The Effect of Self Efficacy on Statistics Learning Achievement at Students’ of STIKOM Tunas Bangsa Pematangsiantar

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Abstract. The purpose of this study was to analyze the effect of self-efficacy on statistical learning outcomes. The research method by using the survey way. Collecting data by random sampling 50 students’ second semester Academic Year 2017/2018 STIKOM Tunas Bangsa. Technique data collection by using questionnaire and tests. The data analysis technique by using simple linear regression analysis with SPSS 25. Meanwhile, hypothesis testing using t-test to indicate that self-efficacy influences learning outcomes statistics. The results of this study obtained t count value of 7.452 while, t table value with a significance level of 0.05 is 2.011 because the value of t count > t table and a significant value of 0.000 <0.05, self-efficacy (X) partially has an effect is significant to the dependent variable namely learning outcomes (Y).

1. Introducing
One of the internal factors that determine whether or not success in the teaching and learning process is self-efficacy. Self-efficacy is the most important thing in the world of learning, in which a person must be convinced of the capabilities they have to deal with problems in learning, because of the capabilities that one can firmly convey what he knew and could easily resolve the problems being faced. In addition, a person's self-efficacy is an evaluation of the ability or competence itself to perform a task, achieve goals and overcome obstacles.

However, the reality of education in this country that the learning process seems necessary internal reconstruct learners. Cheating habits is one of the phenomena of education that often and always appears to accompany the activities of the teaching and learning process. Cheating is an act committed by a person illegally or unauthorized or fraudulent for legitimate purposes or failure in completing academic tasks primarily related to the evaluation or student test performance. This is one indication that students have not been able to achieve independence in the learning process.

Based on the observation of the learning process in the Statistics subject in STIKOM Tunas BangsaPematangsiantar, the results of the second semester students' learning achievement were still low. This can be seen from the results of the midterm examination results (UTS) in Statistics shows that 60% of students' UTS results are in the low category. The author also conducted interviews with several students, and the results showed that very few students liked the Statistics subject. It was found that many students were lacking in positioning how valuable they were in the eyes of their friends. It can be seen from the still low self-confidence of students, as they are still unable to determine the goals and targets they want in the future, in the teaching and learning process they are also still shy in issuing opinions, not infrequently they just shut up and listen. It also shows that the motivation of students in following the learning process in the classroom is very low.

Previous research studies that refer to the problem of self-efficacy in learning include the Dakkal Harahap research entitled "Analysis of the Relationship Between Student Self-Efficacy and the
Learning Outcomes of the Chemistry”. In this study, it was found that the self-efficacy of students greatly determines the level and improvement of students’ chemistry learning achievement because with self-efficacy students will be able to plan actions, display new behaviors, respond actively and creatively and be able to provide solutions or solve problems with moderate life problems. experienced by students and tasks given by the teacher. Students who have strong self-efficacy will be able to survive in difficult situations and are very fond of challenging tasks not only in learning, so students who have strong self-efficacy can be ascertained to be able to achieve and have high achievement [1] [2], 2009. In addition, there are other studies by Zulkaida relating to the problem of self-efficacy, namely “The Effect of Locus of Control and Self-Efficacy on Career Maturity of High School Students”. In his research, it was found that the significant contribution of self-efficacy was the selection of careers and locus of control towards the career maturity of high school students, due to the belief in their ability to choose a career accompanied by the belief that all events in their lives were determined by their own efforts and behavior. This in turn will encourage individuals to direct all their energy, effort and behavior to achieve the expected career maturity. [3]

The formulation of the problem in this study is "Is there an effect of self-efficacy on statistical learning achievement for STIKOM Tunas Bangsa students?". While the purpose of this study was to determine the effect of self-efficacy on statistical learning achievement on STIKOM Tunas Bangsa students.

1.1. Learning Achievement

Learning is an educational psychologist who has studied cognition, teaching, learning, motivation, individual differences, and measurement of students' abilities. According to Gagne [4], learning outcomes are abilities that students have after they receive their learning experience or it can be said that learning outcomes are changes in behavior in students, which are observed and measured in the form of changes in knowledge, behavior, attitude and skills after studying mathematics. This change is defined as an increase and development in a better direction than before [5].

Learning achievement as an indicator of learning goals in the classroom its cannot be separated by the factors of influence learning achievement themselves. Mentioning the factors that influence learning achievements are (a) Internal factors are factors that exist within the individual who are learning, internal factors include: physical factors and psychological factors. (b) Factors external is a factor that exists outside the individual External factors include: family factors, school factors, and community factors.[4]

1.2. Self-efficacy

According to Bandura the notion of self-efficacy is an individual's belief in his ability to carry out a task or perform an action needed to achieve a certain outcome. Self-efficacy can drive one's performance in various fields. The same thing was expressed by Robbins self-efficacy is also known as social cognitive theory or social reasoning which refers to the individual's belief that he is capable of carrying out a task. It can be concluded that self-efficacy is one's self-confidence in its ability to achieve certain goals [6].

Bandura's Self-Efficacy Dimension explains that self-efficacy consists of three aspects, namely (1) Magnitude is a person's ability to complete a task with different levels of difficulty. Self-efficacy can be indicated by the level charged to individuals challenges with different levels in order to achieve success. Individuals will try behaviors that they feel are capable of doing so and will avoid behavior that is felt beyond the limits of their perceived abilities. (2) Strength is related to the strength of an individual's confidence in his ability. Individuals have strong confidence and perseverance in the effort that will be achieved despite difficulties and obstacles. With self-efficacy, the power for a greater effort can be obtained. The stronger the feeling of self-efficacy and the greater the perseverance, the higher the likelihood of activities being chosen and carried out successfully. (3) Generality relates to behavior where individuals feel confident in their abilities. Individuals can feel confident in their abilities depending on understanding their abilities that are limited to certain activities and situations or in a wider and varied range of activities and situations.[6]
The results of research conducted by Stajkovic and Luthans suggested that people who have high self-efficacy will be able to achieve their goals well, work more optimally than those who have low self-efficacy. This does not depend on the type of skill or expertise of the teacher or student but relates to beliefs about what can be done, and about how much effort is spent in a task and how long it lasts in achieving its goals. This description illustrates that self-efficacy is a very important factor in learning achievement both teachers and students who have the ability and personality are intact.[1]

While Zimmerman revealed that students who have low levels of efficiency will choose tasks that are easier and avoid the task as a whole and try not to work and students like this are more easily give up. This indicates that students with low self-efficacy are easily discouraged, do not like to face difficulties in learning, are pessimistic about achieving goals that result in less motivation to learn so that the achievements achieved are unsatisfactory and even bad. Self-efficacy is closely related to student motivation and expected values after learning. As explained by Prinrich and Schunk (1996) motivation refers to what the student will do, but it is defined as the ability he will do.[1]

2. Methodology
The methodology by descriptive quantitative method for the purpose of this study is to describe and explain objectively about the effect of self-efficacy on the statistical learning outcomes of STIKOM Tunas Bangsa students. The independent variable in this study is self-efficacy, while the dependent variable is the statistical learning achievement.

Data collection techniques used in this study were questionnaires and documentation with data collection tools in the form of questionnaires and documentation work papers. The research subjects were students of STIKOM Tunas Bangsa in second semester of the 2017/2018 academic year. Self efficacy variables were measured using a self-efficacy questionnaire in learning, while the study results obtained from the value of final exams. The sampling technique is random sampling, using 50 samples. Analysis of data is done using a simple linear regression analysis to test the hypothesis by t test.

3. Results and Discussion

3.1. Simple Linear Regression Analysis
In this study, we want to predict the magnitude of the regression coefficient to determine whether the Self Efficacy Variable (X) has a significant influence on Statistics (Y) Learning achievement. Regression equations obtained later will be tested on the regression coefficients of each statistic research variable, namely through the t test described in the next discussion. From the results of simple linear regression analysis obtained the magnitude of the constants and the magnitude of the regression coefficients for each variable are as follows:

| Model | Unstandardized Coefficients | Standardized Coefficients | t | Sig. |
|-------|----------------------------|---------------------------|---|-----|
|       | B                          | Std. Error                | Beta |     |     |
| 1     | (Constant)                 | 1.567                     | 7.704 | 203 | 840 |
|       | Self-efficacy              | .872                      | .117  | 732 | 7.452 | 000 |

From the table 1, the regression equation is obtained: \( Y = 1.567 + 0.872 \times X \). Based on these equations can be explained the meaning and meaning of the regression coefficients for self-efficacy variables (X), namely:

The constant (a) is 1.567 which means that if there is no effort to establish self-efficacy, the statistical learning result is 0.872. The constants in the equation are positive, meaning that if self-efficacy increases, statistics learning outcomes will also increase. Regression coefficient (b) variable
self-efficacy (X) of 0.872 means that if there is an effort to establish self-efficacy, then statistical learning outcomes for students will increase by 0.872.

### 3.2 Correlation Coefficient (R)

The correlation coefficient (R) is to describe the relationship between variables free with the dependent variable that is illustrates the magnitude of the relationship between the variables of self-efficacy and statistical learning outcomes of STIKOM Tunas BangsaPematangsiantar students. The magnitude of the correlation coefficient is between -1 < R < 1, the closer to the value 1 means that the two variables have a very high and vice versa.

Based on the calculation of the results of the analysis using SPSS 25, the correlation coefficient in this study is,

| Model | R       | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|---------|----------|-------------------|-----------------------------|
| 1     | 0.732 a | 0.536    | 0.527             | 9.162                       |

a. Predictors: (Constant), Self-efficacy

Based on table 2, it was found that the correlation coefficient between self-efficacy (X) variables on learning achievement variables (Y) in STIKOM Tunas Bangsa students was 0, 732 or 73,2% so it can be concluded that there is a relationship strong between independent variables (self-efficacy) with dependent variable (learning outcomes). This is because the value of the correlation n correlation is between 0,60 to 0,799.

### 3.3 Determination Coefficient

The coefficient of determination (R²) is the amount of variation that can be explained by the independent variable on the dependent variable. In table 2 also showed that the coefficient of determination is 0,536 so the percentage value of the contribution of the independent variable (self-efficacy) to the dependent variable (learning outcomes) is 53.6%. So, the variation of the dependent variable (learning outcomes) can be explained by the independent variable (self-efficacy) by 53.6% and there are still 46.4% variations of the dependent variable (learning outcomes) that cannot be explained by the independent variable (self-efficacy) but can be explained by other independent variables that were not observed in this study.

### 3.4 Hypothesis Testing

The t test is used to determine partially the effect of self-efficacy variables on learning outcomes. Based on the results of calculations with SPSS 25, the following results are obtained:

| Model | Unstandardized Coefficients | Standardized Coefficients | t     | Sig. |
|-------|----------------------------|---------------------------|-------|------|
|       | B  | Std. Error | Beta |  |     |
| 1     | (Constant) | 1,567 | 7,704 |  | 203 | 840 |
|       | Self- | 872 | 117 | 732 | 7,452 | 000 |
|       | efficacy | | | | |

a. Dependent Variable: Learning Outcomes

Based on table 3 shows that the calculated t value is 7.452 while, the t table value with a significance level of 0.05 is 2.011 while the significant value is 0.000 <0.05, then self-efficacy (X) partially has a significant effect on the dependent variable, namely learning outcomes (Y).
3.5. Discussion
This study found that self-efficacy had an effect partially on statistical learning achievements for second semester students of the 2017/2018 academic year STIKOM Tunas Bangsa Pematangsiantar. The form of influence that occurs is a positive influence shown from the regression coefficient value which is positive. This means that the higher level of self-efficacy in students, it will the higher the students’ statistical learning achievements.

3.6. Condition of Self-Efficacy in STIKOM Tunas Bangsa Students
In this research student’s self-efficacy was measured by using three dimensions namely, Magnitude (Difficulty), Strength (Strength Confidence), and Generality (generality) so that the results obtained are conditions self-efficacy in STIKOM Tunas Bangsa students is sufficient, namely 64.9%. In other words, STIKOM Tunas Bangsa students began to have a tendency to believe in their ability to plan and choose their activities in order to achieve success in learning.

3.7. Conditions of Statistics Learning Achievement at STIKOM Tunas Bangsa Students
Based on data analysis shows that the effect of self-efficacy on learning achievements on STIKOM Tunas Bangsa students is 53.6%. Thus it can be explained that self-efficacy can affect student learning achievement by 53.6% and the remaining 46.4% of learning achievement student is determined by other factors not examined in the study this.

The meaning of the data analysis is self-efficacy contributes to the learning outcomes of students STIKOM Tunas Bangsa statistics. The results are consistent with research conducted by Dakkal Harahap titled "Analysis of the Relationship Between Self Efficacy chemical Students With Learning Achievement". In this study, it was found that self-efficacy of students greatly determines the level and improvement of students' chemistry learning achievement because with self-efficacy students will be able to plan actions, display new behavior, respond actively and creatively and are able to provide solutions or solve problems to life problems that are being experienced by students and the tasks given by the teacher.

4. Conclusion
Based on the discussion of the results of data analysis, it can be concluded that to answer the formulation is, self-efficacy has a significant influence on statistical learning achievements for STIKOM Tunas Bangsa students.

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