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The effect of self-efficacy and achievement motivation on agriculture student learning outcomes

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Abstracts. This is descriptive research with aims to determine the effect of self-efficacy, achievement motivation, and self-efficacy and achievement motivation together on student learning outcomes in the Agriculture Sector of SMK Muhammadiyah Pangkalan Bun in the academic year 2017/2018. It had used the survey method with a population of 81 people and the sample used was 65 students. Data analysis techniques were using descriptive statistics and inference statistics, and hypothesis testing using multiple regression analysis with SPSS 16. Obtained results were self-efficacy has a positive and significant effect on student learning outcomes with a contribution of 65.3%. Achievement motivation has a positive and significant effect on student learning outcomes with a contribution of 26%. Self-efficacy and achievement motivation have a positive and significant effect together on student learning outcomes. The variation in the score of learning outcomes about 68.10% could be explained by a combination of these two variables. While 31.90% is influenced by other variables were not examined in this study.

Keywords: self-efficacy, achievement motivation, learning outcomes

Introduction

The success of students in the education process is influenced by various factors. Factors from within students include intelligence, talent, interest, motivation, self discipline, personality, independence and self-efficacy. While from outside the students, among others, the school environment, family, learning facilities, laboratories, libraries, community environment and so forth.

Factors originating from within students are a concern allegedly determining the success in achieving high learning outcomes are self-efficacy and achievement motivation. As defined by Bandura (1977), self-efficacy as one's belief in one's ability to succeed in spesific situations. One's sense of self-efficacy can play a major role in how one approaches goals, task, and challenges.

According to Bandura, people who have high self-efficacy believe they could do their best, prefer to do difficult tasks thoroughly and succeed rather than avoid the task. The person has a broader perspective, is able to plan and carry out the task as well as possible and strive to truly complete the task. Factors influencing self-efficacy can be obtained from the five principles of information sources, namely:

- Performance attainment; Performance attainment is based on someone's experience when successfully doing something well.
- Vicarious experience; Experience gained when someone sees the success of others in doing the task well.
- Verbal persuation; Verbal persuasion is used to give confidence to someone that he has sufficient ability to achieve what he wants (Bandura, 1986).
- Emotional arousal; Emotional impulses exist and increase when individuals are in a depressed situation. When stressed emotional conditions can affect individual expectations (Bandura, 1986).
- Physical or affective status; Someone makes his physiological condition as a source of information to provide an assessment of his ability so that it is useful in seeing whether the goals to be achieved are difficult, moderate or easy.

While motivation includes all conditions and psychological processes, such as needs, encouragement, interests, or tendencies that exist in a person (Nolker and Schoenfeldt, 1983). The three main elements in this definition are intensity, direction, and perseverance. Intensity is related to how actively a person strives, but high intensity alone does not produce satisfactory performance unless the effort is associated with the direction that produces. Perseverance is a measure of how long a person can maintain his business.

There are three types of motivation according to McClelland (1961), those are achievement motivation (as *nACH*), affiliation motivation (as *nAFF*), and power motivation (as *nPOW*). One that had been measured in this study is achievement motivation.

Achievement motivation according to McClelland that someone has shown the high orientation, among others: willing to accept calculated risks, willing to look for information, desire to get feedback or satisfaction from work, and willingness to assume responsibility. Achievement motivation can also be said as a drive from within to overcome all challenges and obstacles in an effort to achieve goals. A person who has a high *nACH* can weigh whether a job is challenging or not when he plans to do something. If challenging, then he thinks of the strengths, opportunities, and threats that might be faced, and determines the strategies that will be carried out in achieving these goals.

Understanding learning, some education experts define learning as follows (Suprijono, 2012):

- Gagne, learning is a change in disposition or ability that a person achieves through activity. This change in disposition is not obtained directly from one's natural growth process;
- Travers, learning is the process of producing behavioral adjustments;
- Cronbach, learning is shown by a change in behavior as a result of experience;
- Harold Spears, learning is observing, reading, imitating, trying something, listening and following a certain direction;
- Geoch, learning is a change in performance as a result of practice;
- Morgan, learning is permanent behavior change as a result of experience.

Learning from some understanding can be concluded that the understanding of learning in principle must there is a change in behavior, there is a process, and there is experience. Learning outcomes according to Gagne (Suprijanto, 2012) are in the form of verbal information, intellectual skills, cognitive strategies, motor skills, and attitudes. This is similar with Bloom (Anderson & Krathwohl, 2001) that learning outcomes include cognitive, affective, and psychomotor abilities. While learning outcomes according to Tu'u, (2004) is the result achieved by someone when working on a particular task or activity, which is commonly indicated by value.

Thus the student learning outcomes in this study are learning outcomes in the form of average score cards at the end of the semester. This value includes the results of understanding knowledge, processes, learning experiences, and results of behavioral changes. In addition, the average score of the report was assessed by researchers including cognitive, affective, and psychomotor abilities.

The study aimed to determine the effect of self-efficacy, achievement motivation, and self-efficacy and achievement motivation together on the learning outcomes of Agricultural Field students of SMK Muhammadiyah Pangkalan Bun in the academic year 2017/2018.

Research Methods

In this study, the attachment between independent variables and between independent variables and dependent variables has occurred naturally. Therefore, descriptive research was carried out using the survey method.

Variables consist of two independent variables and one dependent variable. The independent variables are given the symbols X1 and X2, namely Self-efficacy and Achievement Motivation. While the dependent variable is given the Y symbol, namely Learning Outcomes. The research was conducted at SMK Muhammadiyah Pangkalan Bun, Kotawaringin Barat Regency, Central Kalimantan Province.

The population is 81 people who are all students of Agriculture. The study sample was 65 students. The determination of the sample in this study was based on the Krejcie table with a

confidence level of 95% and a standard error of 5% as Basuki's opinion (2010: 188).

Data is described by tabulating data according to each variable. With the help of SPSS 16 Software, the average value will be obtained (M), Median (Me), Modus (Mo), and Standard deviation (SB). To describe or know the tendency of self-efficacy and achievement motivation used categorization according to Mardapi (2004: 117). Division of four categories where M= mean score and SB = standard deviation are as follows:

- $X \geq (M+1SB)$ = very high
- $(M+1SB) > X \geq (M)$ = high
- $(M) > X \geq (M-1SB)$ = low
- $X < (M-1SB)$ = very low

The requirements analysis test was conducted to find out the data fulfilled the requirements to be analyzed with the statistics used, namely multiple regression analysis. So that assumption of normality as one of the analysis requirements must be fulfilled.

Normality tests data from samples originating from populations with normal distribution. Assumptions are tested by histogram making and normal probability plot charts. Decision making that a data is normally distributed if it has a histogram shape like a bell with a balanced distribution of data distribution around the data center (Yamin et al., 2011: 32). Criteria for acceptance and rejection use the 5% significance level. If the probability is> 0.05, then H0 is accepted.

To find out the correlation of each independent variable with the dependent variable Pearson correlation analysis was used, guidelines for interpreting the correlation coefficient (Sugiyono, 2010: 231) is as follows: 0.00-0.199 = very low; 0.20-0.399 = low; 0.40-0.599 = medium; 0.60-0.799 = strong; and 0.80-1.000 = very strong.

Research Results

Description of Learning Outcomes Data

Y variable, the distribution of learning outcomes is presented in Figure 1. Very high category scores were achieved by 6 respondents or 9.23% of all respondents. High category scores were achieved by 14 respondents or 21.54% of all respondents. Low category scores were achieved by 45 respondents or 69.23% of all respondents. None of the respondents achieved a very low or 0.00% category score.

Description of Self Efficacy Data

The distribution of self efficacy scores is presented in Table 1. Very high category scores were achieved by 10 respondents or 15.38% of all respondents. High category scores were achieved by 17 respondents or 26.15% of all respondents. Low category scores were achieved by 32 respondents or 49.23% of all respondents. Very low category scores were achieved by 6 respondents or 9.23% of all respondents.

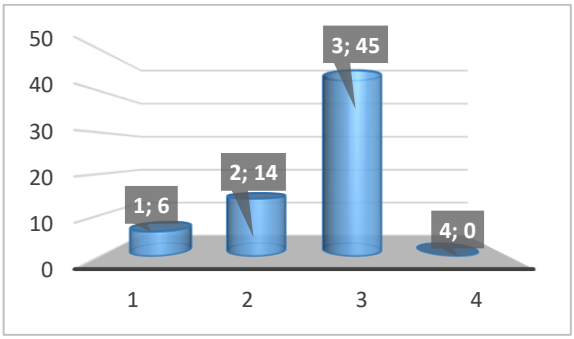

Figure 1. Distribution of learning outcomes of agriculture students of SMK Muhammadiyah Pangkalan Bun

Table 1. Self efficacy distribution of agriculture students of SMK Muhammadiyah Pangkalan Bun

No.	Category	Interval Score	f	%
1	Very High	$X \geq 78.78$	10	15.38
2	High	$78.78 > X \geq 71.71$	17	26.15
3	Low	$71.71 > X \geq 64.64$	32	49.23
4	Very Low	$X < 64.64$	6	9.23
Total			65	100

Description of Achievement Motivation Data

The distribution of scores on achievement motivation is presented in Table 2. Very high category scores were achieved by 13 respondents or 20.00% of all respondents. High category scores were achieved by 15 respondents or 23.08% of all respondents. Low category scores were achieved by 30 respondents or 46.15% of all respondents. Very low category scores were achieved by 7 respondents or 10.77% of all respondents.

Discussion

Self Efficacy

The most of the students of SMK Muhammadiyah Pangkalan Bun have a tendency to study agriculture in a low level. The results showed that there were 45 people or 69.23% of all respondents in the low category. Learning outcomes that are still low are influenced by self-efficacy which is also low, namely the self-efficacy score in the low category is achieved by 32 respondents or 49.23% of all respondents.

The first hypothesis, there is the effect of self-efficacy on the learning outcomes of students in the Agriculture Field of SMK Muhammadiyah Pangkalan Bun. This hypothesis was tested using multiple regression analysis techniques. A summary of the results of the regression analysis can be seen in Table 3.

Table 2. Achievement motivation distribution of agriculture student of SMK Muhammadiyah Pangkalan Bun

No	Category	Interval Score	f	%
1	Very High	X ≥ 86.34	13	20.00
2	High	86.34 > X ≥ 78.05	15	23.08
3	Low	78.05 > X ≥ 69.76	30	46.15
4	Very Low	X < 69.76	7	10.77
Total			65	100

Table 3. Summary of results of multiple regression analysis self-efficacy variables on learning outcomes

Model	Unstandarized Coefficients		t	Sig.
	B	Std. Error		
S*elf- Self Efficacy*	0.063	0.006	10.666	0.000

Table 3 shows the regression coefficient for self efficacy (X1) is 0.063 which is positive. It means that learning outcomes in agriculture will increase if self-efficacy is improved. The higher the self efficacy, the higher the student learning outcomes in agriculture. The probability value in the sig column is 0,000, p value <0.05 can be interpreted that the effect of self efficacy on learning outcomes in agriculture is significant. So that from the results of multiple regression analysis it can be concluded that self efficacy has a positive and significant influence on learning outcomes. Thus, the first hypothesis states that there is an effect of self efficacy on proven learning outcomes. The correlation between self efficacy and learning outcomes can be seen from the results of the Pearson correlation analysis as shown in Table 4.

Table 4. Summary of results of pearson correlation analysis self efficacy variable with learning outcomes

		Y	X1
Pearson Correlation	Y	1.000	0.808
	X1	0.808	1.000
Sig. (1-tailed)	Y	.	0.000
	X1	0.000	
N	Y	65	65
	X1	65	65

Based on the table, it can be seen that the correlation (R) self efficacy with learning outcomes is 0.808. Thus, it means that there is a very strong level of relationship between self efficacy and learning outcomes in agriculture. The coefficient of determination (R2) is 0.653. This refers to the contribution of self efficacy to learning outcomes in agriculture at 65.3%.

The results showed that there was a very strong influence between self efficacy and learning outcomes. The results also show a regression coefficient for self efficacy that is positive. This means that learning outcomes will increase if self-efficacy is increased. The higher the student's self efficacy, the higher the student learning outcomes.

Achievement Motivation

The second hypothesis, there is the influence of achievement motivation on the learning outcomes of students in the Agricultural Field of SMK Muhammadiyah Pangkalan Bun. This hypothesis was tested using multiple regression analysis techniques. Regression analysis can be seen in Table 5.Table 5 shows the regression coefficient for achievement motivation (X2) is 0.012 positive. It means that the learning outcomes of students in agricultural fields increase when achievement motivation is improved.

Table 5. Summary of results of multiple regression analysis motivation variables achieving learning outcomes

Model	Unstandarized Coefficients		t	Sig.
	B	Std. Error		
S*elf- Self Efficacy*	0.012	0.005	2.353	0.022

The higher the achievement motivation, the higher the student learning outcomes in agriculture. The probability value in the sig column is 0.022, p value <0.05 can be interpreted that the effect of achievement motivation on learning outcomes in agriculture is significant. So that from the results of multiple regression analysis it can be concluded that achievement motivation gives a positive and significant influence on learning outcomes. Thus the second hypothesis which states there is a positive effect of achievement motivation on proven learning outcomes. Correlation of achievement motivation with learning outcomes is known from the results of Pearson correlation analysis as shown in Table 6.

Table 6. Summary of results of pearson correlation analysis motivation variables achieve with learning outcomes

		Y	X2
Pearson Correlation	Y	1.000	0.510
	X2	0.510	1.000
Sig. (1-tailed)	Y	.	0.006
	X2	0.006	
N	Y	65	65
	X2	65	65

Based on the table, the correlation between achievement motivation and learning outcomes is 0.510. Thus, there is a moderate level of relationship between achievement motivation and learning outcomes in agriculture. The coefficient of determination (R2) is 0.260. This means that the contribution of achievement motivation towards learning outcomes in agriculture is 26%.

There is also the influence of achievement motivation on the learning outcomes of students in the Agriculture Field of SMK Muhammadiyah Pangkalan Bun. The results showed a regression coefficient for achievement motivation is positive. Student learning outcomes in agriculture will increase if achievement motivation is improved. The higher the achievement motivation, the higher the student learning outcomes in agriculture. Effect of significant achievement motivation on learning outcomes in agriculture. Motivation for achievement gives a positive and significant influence on learning outcomes. The results showed that students' achievement motivation in agriculture was still low, namely low category scores, student achievement motivation was achieved by 30 people or 46.15% of all respondents. Motivation for achievement that is still low is one of the causes of low student learning outcomes.

The third hypothesis is that there is an effect of self-efficacy and achievement motivation together on the learning outcomes of the Agricultural Field students of SMK Muhammadiyah Pangkalan Bun. This hypothesis was tested using multiple regression analysis techniques. A summary of the results of the multiple regression analysis is presented in Table 7.

Table 7. Summary of Results of Multiple Regression Analysis

	R	R^2	Adjusted R^2	F	Sig.
Reg.	0.825	0.681	0.671	66.198	0.000

Table 7 is the result of multiple regression analysis which shows the correlation coefficient (R) for self efficacy and achievement motivation is 0.825. It means that there is a very strong level of relationship between self efficacy and achievement motivation together with learning outcomes in agriculture. The probability value in the sig column is 0,000, p value <0.05 can be interpreted that the effect of joint self efficacy and achievement motivation on learning outcomes in agriculture is significant. So that the results of multiple regression analysis can be concluded that self efficacy and achievement motivation together provide a positive and significant influence on learning outcomes. Thus the third hypothesis is proven, there are influences of self-efficacy and achievement motivation together on the learning outcomes of Agricultural Field students of SMK Muhammadiyah Pangkalan Bun.

From multiple regression analysis also found the contribution of the two independent variables through the adjusted R2 value of 0.681. Thus, it can be concluded that self-efficacy and achievement motivation together have an effect of 68.10% on learning outcomes in agriculture. 68.10% of the variation in the score of learning outcomes can be explained by a combination of these two variables. While 31.90% is influenced by other variables, namely the variables not examined in this study.

Self-efficacy and achievement motivation are the forces that encourage someone to take actions that lead to one goal. With the existence of self-efficacy and achievement motivation, students will have the

urge to overcome obstacles and compete to improve themselves to achieve achievement.

Conclusion

Self-efficacy is very important to grow in students, because self-efficacy has a positive and significant effect on the learning outcomes of students in the Agriculture Field of SMK Muhammadiyah Pangkalan Bun. The contribution of self efficacy to learning outcomes in agriculture is 65.3%. The higher the self-efficacy, the higher the student learning outcomes. Self-efficacy can be measured through several indicators, namely: achievement of performance, experience of others, verbal persuasion, emotional impulses, and conditions and physiological reactions.

Achievement motivation also needs to be possessed by students because achievement motivation has a positive and significant effect on the learning outcomes of Agricultural Field students at SMK Muhammadiyah Pangkalan Bun. Contributions to achievement motivation on agricultural learning outcomes were 26%. The higher the achievement motivation, the higher student learning outcomes. Achievement motivation can be explored through a number of indicators, namely: being responsible, trying to find feedback for all their actions, always trying to improve themselves, be brave enough to take risks, try to be creative and innovative, good at managing time, and working hard.

Self-efficacy and achievement motivation together have a positive and significant effect on the learning outcomes of Agricultural Field students at SMK Muhammadiyah Pangkalan Bun. Each contributes to the magnitude of the influence on learning outcomes. Self-efficacy and achievement motivation together have an effect of 68.10% on learning outcomes in agriculture. 68.10% of the variation in the score of learning outcomes can be explained by a combination of these two variables. While 31.90% is influenced by other variables, namely the variables not examined in this study.

Based on the results of the discussion and conclusions some things are recommended as follows:

- Students should understand the importance of having self-efficacy and achievement motivation so that their learning outcomes increase.
- Productive teachers should provide guidance in carrying out education and training that leads to increased self-efficacy and student achievement motivation. Providing opportunities for students to multiply successful experiences because achievement of performance is based on student experience when successful.
- The teacher should write, observe, conduct classroom action research, in order to apply coaching to improving student self-efficacy and achievement motivation during the teaching and learning process. So that increasing self-efficacy and student achievement motivation that leads to improving learning outcomes can be planned, implemented, and evaluated properly.
- Student learning outcomes should also be improved with the support of various parties including parents. Parents, can provide support to children for achievement, taking into account factors that influence children's self efficacy and indicators of achievement motivation.

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