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ANALOGY PROBLEM POSING FOR ELEMENTARY SCHOOL STUDENTS ON WORD PROBLEMS

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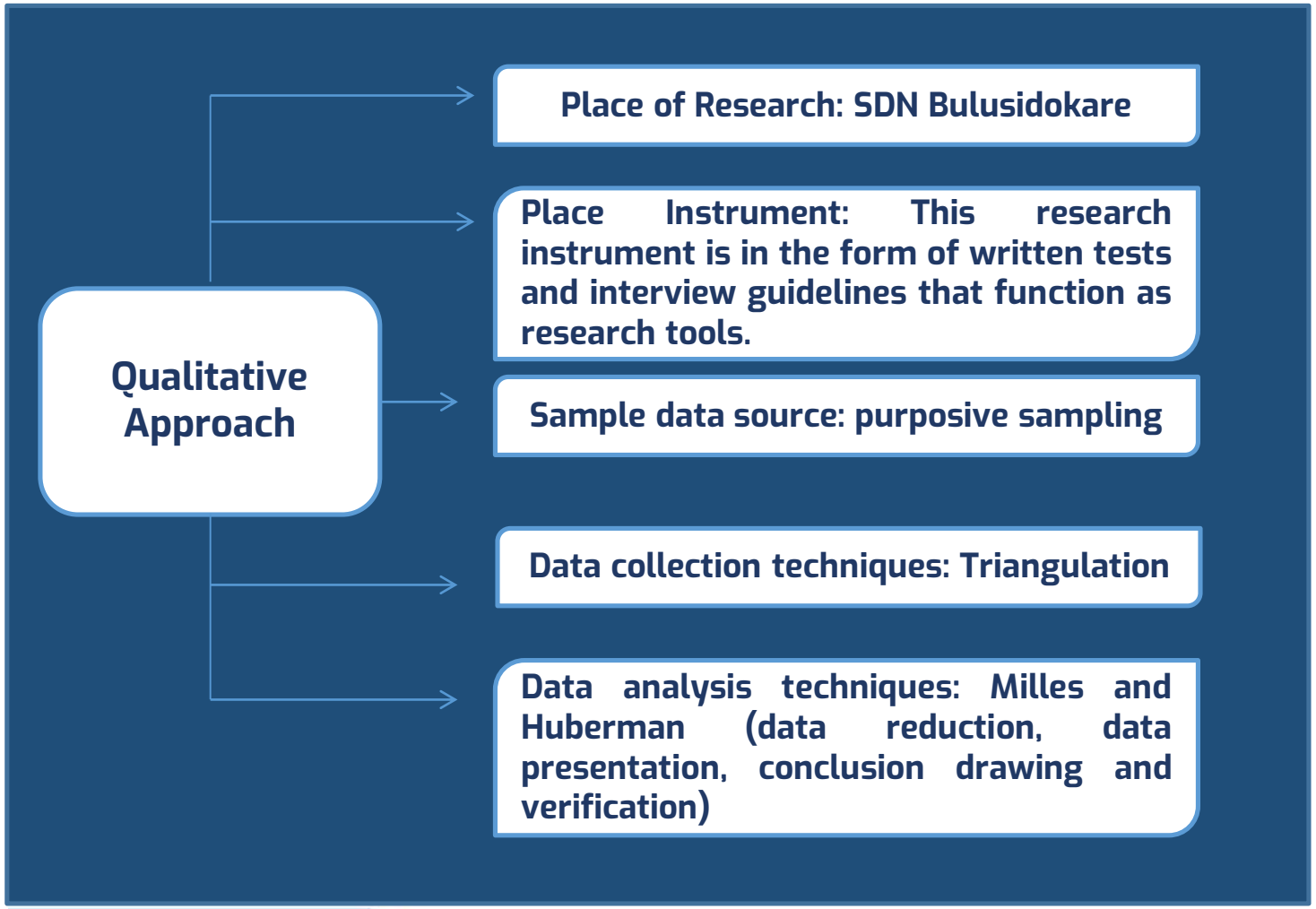
INTRODUCTION

- in addition to problem-solving, problem posing, where students create their own problems, has also been identified as an important activity in mathematics education
- Analogical reasoning allows one to make connections between the transfer of solutions from a known problem to a new problem for which the solution is unknown
- Problem posing is used as a new problem generator and as a reformulation of the given problem, these activities occur before, during and after the problem solving process
- Word problems are math exercises in which important background information related to the problem is presented as text written in natural language rather than in mathematical notation
- Relevant knowledge for solving word problems consists of three aspects: understanding the problem, the solution procedure, and the comprehensive mental representations available from different problem categories beyond individual problem representations and solution procedures

METHOD



The prospective subjects of this study were grade V students of SDN Bulusidokare.

This research procedure follows data collection steps by giving tests and interviews.

1. The first step is giving tests to all students to get selected subjects according to predetermined criteria.
2. The second step is to ask the chosen subjects to conduct interviews when the subjects solve and propose problems using interview guidelines.

RESULT

REFORMULATION

Students create word problems that are identical to the source problem by changing objects and numbers but still paying attention to the order of the mathematical operation system. Students tend to create problems by imitating existing problems. Because students' answers use the same problem and solution as the original problem

NON-REFORMULATION

Students' failure in making problem posing, where students cannot make problem posing on word problems according to the problem structure.

DISCUSSION

The problems posed were categorized according to analogy characteristics according to the structure of the problem, and the solution was the same or different from the source problem.

First, in reformulation, students propose problems identical to the source problem. Students create problems by changing objects, replacing base information with equivalent expressions, and changing numbers but still paying attention to the order of the mathematical operating system. Students tend to create problems by imitating existing problems according to the transfer of ideas in the example.

Second, in non-reformulation, students propose problems almost the same as the initial problem. However, students still struggle to propose word problems and answer problems they create themselves. Students can pose word problems by learning ideas from the source problems that have been done.

CONCLUSION

Based on the study's results, elementary school students can propose word problems in accordance with the problem structure and can solve problems created by themselves. Meanwhile, some students can propose problems but have been unable to solve the problems they create themselves as well as some students cannot make problem posing under the problem structure but can answer the problem. Understanding through examples helps generate various situations but cannot always provide a structural understanding of the solution. Therefore, by understanding various types of problems, students will be able to understand mathematical situations, improve their ability to create new problems and solve problems.

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