



## CASE STUDY: PROBLEMS IN LEARNING MATHEMATICS (PHOBIA) MATH, CHEATING, LOW MOTIVATION)

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### Abstract

*Based on the results of the study, learning problems are problems that are often experienced by students. Learning problems greatly affect the learning outcomes obtained by students. The problems experienced by students were more on learning skills. These problems must have the right handling, so that learning problems can be overcome. This research is a type of qualitative descriptive research. Because this research was conducted to describe or provide an overview of learning problems. Qualitative research is a study that intends to understand the phenomenon of what is experienced by research subjects, such as motivation, behavior, and actions. This research uses a case study method that can focus on a particular case to be analyzed carefully and thoroughly. In this study, the researcher collects a reference book or journal article. Based on these types of references, results will be generated related to the topic raised by the researcher. These references will be studied to get a detailed explanation of case studies of problems in learning mathematics, namely: phobia of mathematics, cheating and low motivation. The source of the data in this study were class VIII-C students of MTSN 10 Bireuen in the 2018/2019 academic year.*

**Keywords:** Learning Problems, Math Phobia, Cheating, Low Motivation

### I. INTRODUCTION

According to La'ia and Harefa, (2021) learning is a process carried out by a person to obtain new behavioral changes, as a result of his own experience through interaction with his environment. Learning is a change in a person's behavior after studying something from a stranger to a knower. Learning is also a mental process that occurs in a person, so that there is a change in behavior in a person. Learning is an activity that occurs in individuals and lasts for a lifetime. Learning is carried out to get behavioral changes in the form of knowledge, skills and attitude values (Peni et al., 2018). Learning mathematics is a requirement to continue education to the next level. Learning mathematics is a discipline that can develop ways of thinking, logic, reasoning, and reasoning in solving problems in daily life and also provides support in the development of science and technology (La'ia and Harefa, 2021).

Peni et al., (2018) say that mathematics is the foundation that students must learn and develop. Mathematics must be taught to students from elementary school to high school. Mathematics learning has an important role for students because it has the goal of developing reasoning, so that they can become individuals who are trained in their way of thinking, active creative, madniri, consistent and able to solve useful problems in the community. However, mathematics is one of the scary subjects for students. Mathematics has abstract characteristics so it is considered a complicating factor for students who will learn it (Hidayanti et al., 2016). Mathematics learning is still low due to various problems. The problem in learning mathematics is

because of the assumption from students that mathematics is a difficult and boring subject, so that many students do not like mathematics lessons and make mathematics one of the lessons that must be avoided. Students who do not like mathematics lessons can experience difficulties in understanding the material and low mathematics learning achievement (Anditiasari, 2020). The findings at school can be explained that there are still many students who cannot control themselves when learning mathematics. Students still behave incorrectly in learning. For example, students have a phobia of mathematics, students cheat during mathematics exams and low motivation to learn mathematics (Handayani and Hidayat, 2019).

Some students find it difficult to learn mathematics, because mathematics is an abstract science, which cannot be seen, heard and felt. Mathematics is also considered a science of memory, so if students forget the steps they use, they will have difficulty solving problems. This can cause excessive anxiety, which can make students afraid to learn. Excessive fear of conformity and certain conditions without a reason based on reality is called phobia. People who have a phobia of math feel afraid of dislike, discomfort, and avoidance of everything related to math. Fear in mathematics learning means that students feel afraid in answering questions, because they think that if their answers are wrong, it means they have failed. This fear of mathematics or math phobia greatly interferes with mathematics learning activities, making it more difficult for students to master mathematics material. Mathematical phobia will affect students' achievement in mathematics lessons (Handayani and Hidayat, 2019).

According to Handayani and Hidayat, students at school still often do bad things in the school environment. Cheating behavior is a bad learning habit. Cheating is one of the educational phenomena that always appears in teaching and learning activities. Cheating is a behavior or a form of a person's personality. There are four factors that cause cheating, namely: individual or personal factors, the surrounding environment, and the teacher or teacher factor. Based on research (Handayani and Hidayat, 2019), 70% of respondents answered that they had cheated when they were still in school or college. Students cheat mathematics for various reasons, namely: lazy learning, fear of failure because they are too afraid of mathematics or have a phobia of mathematics, and there are also demands from their parents to get good grades.

According to (Sihombing et al., 2021) states that one of the factors that affect the high and low learning outcomes of students is motivation. In the learning process, motivation is one of the most important aspects. Motivation is the will, desire, will that drive a person to do activities. Learning motivation is a state that exists in a person where there is an urge to do something to achieve the desired goal. Learning motivation is a series of efforts to provide certain conditions, so that a person is willing to do something and if he doesn't like it, he will try to overcome that feeling of dislike.

However, nowadays students' motivation to learn is very low, especially in mathematics learning. Low student motivation to learn will hinder the achievement of learning goals. Students who have high motivation in learning will get good results. Hard work accompanied by high motivation to learn can achieve good achievements. Meanwhile, students who have low motivation will find it difficult to get good achievements (Sihombing et al., 2021).

Based on the following statement, one of the factors that affect the emergence of math phobia, cheating and low motivation is self-confidence. Self-confidence is a

direct function of a person to his abilities and skills. Lack of confidence can lead to a tendency to math-phobia, cheating and low motivation. Lack of confidence will have a negative impact on a student's character values such as honesty and lost responsibility because they are more concerned with the end result than the process (Hamidayati and Hidayat, 2020).

To reduce the problem of learning mathematics phobia, cheating, low learning motivation among students, character education can be provided to students. Character education is one of the goals of national education article 1 of the National Education System Law of 2003 that the purpose of national education is to develop the potential of Shiva to have intelligence, personality and noble morals. By providing character education to students, they will understand good behavior and bad behavior, so that students will become students with character and have a sense of responsibility for what they do and what they do, especially in learning mathematics (Hamidayati and Hidayat, 2020).

## II. RESEARCH METHODS

This research is a type of qualitative descriptive research. Because this research was carried out to describe or provide an overview of learning problems. Qualitative research is research that intends to understand the phenomena of what the research subject experiences, such as motivation, behavior, action, etc. This research uses the case study method. This method focuses on a specific case to be analyzed carefully until it is complete (Hamidayati and Hidayat, 2020).

In this study, the researcher collected a reference book or journal article. Based on the type of reference, it will make results related to the topic raised by the researcher. The reference will be studied to get a detailed explanation of the case study of problems in learning mathematics: Phobia of mathematics, cheating and having low motivation. The data source in this study is students of class VIII-C MTsN 10 Bireuen for the 2018/2019 school year. The initial stage that the researcher carried out before conducting the research was an interview with a teacher in the field of mathematics studies at MTsN 10 Bireuen, which aimed to find out the initial state of students and the factors that affect students' difficulties in learning mathematics. Based on the instruments used, researchers can also use a technique in data collection by direct communication, test methods and interviews. The interview method used in this study is semi-structured. To analyze the data, two techniques were used, namely comprehension test analysis and interview analysis. In the analysis of the comprehension test, it can be seen from the students' completion based on the problem-solving inducer. Meanwhile, the interview analysis technique is carried out with the stages of data reduction, data presentation, and conclusion drawn. Regarding the research procedure (Wati, 2020) stated: "Four main points in class action research (PTK), namely: (1) Plan Preparation, (2) Action, (3) Observation, (4) Reflection." The flow of Classroom Action Research can be described as follows:

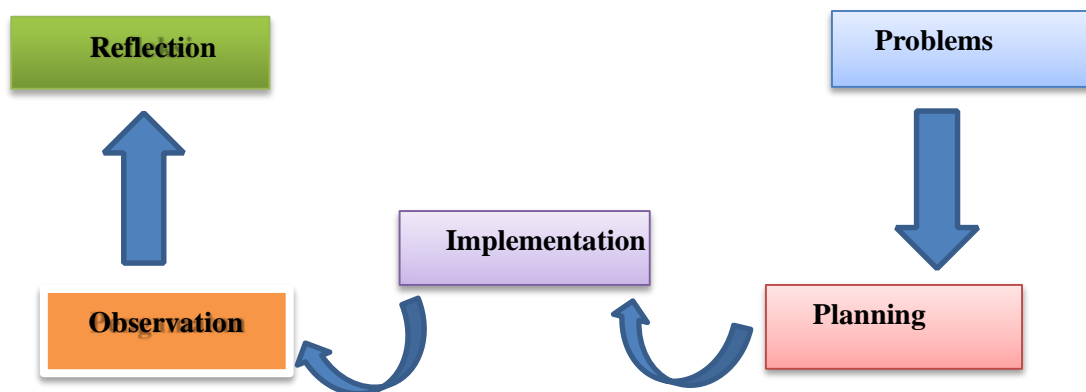


Figure 1 . Case Study Research Cycle

Based on the image above, the researcher will relate all the above actions which will result in a relevant study. Therefore, researchers need to use actions to reduce and eliminate negative attitudes of students during learning. It also provides more motivation for students to know knowledge individually, and will make it easier for students to solve problems in learning.

### III. RESULTS AND DISCUSSION

#### 1. Cases of Mathematical Phobia

According to Maulina et al., (2022) in their journal said that fields of study that have an important role in the world of education, one of which is mathematics, can be seen from the time during class hours at school. However, students find math lessons difficult, even to the point of feeling hate for math. This is also the cause of students' math phobia. The word "phobia" is based on the Greek word "Phobos" which means to run, fear, and anxiety, great fear. (Hayati et al., 2021) expressed his opinion on the meaning of *mathphobia*, which is a person who has excessive fear in the form of anxiety about things related to mathematics because students are unable to understand the mathematics lessons taught by their teachers. Students who experience this phobia of mathematics will feel afraid, uncomfortable, disliked, and avoid everything related to mathematics. What is meant by fear in mathematics learning is that students feel afraid of being wrong in answering questions, because they think their answers are wrong.

In phobia according to (Husnidar et al., 2019) there are causes of math phobia sufferers, namely: 1) Scary experiences that cause traumatic experiences.

Scary experiences that cause trauma, usually experienced in childhood, 2) phobias arise because they have a very high sense of guilt, 3) math phobia can also cause phobias in other subjects, 4) In addition, the cause of phobia is excessive imagination. So, phobia of mathematics can come from teachers who teach mathematics, or it can be from their own schoolmates. Because of the teacher's teaching methods that cause traumatized students, among others, teachers are used to telling students to work on math problems in front of the class and giving punishments when students are not able to, teachers always increase homework and punish students if students forget to do them, or teachers teach with boring learning models without variations that can make students interested in learning. Meanwhile, the trauma of his friend when the

student could not do the question, he would be humiliated by his own friends. This can cause students to hate mathematics lessons and even not want to know mathematics anymore.

According to (Maulina et al., 2022) said that the application of an interesting learning model will help students to improve their abilities in the learning process which will eliminate boredom and fear when learning mathematics, so that they will be more interested and will increase their interest in learning mathematics. Media learning plays an important role in the success of the student learning process to understand the material. These learning media can be used to teach concepts in mathematics, can be manipulated and can be varied to attract fun student learning interests.

In the concept of mathematics, students can build a positive attitude when learning mathematics related to previous experiences. This experience will be useful when learning by interacting with learning problems. (Wati, 2020) argues that students have certain traits, it is hoped that there will be useful matches in mathematics. So, the success of students in the form of learning status is determined by their attitude. If students have a positive attitude about what they learn, then it can be said that students will succeed in their learning process. According to (Wantika and Nasution, 2019) it is a form of support in achieving good learning outcomes regarding the tasks studied. This also requires special guidance according to (Fani and Effendi, 2021) with an alternative solution that is effective in overcoming math phobia is the existence of special guidance by providing character education. This is a way to prevent and overcome the problem of math phobia which is evident from the increase in student learning outcomes by implementing character education.

## **2. The Case of Cheating in Mathematics**

Cheating Behavior is one of the moral problems that occur in education that often or always arise in the daily teaching and learning process. Cheating is a familiar thing. Cheating behavior is a negative behavior that is usually done by students during exams. Cheating behavior has been considered an unnatural act. Cheating does not only occur at the elementary school (SD), junior high school (SMP), and high school (SMA) education levels or up to college. Even though cheating behavior will cause a bad impact on students. Cheating can be interpreted as a fraud or committing dishonest acts. Cheating can harm yourself and others. Cheating can erode the honest personality in students, can hinder students in optimizing their ability to learn and obtain learning results. Cheating is also motivated by several factors, namely internal and external factors. The research was conducted by (Damayanti and Harmanto, 2022) which explains that internal and external factors have an important influence on cheating behavior carried out by students. Internal factors are described by the fear of disappointing parents, not passing the exam, and feeling worried about the exam. On the other hand, there are external factors that are described by getting the influence of friends, parental demands, and lack of interest in learning.

Based on the results of the case study of cheating behavior, it is hoped that it can increase intellectual knowledge, especially interest in learning by providing assistance to the development of theory in education. While the practical benefits can be expected as follows: 1) For the principal, it can be an information about the condition of students to be a provision to determine policies in making regulations so that students do not cheat by cheating, 2) For teachers, it can

provide additional information and knowledge about students' behavior and instill student characteristics that aim for a smooth and non-cheating learning process, 3) For parents, providing guidance and advice to their children regarding learning goals is not only to get grades but more to master the material provided by the educator, 4) Researchers who are going to date, can provide a reference or reference material to be able to develop a further research, 5) For students, can provide information to improve their ability to overcome things properly and correctly on purpose which is correct in order to avoid cheating behavior. This is the opinion expressed by (Fitriah, 2022).

According to the opinion (Wati, 2020) the data obtained is a case study in cheating behavior in mathematics subjects. The solution to this problem is to implement character education so that students will not cheat again. This is a problem experienced by students who have cheating behavior and are not solved immediately, it will have a bad impact on students. From a cheating behavior, it is feared that it will have an impact on the final indigo which will disturb students' trust. Therefore, researchers are interested in cases of cheating behavior because it is very important to do.

### **3. Low motivation cases in math**

Currently, there are still many students who have low motivation in learning, especially at school. In this right, teachers do not pay attention to the right strategies for mathematics learning, so that students' learning activities are still very monotonous. Such a situation causes a decrease in student motivation in learning mathematics. This low motivation is shown by the low learning outcomes of students in mathematics learning. Such things often happen in schools (Ismail, 2009).

Learning motivation is needed in carrying out teaching and learning activities. With motivation in students, students will be eager to learn. This will have a positive impact on student learning value. Students who have strong motivation will have a lot of energy in carrying out learning activities, so that the learning achievements obtained will be maximized. Learning motivation is one of the factors that affect students' achievement in carrying out their learning activities. The higher the motivation in students, of course, has an impact on the effectiveness and efficiency of learning. And conversely, the lack of motivation in students will provide unsatisfactory learning achievements (Pradja and Tresnawati, 2018). Because if there is no motivation from students to learn, then forever students will not be interested in mathematics lessons and will not get satisfaction from learning mathematics and learning becomes meaningless. This is in line with the interest in learning which is very necessary, there is motivation, the existence of high motivation in learning will show good results. Motivation has an effect on improving learning outcomes (Zain and Ahmad, 2021).

Factors that affect students' mathematical abilities and learning motivation are the need for learning innovation. This innovation can be in the form of the application of a learning model that is able to provide opportunities for students to be able to express their ideas and ideas. Motivation is very important to arouse students' interest in the learning process in every teaching and learning situation. Motivation at the elementary level plays a very important role compared to other levels of learning due to the fact that elementary students need to be

motivated to learn when they experience new knowledge (Zain and Ahmad, 2021).

Efforts to increase motivation to learn mathematics, namely in the implementation of creative learning, can increase student participation which can support students' interest in learning activities. The cooperation carried out can be successful if teachers can master the character and learning interests of students in learning, and vice versa. In addition, the role of parents in encouraging student learning motivation can be carried out by providing attention, mentoring, and fulfillment of learning facilities to children so that students can follow existing learning. According to (Wati, 2020) there are also efforts to increase learning motivation, namely:

a) Teachers' efforts to increase students' motivation to learn mathematics

1. Using learning media
2. Two-way communication
3. Give praise.

b) Parents' efforts in increasing students' motivation to learn mathematics

1. Giving stimulus in the form of *reward* or *punishment*
2. Parental attention.

To improve the motivation of students, they can use character education to students. By providing a character education, students will have thoughts to improve their learning achievement. So that students who have character will have a sense of responsibility for their duties as a student who must have high motivation.

#### IV. CONCLUSION

Based on the results of the research, the following conclusions can be analyzed: The causes of people with mathematical phobia are: 1) Scary experiences that cause traumatic experiences. Scary experiences that cause trauma, usually experienced in childhood, 2) phobias arise because they have a very high sense of guilt, 3) math phobia can also cause phobias in other subjects, 4) In addition, the cause of phobia is excessive imagination. So, phobia of mathematics can come from teachers who teach mathematics, or it can be from their own schoolmates. Cheating behavior is a negative behavior that is usually done by students during exams. Cheating behavior has been considered an unnatural act. Cheating does not only occur at the elementary school (SD), junior high school (SMP), and high school (SMA) education levels or up to college. Even though cheating behavior will cause a bad impact on students. Cheating can be interpreted as a fraud or committing dishonest acts. Cheating can harm yourself and others. Learning motivation is needed in carrying out teaching and learning activities. With motivation in students, students will be eager to learn. This will have a positive impact on student learning value. Students who have strong motivation will have a lot of energy in carrying out learning activities, so that the learning achievements obtained will be maximized. For this reason, they must be able to identify the difficulties and causes first to find a way to solve them. Solving student learning problems depends on the success of determining the cause of the difficulty.

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