
**Self-Efficacy of Class X Students on The Material of The Three-Variable
Linear Equation System**

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ABSTRACT. *This study aims to determine the level of self-efficacy of students in the material of the Three-Variable Linear Equation System (SPLTV). The method used in this study is descriptive research with a qualitative approach. The subjects in this study are students of class X of Al-Irsyad High School, Tegal City, which totals 31 students. The data collection technique in this study is in the form of providing a questionnaire using the Likert Scale. The results of this study show that students have high self-efficacy in the material of the Three-Variable Linear Equation System (SPLTV) as seen from the answers to the statements in the questionnaire.*

Keywords : Self-efficacy, SPLTV

INTRODUCTION

Education is an important part of the nation's progress for us to face the challenges of globalization, especially for the rapid changes in people's lives (Rigusti & Pujiastuti, 2020). Self-efficacy is a basic belief in learning because self-efficacy affects what is obtained later, therefore because elementary school is the basis that starts learning to be able to step to the next level of learning, the admission of new students in school and education is an important part of human history is always needed in every stage of civilization (Diatmika et al., 2017). Self-efficacy is considered a decisive and important aspect in achieving an achievement, regardless of the underlying ability (Syah et al., 2023)

According to Bandura (1997), self-efficacy is defined as confidence or confidence in the abilities possessed that can affect the problem-solving ability. Self-efficacy is the belief that a person is capable of completing something or overcoming a situation (Johanda et al., 2019). In line with that, according to Subaidi (2016), self-efficacy is defined as a

person's confidence in his skills and abilities in organizing and solving problems for the best results in a certain task. Subaidi also said that most students have low self-efficacy. With self-efficacy, it is hoped that students have confidence in their abilities in completing tasks so that they can be positive, in their abilities and not easily give up and be influenced by others. Students with high self-efficacy will feel confident and confident in solving mathematical problems, on the other hand, students with low self-efficacy tend to hesitate and easily give up in solving mathematical problems. Students are easier to complete their tasks well because of their confidence and confidence. The success of students in solving mathematical problems can be determined by the student's self-efficacy of their abilities.

Based on an interview conducted with Mrs. Indah Nurbaeti, S.Pd. as a teacher of grade X mathematics at Al-Irsyad Senior High School, Tegal City, stated that the majority of students consider mathematics to be a difficult and boring subject. Some

students tend to be passive and do not have the courage to express opinions and ask questions to teachers, but there are also students who are active in participating in mathematics learning. The attitudes and actions of these students show that there is a difference in the level of self-efficacy of each student.

Based on a statement from Bandura (1997), self-efficacy has three indicators, namely Magnitude, Generality and Strength. Magnitude is the level of difficulty experienced by students in solving mathematical problems, in the material of the Three-Variable Linear Equation System (SPLTV) some students sometimes do not try to do the Three-Variable Linear Equation System (SPLTV) problems which are considered difficult and only solve problems that they consider easy, because students do not fully understand the solution steps of the SPLTV material. Generality is the level of breadth of knowledge that students have in solving mathematical problems, in SPLTV material, students who have knowledge of solving problems are still limited to a

certain way of solving and some can do it in a variety of ways of solving. Strength is the strength and weakness that students have in solving mathematical problems, in SPLTV material some students with low self-efficacy are easily discouraged in completing their tasks or easily give up when given SPLTV questions with a high level of difficulty.

So it can be seen that it is very important for educators to know how the level of self-efficacy of students in the Three-Variable Linear Equation System (SPLTV) material. The importance of this is to ensure how confident students are when faced with problems in mathematics learning. Based on the description above, it is necessary to examine the problem with the title: "Self-Efficacy of Class X Students in the Material of the Three-Variable Linear Equation System (SPLTV)".

METHODS

This research is a descriptive research using a qualitative approach. The subjects in this study are 31 students in class X-3 at Al-Irsyad High School, Tegal City for the

2023/2024 school year. There are 3 indicators in the self-efficacy questionnaire used in this study, namely 1) Magnitude, 2) Generality, and 3) Strength. The data collection technique in this study is a self-efficacy questionnaire consisting of 30 statements which has 4 answer options based on the Likert scale, namely, Strongly Disagree (STS), Disagree (TS), Agree (S), Strongly Agree (SS). The score of the self-efficacy questionnaire statement is measured based on the following table.

Table 1. Self-Efficacy Questionnaire

Statement	Score			
	SS	S	TS	STS
Positive	4	3	2	1
Negative	1	2	3	4

Scoring

To calculate the percentage in each item, the following formula is used:

$$P = \frac{n}{N} \times 100\%$$

Information:

P : Percentage of each type of self-efficacy dimension

n : The number of scores obtained for each item

N : Maximum number of scores per item

Furthermore, to obtain the percentage of students' answers in each item of the statement, you can use the criteria in Table 2.

Table 2. Average Answer Percentage Criteria (Khairullah et al., 2017)

Percentage	Category
<21%	Very Low
21% - 40%	Low
41% - 60%	Enough
61% - 80%	High
81% - 100%	Very High

RESULT AND DISCUSSION

The results of the distribution of the self-efficacy questionnaire conducted at Al-Irsyad High School, Tegal City are as follows.

Table 3. Percentage of Self-Efficacy Per Item

Statement Items	Percentage	Criterion
1	56,45%	Enough
2	69,35%	High
3	69,35%	High
4	75,81%	High
5	58,87%	Enough
6	78,23%	High
7	60,48%	Enough
8	58,06%	Enough
9	62,9%	High
10	62,1%	High
11	56,45%	Enough
12	77,42%	High
13	57,26%	Enough
14	73,39%	High
15	61,29%	High
16	75,81%	High
17	75%	High
18	64,52%	High
19	67,74%	High
20	58,87%	Enough
21	70,16%	High
22	72,58%	High
23	62,1%	High
24	66,13%	High
25	62,9%	High
26	67,74%	High
27	59,69%	Enough
28	71,77%	High
29	55,65%	Enough
30	54,03%	Enough
Average	65,4%	

Based on Table 3, it can be seen that the average self-efficacy in class X of Al-Irsyad Senior High School in Tegal City is 65.4%. The level of self-efficacy from the Magnitude Level

indicator in statement items number 1-6, 16-19, 25, and 27-29 obtained an average of 67.22%. Then the level of efficacy of the Generality indicator in statement items number 7-9, 21-22, and 30 obtained an average of 63.03%. Meanwhile, the level of self-efficacy from the Strength indicator in statement items number 10-15, 20, 23-24, and 26 obtained an average of 64.27%. Then to find out the average percentage for each indicator is shown in Table 4 as follows.

Table 4. Percentage of Self-Efficacy Per Indicator

Indicators	Average Percentage
Magnitude	67,22%
Generality	63,03%
Strength	64,27%

DISCUSSION

The first indicator is the Magnitude Level is the level of complexity of the tasks given according to the level of difficulty and there are differences in self-efficacy between individuals which may be limited to medium, intermediate or high tasks. This indicator contains 14 statements that

must be answered by students. Based on the results of the study, the statement on the Magnitude Level indicator obtained an average of 67.22% which is in accordance with the criteria for the average percentage of answers, this indicator is included in the high category. This is in accordance with research from Ramdan & Munandar (2022) which explains that the Difficulty Level indicator gets an average of 71.53% which is included in the high category for *self-efficacy* at one of the vocational schools in Depok.

The second indicator is the Generality is an individual's mastery of previous knowledge and experience and a person's confidence in his or her abilities depends on his or her broad understanding of a variety of specific situations. This indicator contains 10 statements that must be answered by students. Based on the results of the research, the statement on the Generality indicator obtained an average of 63.03% and based on the criteria of the average percentage of answers, this indicator is also included in the high category. This is in accordance with research from

Murti et al. (2024) which states that *self efficacy* owned by grade VII students at SMPN 3 Lubuk Sikaping on the indicator Generality got an overall average score percentage of 71.4% which is classified as high.

The third indicator is Strength is related to the stability or strength of the individual towards his or her belief in completing the task. This indicator contains 6 statements that must be answered by students. Based on the results of the study, the statement on the Strength indicator obtained an average of 64.27% and based on the average percentage of answer criteria, this indicator is also included in the high category. This is in accordance with research from Indahsari et al. (2019) which says that self efficacy on the indicator Strength obtained a percentage of 70.91% including the high category and showed that students' confidence in solving mathematical problems was good.

CONCLUSION

Based on the results and discussion, it was concluded that class X students of Al-Irsyad Senior High School in

Tegal City turned out to have high self-efficacy towards learning in the material of the Three-Variable Linear Equation System (SPLTV) because it can be seen that 3 indicators of self-efficacy, namely the Magnitude Level obtained a percentage of 67.22%, the Generality indicator obtained a percentage of 63.03%, and the Strength indicator obtained a percentage of 64.27%. Then the overall average is 65.4% which is included in the high category based on the table of criteria for the average percentage of answers.

BIBLIOGRAPHY

- Bandura, A. (1997). Self-Efficacy: The Exercise Of Control. In *W.H Freeman And Company New York*.
- Diatmika, I. G. N., Sujana, I. W., & Putra, M. (2017). Correlation Between Discipline In Learning And Social Sciences Knowledge Competence Of Grade IV Elementary School Students Cluster 1 Mengwi District Academic Year 2016/2017. *Journal Of Education Technology*, 1(3), 156. <https://doi.org/10.23887/jet.v1i3.12499>
- Indahsari, I. N., Situmorang, J. C., & Amelia, R. (2019). *Analysis Of Mathematical Problem Solving Ability And Self Efficacy Of Man Students*. 01(02), 256–264.
- Johanda, M., Karneli, Y., & Ardi, Z. (2019). *Self Efficacy Of Students In Completing School Assignments At SMP Negeri 1 Ampek Angkek*.
- Khairullah, K., Soedijono, B., & Fatta, H. Al. (2017). *MEASUREMENT OF ASSET INVENTORY INFORMATION SYSTEM QUALITY*. 2(2), 84–92.
- Murti, Y., Yusri, F., Afrinaldi, A., & Syam, H. (2024). *Self Efficacy Kleas VII At SMPN 3 Lubuk Sikaping: A Case Study*. 4(1), 140–149. <https://doi.org/10.58740/Juwara.V4i1.93>
- Ramdan, D., & Munandar, D. R. (2022). Analysis Of Self-Efficacy Of Vocational School Students On Three-Variable Linear Equation System Material. *Journal Of Didactical Mathematics*, 4(April), 23–30.
- Rigusti, W., & Pujiastuti, H. (2020). *THE ANALYSIS OF PROBLEM-SOLVING ABILITY IS REVIEWED FROM THE STUDENTS' MOTIVATION TO LEARN MATHEMATICS*. 4(1), 1–10.
- Subaidi, A. (2016). Student Self-Efficacy In Mathematical Problem Solving. *Σigma*, 1(2), 64–68.
- Syah, F. A., Isnani, I., & Paridjo, P. (2023). *THE EFFECT OF GUIDED DISCOVERY LEARNING MODEL WITH THE ASSISTANCE OF PEER TUTORS ON THE SELF*

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STUDENTS.* pp. 262–265.