



## TEACHERS' STRATEGIES TO SHAPE STUDENT INDEPENDENCE THROUGH MATHEMATICS LESSONS DURING THE COVID-19 PANDEMIC MIN 10 MEDAN

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### Abstract

This study aims to describe 1) The mathematics learning process during the covid-19 pandemic 2) Strategies carried out by teachers in instilling student independence through mathematics lessons during the covid-19 pandemic 3) Inhibiting and supporting factors in shaping student independence through mathematics lessons during the covid-19 pandemic. This research was conducted at MIN 10 Medan City. With the type of qualitative research. Research data was obtained through data collection techniques, namely observation, interview, and documentation techniques. The subjects of this study are students, homeroom teachers of class V-A and the principal of MIN 10 Medan City. Data analysis techniques use data reduction, data presentation and conclusion drawn. The results of the study showed that mathematics learning carried out during the covid-19 pandemic in MIN 10 Medan City was not fully carried out online, teachers still held meetings twice a year. And the strategies used by teachers go through three stages, namely planning strategies, implementation, and evaluation strategies. In this implementation, of course, there are also inhibiting factors that are felt by the school but are still balanced with the supporting factors carried out by the school to implement learning can run well.

**Keywords:** Strategy, Independence, Mathematics Learning, Online Learning

### 1. INTRODUCTION

Since 2019, the country has been rocked by events that have hampered almost all aspects of human life. Coronavirus Disease 2019 or familiarly known as Covid-19 has spread to various countries, including Indonesia. One of the sectors that plays a role in stopping the spread of Covid-19 is the education sector. This outbreak finally urges education to be carried out in a remote way that has never been done before. The Covid-19 pandemic suddenly required all elements of education to maintain online learning. So that the policy of learning methods was changed, which was initially carried out face-to-face now becomes online learning.

The learning changes that occur enter all subjects that are effective by

students, mathematics is one of them. Mathematics learning is a structured learning activity that involves thoughts and activities in developing problem-solving skills and in conveying information and ideas (Rora Rizky Wandini, 2019).

Mathematics is often considered a subject that elementary school students consider to be difficult, confusing, and requires strong thinking. During the pandemic, quite a lot of parents complained because they felt that they were the ones who went to school and not their children. The tasks given by teachers to students are done by parents.

This proves that mathematics learning during the pandemic cannot be done entirely online. So that students become not independent in completing the

tasks given by the teacher. This anxiety finally hinders the goal of mathematics education itself, one of which is in the formation of student independence.

Self-reliance is an ability to manage everything they have by themselves, namely by knowing how to manage time, walk and think independently accompanied by the ability to make decisions and solve problems (Muhammad Yaumi, 2016).

One of the subjects that can form student independence is mathematics. According to Soedjaji, some of the special characteristics of mathematics are 1) having an abstract object of study, 2) relying on agreement, 3) having a deductive mindset, 4) having symbols that are empty of meaning, and 5) paying attention to the universe of speech. So that when students learn mathematics, it causes behavioral changes which include to form the character of students who are honest, tolerant, disciplined, hardworking, creative, independent, democratic, curious, appreciate achievements, and responsibility (Soedjaji, 2000).

Learning strategy is a comprehensive approach in a learning system, which is in the form of general guidelines and activity frameworks to achieve the general goals of learning (Wahyudin Nur Nasution, 2017). Meanwhile, mathematics teaching and learning strategies are an activity in learning mathematics that must be done by educators and students so that learning objectives can be achieved effectively and efficiently (Mardianto and Amini, 2017).

The mathematics teaching and learning strategy has the following concepts: (a) summarizing the specifications and qualifications of changes in students' attitudes, (b) determining the right approach to the problems of teaching and learning mathematics per students,

choosing procedures, methods and techniques for teaching and learning mathematics, and (c) determining the criteria for the success of mathematics teaching and learning activities (Arief Aulia Rahman, 2018).

Based on the results of the initial interview with the homeroom teacher of class V-A at MIN 10 Medan City, information was obtained that mathematics learning carried out during the pandemic was by making a study schedule at school twice a week using tools or media if it is needed in the learning process so that students can more easily understand the material being studied, because it is difficult to teach mathematics through mobile phones.

Learning strategies are something that a teacher pays great attention to. Especially during the Covid-19 pandemic, there are so many obstacles faced by teachers in carrying out the learning process. Therefore, teachers need several strategies to overcome it. In MIN 10 Medan City, there are three types of strategies used by teachers related to learning, including: 1) Learning planning strategies, 2) Learning implementation strategies and, 3) Learning evaluation strategies.

## 2. RESEARCH METHODS

This research is located at MIN 10 Medan City, Medan Labuhan District, precisely on Jalan Jaring Kakap, No. 02. The subjects of the research were 28 students in class V-A. Based on this research, the researcher uses a qualitative research approach. Strauss and Corbin explained that qualitative research is a process of discovering, collecting, analyzing, and interpreting comprehensive visual and narrative data for understanding a phenomenon or problem of interest to the research (A Muri Yusuf, 2016).

The type of research in this qualitative research is descriptive research. Descriptive research is research that is directed to provide symptoms, facts or events systematically and accurately, regarding the characteristics of a particular population or region as it is (Hardani, 2020).

The data sources used in this study are based on: Primary data sources, namely students and homeroom teachers. Secondary data sources are principals, staff and school employees. Tertiary data sources, namely those obtained from mathematics learning documents, as well as photos of activities during online learning.

The collection technique used in this researcher is participatory observation. Participant observer is a form of observation in which the observer is involved in the observed activity.

In addition to using observation techniques, interview techniques are also used in this study. A planned-structured interview is a form of interview in which the interviewer prepares in detail and systematically a plan or guideline of questions according to a certain pattern using a standard format.

In this interview, the target of the interview is the principal, teachers, and students as well as school officials. The instruments used in this interview are voice recorders and stationery. Related to documentation research, researchers can collect research data in the form of documents such as images, photos of activities during observation. The instrument used in this documentation is a camera (cellphone).

### **3. RESULTS AND DISCUSSION**

During the covid-19 pandemic, there have been many changes in life. One of them is in the world of education. Learning, which was initially carried out by

students and teachers face-to-face in class, is now only through virtual, namely by using social media as a means of connecting learning between teachers and students. Teachers use various media platforms, whether in the form of whatsapp groups, zoom meetings, google meet, e-learning, or other applications.

In MIN 10 Medan City, teachers use whatsapp group media as a means of communication between students and teachers during the covid-19 pandemic. Based on the results of the principal's interview with the mathematics teacher, it shows that mathematics learning carried out during the Covid-19 pandemic has experienced so many difficulties.

The process of learning mathematics online during the covid-19 pandemic is very difficult to do. Learning becomes ineffective and not conducive, the material is not conveyed completely to students so that many students do not understand. So teachers must also carry out several strategies to help students understand the mathematics material.

Based on the results of research findings through observation techniques, interviews and documentation carried out by researchers, it is clear that MIN 10 Medan City, especially in class V-A, teachers have instilled independence in students by using three strategies, namely: Planning strategy, implementation strategy, and evaluation strategy.

The results of the observations made by the researcher regarding the planning strategies carried out by teachers can be seen from the existence of lesson plans that teachers have made before teaching students. Even though learning is carried out online, teachers still make lesson plans in a structured manner starting from preliminary, core to closing activities. This is done by teachers so that learning is

arranged in a sequential and structured manner.

Teachers make lesson plans that contain independent activities that must be carried out by students in the learning process, such as by giving assignments to students and must be done individually by students. The teacher also adjusts the time allocation that has been set according to the material to be taught. Not only that, teachers also have an attendance book as proof of student attendance and always confirm the student's attendance in the whatsapp group. In addition, teachers also provide grade books to record student grades from the work that students have obtained.

Furthermore, the planning strategy implemented by teachers is to provide all the needs of students in the online implementation process just like teachers make a schedule to meet face-to-face twice a week to see the extent of student development. In providing understanding, teachers also provide learning media, methods, questions, and student grade records as well as cooperation between teachers and parents in instilling student independence in learning.

In this online implementation strategy, teachers use a lot of online media, but in MIN 10 Medan City, teachers use a learning platform through whatsapp. Initially, the teacher created a whatsapp group so that all students joined and from that group all information was sent by the teacher. At the beginning of the lesson, the teacher starts the class by giving a message of greeting to all students. Then continued with the teacher providing material through the link to the learning video from YouTube that students must listen to and from the video students get the tasks that must be done in the learning.

Assignments are collected by

students in the form of photos or videos according to the materials and instructions that have been sent by teachers in the whatsapp group so that teachers can see the results of students' work and assess them. In addition to learning through whatsapp groups, especially in mathematics learning itself, teachers do face-to-face learning twice a week, namely on Mondays and Thursdays.

When conducting mathematics learning directly at school, teachers do not forget to order students to continue to comply with health protocols by wearing masks to school, washing hands before entering the classroom, and maintaining distance between students. And teachers also limit the time for learning meetings conducted face-to-face by students during the covid-19 pandemic. During face-to-face classes in class, it can be seen that the teacher carries out the learning process where the teacher carries out the learning stages consisting of 3 stages, namely introduction, core, and closing.

The preliminary activities carried out by teachers during the Covid-19 pandemic remain the same as usual. Starting with greetings, then praying, then checking the attendance of students, and then approving to students regarding the material to be learned. It's just that in this activity, the learning time cannot last as long as before.

The core activity of the teacher is to deliver the material by showing learning media directly to students. With something like this, the material will be easier for students to understand because previously the teacher had provided information related to the learning material and in the day when doing face-to-face the teacher immediately brought the real media to the students, so that the learning goals made by the teacher will be conveyed easily to the

students.

In addition to the use of media in learning, teachers also use a variety of learning methods. And in online implementation like this, teachers use lectures, assignments and question and answer methods. Student independence can be assessed when the teacher gives an assignment that requires students to work independently and then conveys the results of their work to the teacher and his friends.

Meanwhile, in the closing activity carried out by the teacher, there were not too many, it was seen that the teacher asked the students if there were still students who did not understand the material presented. And if there are still those who do not understand, the teacher guides them slowly. After that, the teacher and the students summarized the material that had been learned today, and then prayed to close the lesson.

When carrying out learning evaluations to see student independence, teachers evaluate by looking at the results of student learning which will then be recorded in the student grade book. And if there are student grades that are below average, the teacher will provide special guidance to him. After that, the teacher also often reminds students to always do the assignments given by the teacher independently at home.

Based on the findings above, it can be seen that there are quite a lot of obstacles faced by both the principal himself, teachers, and students. These obstacles are in the form of cellphones that parents bring when working, the absence of a sufficient quota for learning, book facilities that are still limited and students have to borrow and borrow, as well as subject matter that is difficult for students to understand so that teachers must use interesting media and according to the

needs of students.

But with these inhibitors, there are also supporting factors for teachers in shaping student independence. Collaborating with other parties is one of the supporters in carrying out this learning. The company that is invited to work with is PT Teklomsel which has provided free internet packages to students so that they can access learning materials through an online learning platform.

Another supporting thing is that the principal gives time to meet face-to-face with teachers to give explanations and collect assignments directly. This is done so that students can better understand the material delivered by the teacher.

#### **4. CONCLUSION**

From the research that has been carried out by researchers, it can be concluded that the strategies carried out by teachers in shaping student independence through mathematics lessons during the covid-19 pandemic are by implementing several strategies from planning strategies through making lesson plans, then implementation strategies by applying learning methods that are suitable for students, to evaluation strategies through assigning tasks to students. Then teachers also provide concrete, interesting media that can be easily recognized by students, and apply learning methods that are tailored to the student's situation. And apply habits that can foster independence in students.

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