by students when solving the volume problems of cubes and blocks is carried out in the following way:
 - a. For *reading errors*, it is analyzed by identifying student errors when writing down the known elements and the elements asked in the questions.
 - b. For *the transformation error*, it is analyzed by identifying the formula used.
 - c. For *encoding errors*, it is analyzed by examining mathematical notation (especially in volume units) and drawing conclusions made by students when determining the final answer.
2. The factors that cause errors in solving the problem of the volume of cubes and blocks for class IX.1 students of SMP Negeri 2 Mattiro BULU, Pinrang Regency, namely: (1) not being careful in answering questions, (2) forgetting the formula, and (3) making mistakes in operation.



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