



Teacher Strategies for Achieving Goals in Mathematics Learning in Elementary Schools

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Abstract

This research aims to describe the strategies teachers apply in achieving mathematics learning goals in elementary schools and the things teachers need to pay attention to in determining these learning strategies. The approach used in this research is a qualitative approach with a case study type of research. Research data was obtained through observation and strengthened by interviews conducted with class V A teachers. Data analysis techniques were carried out by data reduction, data presentation and data verification. The results of this research show that the strategy used by teachers in achieving mathematics learning objectives in class V A is starting with planning to carry out the learning process, in planning activities carried out by designing a Learning Implementation Plan that is adapted to the curriculum and syllabus, as well as preparing media that will be used in learning activities. In conclusion, all mathematics learning activities that have been carried out are very oriented towards the activities and characteristics of students, so that the goals of mathematics learning that are targeted can be achieved well.

Keywords: Teacher Strategy; Learning objectives; Mathematics Learning

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INTRODUCTION

Education is a vital need that must be obtained for every student. According to Government Regulation on National Education Standards Number 57 of 2021 Chapter I Article 1, Education is a conscious and planned effort to create a learning atmosphere and learning process so that students actively develop their potential to have religious spiritual strength, self-control, personality, intelligence, noble morals, as well as skills needed by himself, society, nation and state. So, education aims as a means used to develop or increase the potential, talents and interests of students to create quality human resources.

The implementation of education in schools is very dependent on the teacher's ability to carry out learning activities (Leonard, 2015). In Minister of Education and Culture Regulation Number 3 of 2020, it is explained that learning is a process of interaction between students and teachers and learning resources in a learning environment. Learning is a process of managing and organizing the environment around students to be able to grow and encourage students to carry out learning activities (Ansori & Samsudin, 2013). Teachers teach students by providing effective learning conditions for the optimal development of students' potential. One of the important tasks of teachers is to design strategies that will be used in learning activities so that the learning objectives to be achieved can be carried out well.

Mathematics is one of the main subjects that is important to apply at every level of education.

This subject is a subject that seeks to improve students' reasoning power, increase intelligence and change attitudes in a positive direction, which applies a way of thinking with evidence (Hamzah & Muhlisrarini, 2016). Mathematics subjects themselves are subjects that are directly related to students' lives. The role of mathematics in the world of education is very important, because learning mathematics can train students to reason critically, creatively and actively.

However, in reality, there are problems that often occur in learning mathematics. There is an assumption by students that this subject is difficult and boring material so that it is often a threat that is avoided (Pratiwi, 2015). Likewise, some students in class V think that mathematics is a difficult subject so they don't like it and seem boring. Such perceptions have a negative impact on the ongoing mathematics learning process. This makes it difficult to achieve mathematics learning goals so that the results are less than satisfactory. Therefore, one very important dimension to overcome this problem is by implementing appropriate learning strategies.

A learning strategy is a learning activity which in this case must be carried out by teachers and students so that learning objectives can be achieved effectively and efficiently (Sanjaya, 2006). Learning strategies can be said to be an initial step that teachers must prepare before carrying out the process of teaching and learning activities in the classroom. However, in certain circumstances learning strategies are not always carried out deliberately or with a high level of awareness (Darmansyah, 2012). In this way, it can be concluded that a learning strategy is a technique or method used by teachers to conceptualize the learning process in order to achieve the target learning objectives so that the learning process can run effectively.

Mathematics learning activities are said to be successful if they have achieved the learning objectives which can be seen from the students' ability to master the material being taught. Learning activities carried out by a teacher require strategies or tips that need to be applied according to the subject matter and the circumstances or conditions of the students they teach. Using a series of methods that will be applied by the teacher to select learning activities that will be used while carrying out learning activities (Hamzah, 2008). Strategy is an important component that cannot be left out of learning activities, because the use of appropriate learning strategies will really help in achieving learning goals optimally.

From the results of observations made in class V A of Sridadi 55/I State Elementary School with the class teacher. Information was obtained that the students' daily assignment values appeared to have met the KKM. This was also evident from the enthusiasm of the students in participating in the learning process, although there were a small number of students who still had a little difficulty in understanding the material, but the teacher still explained the material well. The learning material explained by the teacher is also easy for students to remember and can be applied in everyday life, can increase students' knowledge and insight, in addition the teacher also repeats previous material, and the teacher does not hesitate to review material in previous classes if Students have difficulty understanding new material. In carrying out the assignments given by the teacher, students look sporty or in other words do not cheat or work together. From these several things, it is enough to increase the researcher's confidence that the objectives of mathematics learning can be achieved in accordance with the teacher's expectations.

From the background above, the research focused on implementing the strategies used by teachers in conducting learning to achieve the goals of mathematics learning in class V A of State Elementary School 55/I Sridadi, as well as knowing what things teachers need to pay attention to in determining these strategies. The aim of this research is to describe teachers' strategies for achieving goals in mathematics learning in elementary schools and describe the things that teachers must pay attention to in determining strategies for achieving mathematics learning goals.

RESEARCH METHODS

Research Design

This research uses a qualitative approach by describing the strategies implemented by teachers in conducting mathematics learning in class V A of State Elementary School 55/I Sridadi. The qualitative

approach studies natural or natural social life which is used to describe, describe and provide detailed descriptions of actual portraits of conditions in the field. The author uses a case study type of research. Because, this type of research is able to study a case in depth to get an overview of the case. Then, case study research was used in this research, because this type of research is special and specific to a person (Yona, 2006).

Research Target/Subject

The data source is the subject from which data is obtained which is usually called the informant. In this case, the source of research data is the class V A teacher at State Elementary School 55/I Sridadi with the initials Sg.

Research Procedure

There are several steps taken in case study type research, including: 1) determining the research questions. The questions that will be asked are related and focused on the object you want to research, so that you can examine the phenomenon or object in depth and thoroughly. 2) determine the research design and instruments. This is done by determining research subjects such as individuals, groups and so on. Then, choose from using single case or multiple case. 3) collect data. Data collection can be done using methods such as observation, interviews or documentation studies. 4) choose and determine data analysis techniques. The various data that have been obtained are then analyzed by grouping them according to type and outline, to make it easier for researchers to obtain real data. 5) prepare or compile reports. This is done by describing, explaining or discussing the final results so that they are in accordance with the objectives of carrying out research activities.

Instruments, and Data Collection Techniques

Data collection techniques are various methods that researchers can use to collect the data needed in research. Data collection techniques that can be used include:

1. Observation

Observation is a way of collecting data by observing activities or processes of an activity being observed and recording phenomena in a systematic manner. Observations can be carried out directly or indirectly. However, in this case the observation was carried out directly with passive participation, which means that the researcher was present at the place to be observed but did not take part in the activity. In order to obtain observation results that meet expectations, researchers first create an observation guide containing a list of information they wish to find out.

Table 1. Observation Guidelines

Source	Observed aspects	Indicators	Description
Teacher	Teacher strategies	Planning	
		Implementation	
		Evaluation	

Majid (2014)

2. Interview

Sugiyono said that interviews can be conducted if the researcher wants to conduct a preliminary study to find the problem to be researched, and to find out more in-depth things from the informant regarding certain information (Sugiyono, 2019: 418). The interviews used in this research were semi-structured interviews, data collection was carried out by preparing an interview guide sheet. The method is to take notes and bring an interview guide in the form of an outline of the things you want to ask. Interviews are used to strengthen observation results regarding any information that is not yet known regarding teacher strategies in achieving learning objectives in mathematics learning.

Table 2. Interview Guidelines

Data source	Observed aspects	Indicators	Description
Teacher	Teacher strategies	Learning strategy planning	
		Implementation of learning strategies	
		Evaluation of learning strategies	
		Things to consider when choosing a learning strategy	

Majid (2014)

Data analysis technique

To carry out data analysis techniques, researchers used the Miles and Huberman model of data analysis. Miles and Huberman stated that activities in qualitative data analysis carried out in an interactive manner continue continuously until they are completed or complete and saturated data is obtained (Aisyah et al., 2015). These data analysis techniques are divided into:

1. Data Reduction

Data reduction is an activity of summarizing, narrowing, sorting and selecting everything that is considered main and then focusing on the most important things to find patterns and themes. Data reduction is used to make it easier for researchers to collect further data, because the reduced data will provide a clearer and more focused picture and can organize the data according to the topic.

2. Data Presentation

Presentation of data in qualitative research is in the form of short descriptions or in the form of words. Presenting the data will make it easier for researchers to understand the situation that occurred, and can prepare further work plans.

3. Data Verification

The final data analysis step is data verification. Initial conclusions in qualitative research are temporary and can later be changed if no valid evidence is found in the field during subsequent data collection. However, if during subsequent data collection valid and consistent evidence is found when the researcher returns to the field then the conclusions drawn are valid conclusions.

RESULTS AND DISCUSSION

In a teaching and learning activity, teachers need to use learning strategies to support the achievement of the objectives of the learning activity. This is in accordance with Hamalik's opinion which states that learning strategies are a total of procedures and methods that focus on student activities in the teaching and learning process to achieve certain goals (Hamalik, 2016). Moreover, in mathematics learning, without the right strategy the learning process will not run optimally, therefore teachers need tips in delivering material in the learning process so that the learning objectives can be achieved. In learning strategies there are three stages of activities including planning, implementing and evaluating learning strategies. This is in accordance with Majid's opinion that the components of a learning strategy consist of planning, implementation and evaluation (Majid, 2014).

Based on the results of observations and interviews that have been conducted, researchers found that before carrying out the learning process, the teacher first makes a Learning Implementation Plan which will be used as a benchmark in learning activities. From here, the teacher then designs the strategies and methods that will be applied in accordance with the characteristics of the students. The teacher also plans the use of learning media such as a multiplication and division board for ordinary fractions and the use of a formula board in the Speed and Discharge material.

Then, the teacher prepares the learning media used in teaching, such as when the teacher prepares the media used in learning KD Fractions and Speed material. Furthermore, in the learning strategy the teacher has fulfilled the very basic elements of learning strategy. These elements consist of four basic

elements of learning strategies (Husamah, 2014). These include the following: First, teachers can determine qualification specifications for behavior change. In this case, the teacher has set learning objectives as a reference that students must achieve after going through the learning process. The learning objectives that serve as qualifications for changes in student behavior have been included in the Learning Implementation Plan that the teacher has created.

Second, determine the learning approach that will be used. In this case the teacher uses a student-centred approach, it can be seen in the learning process that students are very active in learning and learning activities, such as when the teacher asks students to design the concept of fractions using the media that the teacher has taught. Third, determine and establish a method for learning. It can be seen that in teaching teachers use multi-methods such as the lecture method when explaining the material being taught, the demonstration method when the teacher teaches by demonstrating or demonstrating to students a particular process, situation or object, either real or imitation, the performance method in the form of practical implementation by the participants. students such as when designing media on KD material on multiplication and division of ordinary fractions. This practice is carried out on the basis of explanations that have been received and observed by students, the discussion method when conducting group learning and the drill method by giving students practice questions.

Fourth, set a minimum size limit or criteria for student success. In this case, the teacher has set a minimum threshold of criteria with Minimum Completeness Criteria (KKM) that must be achieved by students. The KKM limit that has been applied is seventy-five. Students are said to have succeeded in achieving the learning objectives for that day's learning when they have reached the minimum limit in taking the evaluation test given by the teacher.

Then, there are other findings from research in mathematics learning implementation activities, namely: First, in learning activities the teacher first makes a Learning Implementation Plan, in the Learning Implementation Plan there are learning objectives, especially mathematics learning, which in this case are used as a reference for teachers in teaching. So what form of description of the learning that will occur in the classroom, everything has been stated and depends on the RPP. In making the Learning Implementation Plan the teacher is guided by the syllabus and curriculum, the Learning Implementation Plan is also made according to the characteristics of the students. Second, the teacher explains the material clearly and gives examples to students. This is done by teachers to instill basic concepts and students' understanding of mathematical concepts themselves. The teacher explains the learning material clearly to students in simple and easy to understand language. The teacher also develops the material by relating it to the students' environment. Then, in explaining the material the teacher also displays examples of questions that are appropriate to the material being discussed, explained in detail and structured. The teacher gives more than one example question for each sub-discussion depending on the speed at which students understand the material. Mathematics learning is a numeracy lesson, so it cannot only be given theory, students must be given real examples in working on the subject matter.

Third, the use of learning media that makes it easier for students to understand the material taught by the teacher. Learning media will help to send the message that the teacher wants to convey to students, the use of this learning media can help teachers to make it easier to instill the basic mathematical concepts being taught. The use of learning media can support the achievement of learning objectives and is a form of improving the quality of teachers in carrying out the learning process (Sundari, 2013; Shalikhah, 2016). This is done by the teacher to provide examples directly by demonstrating the mathematics subject matter that is being studied at that time to students in a clearer and more detailed way, so that students can easily understand the material being taught.

Fourth, providing training and using LKPD. After explaining the material the teacher provides training to the students, this is to encourage students to better understand the explanation that the teacher has explained, from here students can also encounter problems that are not yet known so they can ask the teacher directly. Then, the teacher also gives students worksheets to work on. Usually teachers use these worksheets to work in groups, especially if the material being taught is relatively difficult. Fifth, carry out reflection activities. Reflection activities are carried out by giving students the opportunity to draw conclusions from the results of the learning that has been carried out. The results of the conclusions drawn

by the students are then added again by the teacher as reinforcement of the material. Apart from that, at this stage, students are also given the opportunity to ask questions and answers if there is still material that they do not understand.

Sixth, the teacher carries out an evaluation at the end of the learning activity. At the end of each learning activity, the teacher always carries out an evaluation to determine the students' achievements in understanding the material being taught. This is done by giving students several questions as material to test students' understanding. This is important to see the effectiveness of the strategies that teachers have implemented. Based on the results of this evaluation, teachers can analyze what needs to be improved in their teaching strategies.

Main strategies used by teachers in learning:

First, use tricks in learning. Tricks in learning, either related to the learning material at that time, or to fill the time used as a game when students feel bored with studying. This method is a form of game method provided by teachers to make mathematics learning more interesting and enjoyable. Through this game, it will indirectly create a fun learning process which can later influence students' absorptive abilities and learning outcomes (Supinah & D.W, 2009). The tricks provided can make it easier for students to understand learning material, especially if it is difficult to remember. Then, these tricks also raise students' enthusiasm for learning, increasing students' knowledge of material that has never been taught before.

Second, provide motivation to students both verbally and non-verbally. This motivation plays a very important role in the success of students because it can encourage enthusiasm for learning and is an absolute requirement that students must obtain in learning activities so that students can learn optimally (Nugraha, 2016; Yulia, 2016). This motivation takes the form of praise or giving gifts such as snacks. This can increase students' sense of enjoyment in carrying out the learning process. This motivation can also be given in the form of encouraging shouts. With the motivation provided by the teacher, it can stimulate students to become more enthusiastic in participating in the learning process, and this will later influence the process of absorbing the material by the students themselves.

Third, build close interaction with students. This can be seen from the learning process that takes place in the classroom. Students and teachers interact pleasantly, very well and intimately. So, this relationship looks like a family relationship, the teacher also gives students freedom to move so that students do not feel pressured in learning. This intimate and familial form of interaction has enormous benefits for students in their daily interactions with their friends and their environment, and can make students feel that they are being taught with love and responsibility (Maryamah, 2016). That way, it can cause students to become more confident in participating in learning activities.

Fourth, peer tutoring. This is done if students encounter difficulties in understanding the material being taught by the teacher. This is done by asking students who understand the material to teach it to students who do not understand (peer tutors). Because, studying with peers will be easier to understand, because it uses everyday language used by the students themselves. The peer tutoring method is one way for teachers to facilitate students being guided by peers so as to create a learning situation that feels comfortable, both when students want to express their opinions or ask questions when they encounter difficulties (Yuliana, 2015). However, if that doesn't work, the teacher himself will guide you.

What Teachers Pay Attention to in Determining Strategy

When determining mathematics learning strategies, there are several things that form the basis for selecting learning strategies (Majid, 2014). These things include: learning objectives, student activities and knowledge, integrity of the field of study, allocation of time and supporting facilities, number of students, experience and authority of the teacher. In accordance with this opinion, in determining mathematics learning strategies, there are very important things that class V A teachers pay most attention to, namely the characteristics of students and the allocation of time required for learning.

CONCLUSION

Based on the results of the research and discussion of teachers' strategies for achieving mathematics learning objectives in class V A of State Elementary School 55/I Sridadi, it can be concluded that in achieving mathematics learning objectives the strategies used by teachers include the planning aspect. The first thing the teacher does is create a Learning Implementation Plan, then the teacher also prepares the learning media that will be used. Furthermore, in the implementation aspect of learning, the teacher first starts mathematics learning activities by stating the learning objectives at that time. Then the teacher explains the material clearly and gives examples to students, uses learning media that makes it easier for students to understand the material taught by the teacher, provides exercises and uses LKPD, and carries out reflection activities at the end of the learning process. In the learning evaluation aspect, the teacher gives a test in the form of several questions to students at the end of each learning activity to determine the achievement of learning objectives by looking at the completion of the minimum criteria obtained by students. In this case, there are several main strategies carried out by teachers, these include the use of tricks in learning, providing motivation both verbal and non-verbal, building close interactions with students and peer tutors. Meanwhile, in determining the mathematics learning strategy that will be applied, there are two things of particular concern, namely the characteristics of the students and the allocation of time needed in the learning process.

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