The Relationship Between Self Efficacy and Achievement in Mathematics Class II at MI PGM Cirebon City

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ABSTRACT

The purpose of this study was to determine the relationship between self-efficacy and student achievement in mathematics class II at MI PGM Cirebon City. The approach used for research is quantitative and the research design uses a correlational research design. The population of this study were class II students of MI PGM Cirebon City. The sampling technique used a saturated sample with 48 students as respondents. The data collection instruments used were questionnaires and documentation. The research data were analyzed through normality tests, unilinearity tests, and hypothesis testing using SPSS version 16.0 for windows. The results showed that the self-efficacy of class II students at MI PGM Cirebon City was in the moderate category. It is known that as many as 48 respondents with a percentage of 60.4% have self-efficacy and as many as 1 respondent with a presentation of 2.1% have self-efficacy. Learning achievement in class II mathematics at MI PGM Cirebon City, it can be concluded that having good learning achievement in mathematics subjects, shows a presentation of 79.2%. relationship between self-efficacy and student achievement in class II mathematics at MI PGM Cirebon City.

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1. INTRODUCTION

Education is a systematic process that is related to both internal and external factors. Internal factors are factors that come from within students such as learning interest, learning motivation, belief in one’s ability to face a job or task (Self Efficacy), talents, and perceptions, both students' perceptions of subjects and the teachers they teach. In addition, there are also external factors, namely factors that come from outside the student’s self, such as the learning environment, family environment, family socio-economic background, and the attention of parents in helping to overcome learning difficulties experienced by children. In the world of education, humans play an important role in creating new, superior and quality works in the future.

Education in elementary schools is the first stage of formal education that will determine the direction of developing students' potential. Therefore, in elementary schools it is necessary to develop students' disciplinary character optimally so that it is hoped that at the next level students will already have strong disciplinary behavior (Wuryandani, 2014).

School is one of the formal educational institutions to achieve national education goals, (Afandi, 2015), namely to develop the potential for students so that later they become human beings who are religious, intelligent, have a nationalist spirit, have good morals and behavior, are creative, capable, independent, become human beings who are useful for their surroundings.

Education is said to be successful if positive changes occur in students both in terms of knowledge, skills, behavior, and attitudes that can be used in social life through the teaching and learning process at school (Sirait, 2016). Every individual always experiences a learning process in his life, learning will enable individuals to make changes within themselves. This change can be in the form of mastery of a certain skill, a change in attitude, having different knowledge than before someone carried out the learning process. Achievement is the result achieved by a person or group of activities that have been carried out. Without an achievement activity can not be achieved. Learning achievement is a process experienced by students in the process of learning activities related to the level of success of students in the learning process (Widyaninggar, 2015).

Basically, achievement and learning outcomes are the same, meaning that in learning achievement there are learning outcomes. Learning and understanding of mathematics is not only at the secondary and tertiary levels, but at least from the elementary level (Anderha, 2021). Assessment of student learning.

Outcomes or achievement to find out how far he learns, as said by Winkel (in the journal Pratiwi, 2015), namely the learning process experienced by learning students produces changes in the field of knowledge and understanding, in the field of values, attitudes, and skills. The existence of these changes can be seen in the learning achievements produced by students towards questions, problems, or assignments given by the teacher. Through student achievement can know the progress that has been achieved in learning. According to Darmadi there are several factors that affect learning achievement, namely there are external factors and internal factors. External factors include social and non-social factors (natural and physical) while internal factors include physical health factors, talents, interests, motivation (Chrissanti, 2015), intelligence factors, creativity factors and psycho-emotional condition factors (Salsabila, 2020).

The results of observations made in class II MI PGM Cirebon City students find it difficult with the level of material being taught so that they do work such as tests, assignments,
exercises or materials. In the learning process, students have given up beforehand not to continue the material being taught. When the teacher gives examples in mathematics subjects using examples with an easy level but when the teacher gives assignments or tests to students, students are sometimes confused about answering because the questions given are more difficult than when the teacher gives examples during the learning process. Not only that, when the material has been delivered and given assignments, they are still waiting for answers from friends who can work on and answer questions at random. In fact, some students feel reluctant if the teacher asks and answers questions that have been asked to come to the front of the class for fear of being wrong unless they are appointed directly by the teacher.

The role of the teacher in increasing student learning motivation is one of the integral activities that must exist in learning activities. In addition to providing and transferring knowledge, the teacher is also tasked with increasing children's motivation in learning (Arianti, 2019). Education is a very important and decisive factor in efforts to organize and develop Indonesian people in a direction that is better advanced and of better quality. To achieve this all students cannot be left alone because students really need strong motivation. Motivation can be obtained by students from various directions, including from parents, society, teachers and also the media (Warti, 2016). Motivation to learn is the overall driving force both from within and from outside the student. Based on this understanding it can be concluded that motivation is a driving force of the child himself (Rumbewa, 2018).

Based on the problems above, the researcher connects more deeply about the psychology of an individual with self-efficacy. Given that mathematics is one of the subjects that is a frightening specter for students. Many students complain because mathematics is difficult to learn and many assignments are given. This means that teachers must create learning that is meaningful and interesting for students (Fadhilah Nurul, 2020). Student activities in learning mathematics only memorize formulas or concepts and sometimes do not see the actual situation that is relevant to the mathematical concepts in the book. This condition makes indicators of students' conceptual understanding below average (Riyatuljannah Triwahyu, 2020).

Believe in your abilities is a very important provision for someone in his life. When someone believe in their abilities then he will feel able to do something. Trust in himself will motivate you to try to achieve the goal. Success in all fields will difficult to achieve if one does not have enough confidence (Pritama, 2015).

Self-efficacy relates to the belief that oneself has the ability to perform the expected actions. Efficacy is self-assessment, whether you can do good or bad actions, right or wrong, can or can't do what is required (Kibtiyah, 2021). Confidence (Self-Efficacy) of an individual is also much influenced by the level of ability and skills possessed. Individuals who are confident will always believe in every action they do, feel free to do things according to their wishes and be responsible for their actions. Of course these conditions can be a trigger, so that it will facilitate the learning process. However, not all individuals have adequate self-confidence. In other words, human endeavors to achieve something and to realize a positive self-existence, requiresense of personal efficacy (Tanjung, 2020). Feelings of inferiority or embarrassment, reluctance and so on, are obstacles for a student in the learning process at school or in their environment, because with this sense of inferiority students will often feel distrustful of their abilities and skills, so they become more closed off and receive less information. as desired (Oktriani, 2018). According to Bandura in the journal (Harahap, 2011), If a student has high efficacy then he tends to choose tasks that are challenging and
persistent in facing a new challenge and he feels that if the efficacy for achieving that goal is high students will try to be more successful in completing assignments and take longer to work on difficult assignments. So according to Bandura's theory, if someone has self-efficacy, he will have results that are in accordance with the capabilities and expectations that are imagined. Conversely, if someone has efficacy, they will have results that are not in accordance with the process and expectations that are imagined (Kibtiyah, 2021).

Several studies on self-efficacy related to mathematics have been carried out by other researchers. One of them is research conducted by (Nur Fitriani and Pujiastuti, 2021), the effect of self-efficacy on mathematics learning outcomes. Based on the tests that have been carried out, there is a significant effect between self - efficacy and mathematics learning outcomes. Self efficacy is also perfectly and positively correlated with mathematics learning outcomes. As well as self-efficacy research researched by (W.M. Astika, 2018), the relationship between self- efficacy and self-esteem with state high school physics learning achievement. Based on the tests that have been carried out, there is a positive relationship between self-efficacy and physics learning achievement. There is a positive relationship between self-esteem and physics learning achievement, a positive relationship between self-efficacy and self-esteem.

Physical health is very important to take care of, as well as mental health that is no less important. Mentally healthy in a person will maximize all his work in various aspects of life, because he does not have mental disorders that can make it difficult for him to survive. In addition, a person's mental health will help him to be calmer and wiser in dealing with all of his problems, because both physically and mentally he is able to function normally in carrying out his daily activities (Djayadi, 2020)

In recent years, mental health has become one of the most discussed issues because of the covid-19 pandemic that hit so that all activities are encouraged to stay at home and have a lot of psychological impact. Self-efficacy is one of the determinants of the existence of covid-19. If self-efficacy is not handled properly and well, then in the future it will have a negative impact on individuals. When they grow and develop into adolescents and adults, if they have self-efficacy, they are worried that an individual will experience several psychological conditions that interfere with life and even their daily activities. An individual will experience stress and even blame himself when the results achieved are not optimal. More than that, if not given support or an unsupportive environment, an individual can even experience depression and anxiety disorder (excessive anxiety). In addition, when studying mathematics at a higher level, such as junior high school, high school, and even tertiary education, the levels of both questions and logic will increase to think about solving existing problems.

Based on the description above, the researcher is interested in conducting research on "The Relationship between Self Efficacy and Student Achievement in Mathematics Class II at MI PGM Cirebon City". The aims of this study were to (1) determine self-efficacy in class II students at MI PGM Cirebon City (2) determine student achievement in class II at MI PGM Cirebon city (3) determine how much the relationship between self-efficacy and learning achievement is at class II MI students PGM Cirebon City.

2. METHODS

This study uses a quantitative approach. The research design used is a correlational design. The population in this study were all students of class II MI PGM Cirebon City. The sampling technique used saturated sampling which took 48 students as respondents.

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Data collection techniques in this study are (1) Questionnaire or Questionnaire. Questionnaires or questionnaires in this study are needed to obtain data from students regarding self efficacy. The questionnaire in this study was in the form of a checklist. This questionnaire was prepared using a Likert scale which contains questions referring to research indicators. The Likert scale is used to measure attitudes, opinions and perceptions of people or groups of people about social phenomena (Sugiyono, 2020). This study uses a Likert scale of four gradations from positive to negative with a rating scale always given a score of 4, often given a score of 3, sometimes given a score of 2 and never given a score of 1 for a positive answer.

Before the questionnaire was used in research, the questionnaire was first tried out including validity and reliability tests. The test trials were carried out on class II students at MIN Cirebon City with the results obtained from the 20 questions that were tested there were 13 questions that were declared valid and reliable. (2) Documentation. Researchers used data collection techniques with the documentation method to collect data related to research variables. In this case, documentation is used to complete some data that the researcher feels is necessary which is not obtained by the previously selected data collection techniques. The Documentation Method was used to obtain the results of odd semester report cards as well as a list of class II student names at MI PGM Cirebon City and all literature related to the research objectives.

The data analysis technique used in this study is descriptive statistics, which functions to explain conditions, symptoms, or problems. Furthermore, namely, the normality test, the normality test is used to determine whether the distribution of the data is normal or not. Data normality test can be done using the Kolmogorov Smirnov. After the data is normally distributed, a linearity test is then carried out, aiming to find out whether the regression line between the independent variable and the dependent variable forms a linear line or not. After the prerequisite test is carried out and it is proven that the processed data is normally and linearly distributed, then the next step is to test the hypothesis. The hypothesis test is carried out statistically, namely using product moment, to determine whether there is a relationship between the two variables to be tested.

**Self Efficacy**

To determine self efficacy the researchers used a questionnaire containing 13 statement items with 8 positive statements and 5 negative statements, see Table 1.

<table>
<thead>
<tr>
<th>Category</th>
<th>Frequence</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cummulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>1</td>
<td>2.1</td>
<td>2.1</td>
<td>2.1</td>
</tr>
<tr>
<td>Adequate</td>
<td>29</td>
<td>60.4</td>
<td>60.4</td>
<td>62.5</td>
</tr>
<tr>
<td>Good</td>
<td>18</td>
<td>37.5</td>
<td>37.5</td>
<td>100.0</td>
</tr>
<tr>
<td>Totaly</td>
<td>48</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Table 1. Category Self-Efficacy

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The questionnaire uses a Likert scale with 4 alternative answers. Researchers distributed it to class II students at MI PGM Cirebon City with a total of 48 students. Based on data obtained from 48 respondents, with a total of 13 items, to see the self-efficacy of class II students at MI PGM Cirebon City, the results are as shown in Table 1. Based on Table 2, it is known that as many as 18 respondents with a percentage of 37.5% have self-efficacy, as many as 29 respondents with a percentage of 60.4% have self-efficacy and as many as 1 respondent with a presentation of 2.1% have self-efficacy low.

The mathematics learning achievement of class II students

Variable data of learning achievement is taken from the report cards of class II students at MI PGM Cirebon City in the odd semester or semester 1 (one). Students' report cards in mathematics have a minimum completeness criterion (KKM) with a score of 70. Based on data from the minimum completeness criteria (KKM) descriptive analysis of learning achievement is divided into three categories, see Table 2.

<table>
<thead>
<tr>
<th>No</th>
<th>Category</th>
<th>Formula</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Low</td>
<td>Mathematics Report Card Score &lt; KKM Score</td>
</tr>
<tr>
<td>2.</td>
<td>Adequate</td>
<td>Mathematics Report Card Value = KKM</td>
</tr>
<tr>
<td>3.</td>
<td>Good</td>
<td>Mathematics Report Card Value &gt; KKM Score</td>
</tr>
</tbody>
</table>

Data on report cards in mathematics learning from the table above, it can be determined the results of class II class II MI PGM Kota Cirebon as follows, see Table 3.

<table>
<thead>
<tr>
<th>Mathematics Value</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td>Low</td>
<td>4</td>
<td>8.3</td>
<td>8.3</td>
</tr>
<tr>
<td></td>
<td>Adequate</td>
<td>6</td>
<td>12.5</td>
<td>12.5</td>
</tr>
<tr>
<td></td>
<td>Good</td>
<td>38</td>
<td>79.5</td>
<td>79.5</td>
</tr>
<tr>
<td></td>
<td>Totally</td>
<td>48</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Achievement in class II mathematics at MI PGM Cirebon City can be concluded that learning achievement in the low category has a presentation of 8.3% with 4 students, the moderate category has a percentage of 12.5% with 6 students people and the good category has a percentage of 79.2% with 38 students. The results above show that dominant
students have good learning achievement in mathematics, showing a presentation of 79.2% with 38 students.

The Relationship between Self Efficacy and Mathematics Learning Achievement of Class II students

After the data on student achievement was obtained, a statistical test was then carried out to find out whether there was a relationship between students' self-efficacy and learning achievement in mathematics. The application of mind mapping learning methods to student learning outcomes. The following is a Table 4 of statistical test results:

<table>
<thead>
<tr>
<th>Table 4. Statistical Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Result</td>
</tr>
<tr>
<td>Normality Test</td>
</tr>
<tr>
<td>Linearity Test</td>
</tr>
<tr>
<td>Correlation Test</td>
</tr>
</tbody>
</table>

Based on Table 4, the significance value is 0.200 > 0.05, it can be concluded that the residual values of self-efficacy and learning achievement are normally distributed. Next is the linearity test, based on the results of the linearity test, the significance value is 0.07 > 0.05, so there is a linear relationship between the independent variables and the dependent variable. Based on table 4.22, the significant value of 0.056 is the same as 0.05, so the correlation can be seen by comparing the Pearson correlation. If Pearson correlation > r table means there is a relationship, if the Pearson correlation < r table meaning unrelated. The R table in this study has a value of 0.284 while for the Pearson correlation it has a value of 0.277, which means it is not related. Then we can conclude that Ha is rejected and Ho is accepted. If, seen in the interpretation of the correlation coefficient that 0.277 is at a low level of relationship. The 2-tailed value in table 6 shows that it is positively correlated even though the interpretation of the behavior of the correlation coefficient is at a low level with a relationship strength of 0.056 or 5.6% where the relationship between self-efficacy and learning achievement in mathematics at MI PGM Cirebon City has a correlation but has a low level of correlation. This is in line with Bandura’s theory, Bandura’s theory says if a person has self-efficacy, he will have results that are in accordance with the imagined abilities and expectations. Conversely, if someone has self-efficacy, they will have results that are not in accordance with the process and expectations that are imagined (Kibtiyah, 2021).

High self-efficacy will cognitively motivate individuals to act in a precise and directed manner, especially if the goals to be achieved are clear goals. An individual’s view of self-efficacy will show how much effort is expended and how long the individual will survive when encountering obstacles or unpleasant experiences. Students with self-efficacy will avoid many tasks, especially those that are challenging and difficult, while students with self-efficacy will do tasks that are challenging and difficult. Self-efficacy is always related and will influence the choice of behavior, motivation and individual determination when
experiencing problems. Self efficacy according to Albert Bandura is one's own perception of how well oneself can function in certain situations. Self-efficacy relates to the belief that oneself has the ability to perform the expected actions. Efficacy is self-assessment, whether you can do good or bad actions, right or wrong, can or can't do what is required (Kibtiyah, 2021).

The results of this study are in line with research conducted by Rizki Anggriyawan (2014) which stated that there was no relationship between self-efficacy and student achievement in class X at SMA Kristen 1 Salatiga, the results of the study stated a correlation of $r = 0.063$ with a significance value of $0.542$ (p > 0.05) stated that there was no significant positive relationship. Reinforced by Amalia's research (2008) states that there is no effect between self-efficacy beliefs on student academic achievement. In the research conducted by Amalia explained that learning achievement was influenced by several factors including learning motivation and self-concept and family support. In the research conducted by Fatiya Rosyida with the title having study habits and self-efficacy results significantly influence student learning outcomes with an effective contribution of 65.20%. In the research conducted by WM Astika, the conclusion was that there was a positive relationship between self-efficacy and self-esteem with students' physics learning achievement with $R = 0.360$ and an effective contribution of 13.00% by linking learning achievement to physics subjects.

Based on research conducted by previous researchers and researchers that learning achievement is not only with self-efficacy, but there are several factors to be able to achieve optimal learning achievement. These factors include external factors which include social (Family, School, Friends and community) and internal factors which include physical health, fuel, interest, motivation, intelligence creativity and psycho-emotional conditions. In research, learning achievement uses the report card index in mathematics where the report card value is the result of a combination of various daily assignments, daily tests and student attendance so that the teacher or homeroom teacher combines these values.-confidence (Self-Efficacy) of an individual is also much influenced by the level of ability and skills possessed. Individuals who are confident will always believe in every action they do, feel free to do things according to their wishes and be responsible for their actions. Of course these conditions can be a trigger, so that it will facilitate the learning process. However, not all individuals have adequate self-confidence.

Self-efficacy can increase student success in two ways: first, self-confidence will foster self-interest in activities that are considered interesting. Second, they will set themselves to achieve goals and commit strongly. Self-efficacy begins to form in early childhood because children face a variety of experiences, tasks, and situations. Therefore, this research was conducted to find out self-efficacy students. We never know for how many years to come because self-efficacy does not end during youth, self-efficacy continues to form plus external factors that will shape interpersonal relationships. It will not last forever, because humans are social and tend to change over time. Another reason is that the potential and intelligence of each individual is very different, coupled with various environmental conditions.

4. CONCLUSION

Self-efficacy of class II students at MI PGM Cirebon City is in the moderate category. It is known that as many as 18 respondents with a percentage of 37.5% have self-efficacy, as
many as 29 respondents with a percentage of 60.4% have self-efficacy and as many as 1 respondent with a presentation of 2.1% have self-efficacy. Learning achievement in class II mathematics at MI PGM Cirebon City, it can be concluded that learning achievement in the low category has a presentation of 8.3% with 4 students, the sufficient category has a percentage of 12.5% with 6 students and the good category has percentage of 79.2% with students totaling 38 people.

The results above show that dominant students have good learning achievement in mathematics, showing a presentation of 79.2% with 38 students. Relationship between self-efficacy and student achievement in class II mathematics at MI PGM Cirebon City, because the significant value of 0.05 is the same as 0.05, so the correlation can be seen by comparing the Pearson correlation. then the correlation can be seen by comparing the Pearson correlation. If Pearson correlation $> r$ table means there is a relationship, if the Pearson correlation $< r$ table meaning unrelated. The R table in this study has a value of 0.284 while for the Pearson correlation it has a value of 0.277, which means it is not related. Then we can conclude that Ha is rejected and Ho is accepted. seen in the interpretation of the correlation coefficient that is 0.277 is at a low level of relationship where the relationship between self-efficacy and learning achievement in mathematics at MI PGM Cirebon City has a correlation but has a low correlation level.-confidence (Self-Efficacy) of an individual is also much influenced by the level of ability and skills possessed. Individuals who are confident will always believe in every action they do, feel free to do things according to their wishes and be responsible for their actions. Of course these conditions can be a trigger, so that it will facilitate the learning process. However, not all individuals have adequate.

7. REFERENCES


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