

The Influence of Achievement Motivation Towards Student Learning Outcomes on Department of Natural Science Education of Makassar State University

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Abstract. This research was consisted of 82 students and selected randomly. The achievement motivation scale developed by McClelland, (2000) included (1) challenges and competencies, (2) likes to work hard (3) was disciplined and (4) had hopes and desires for success and achievement which contained 30 items slightly modified to assess motivation achievement. The scale was consisted of 30 statements. All statements were positive. 5 signs for strongly agree, 4 signs for agree, 3 signs for hesitation, 2 signs for strongly disagree and 1 sign for strongly disagree are defined. The sum of the scores obtained for the entire scale. Frequency, percentage, mean, standard deviation, independent t-test and F-test for regression analysis were used to analyze in collecting datas. The results showed that the level of influence of achievement motivation based on the frequency distribution was in the average category. The results of inferential analysis show a significant result between the influence of achievement motivation on learning outcomes of science students with the regression equation $\hat{Y} = 33,271 + 0,454 X_2$.

Keywords: the influence, motivation

INTRODUCTION

Education in Indonesia plays an important role in educating the lives of the nation's children. There are many factors can affect a student's learning completeness. In this article, we will discuss achievement motivation. Motivation is one of the internal factors that comes from an individual student which could be a factor that affects the learning outcomes. In accordance with Rani, Pretty and R. Geetha Reddy (2019), motivation is an obstacle in learning and is relevant causing a drop in educational standards. As stated by Sarangi, C (2015), achievement motivation is the consistent effort of an individual to achieve the success with a certain standard of excellence in competitive situations. Furthermore, Eggen Manchak in Sarangi, C (2015) states that motivation for achievement is the main requirement to achieve something. It is a strong motive characterized by ambition, a high level of energy, a strong desire for independence. It is a characteristic of stable learning where satisfaction comes from striving for and achieving a level of excellence. Achievement motivation is the driving force to excel at learning tasks combined with the capacity to experience experimentation in achievement.

Achievement motivation is very important in learning because the students who have a strong achievement motivation tends to make various efforts to be able to master the field which they are studying so that they can achieve higher achievement. Achievement motivation is also an internal factor in learning that makes a large contribution, namely 64% in determining one's learning achievement (Mc Chelland in Siregar and Nara, 2010). It shows that achievement motivation has an influence on the achievement of learning outcomes. Furthermore, learning success is often caused by strong motivation. Achievement motivation is a conscious effort from within students that is able to encourage students to learn, do assignments, solve problems and move and direct themselves to achieve the desired achievements (Yamin, 2008).

It should be noted that there are intrinsic and extrinsic motivations. Motivations are of two major types, intrinsic and extrinsic. Intrinsic motivation is based on the internal factors such as self-determination, effort, challenge and curiosity while extrinsic motivation incorporates external factors such as rewards and punishment (Santrock, 2010).

Based on the literatures those have been described, it can be said that achievement motivation can be interpreted as a stimulus or drive or strength that comes from an individual who is able to succeed or achieve the goals. This cannot be separated from the role of educators that should create a fun and meaningful learning environment, where the students are in that situation indirectly can motivate to be able to achieve academically which in turn increases academic involvement for academic success as expected to be achieved.

MATERIALS AND METHODS

Based on the research problems and objectives of this article, an ex-post facto research design was chosen. This research was consisted of 82 students and selected randomly. The achievement motivation scale developed by McClelland, (2000) included (1) challenges and competencies, (2) likes to work hard (3) was disciplined and (4) had hopes and desires for success and achievement which contained 30 items slightly modified to assess motivation achievement. The scale was consisted of 30 statements. All statements were positive. 5 signs for strongly agree, 4 signs for agree, 3 signs for hesitation, 2 signs for strongly disagree and 1 sign for strongly disagree are defined. The sum of the scores obtained for the entire scale. Frequency, percentage, mean, standard deviation, independent t-test and F-test for regression analysis were used to analyze in collecting datas.

This research applied ex-post facto research, which was conducted to examine an event that had already occurred and then traced it back to determine the factors that could cause the incident to occur. Using a quantitative approach because the independent variable and the dependent variable were measured in numbers, then finding out there was an influence between the two variables and the amount of influence. The population were students of science education at UNM who took the

subject of the structure of animal development with a total of 102 students sampled by the simple random sampling method, obtained 82 samples. The data collection method used the questionnaire method. The data were analyzed by a simple linear regression equations and multiple linear regression. Previously, the data were processed using validity and reliability tests. The validity test of the questionnaire items was carried out using the Pearson's product moment correlation method, while the reliability measurement with the Cronbach's alpha formula. The data analysis technique used the hypothesis test with the *t* test, to show how far the influence of one independent variable individually in explaining the variation of the dependent variable and the F test to show whether all the independent variables included in the model that had a joint influence on the dependent variable. Furthermore, to measure how far the model's ability to explain the variation in the dependent variable, the coefficient of determination (R^2) was tested.

RESULTS

Descriptive Analysis of Achievement Motivation

Descriptive analysis showed that the achievement motivation variable (X_2) obtained the maximum influence score of achievement motivation (X_2) was 139.00; the minimum score obtained was 100.00; with an average score / mean of 118.2; and a standard deviation of 8.9. The data on the distribution of trends in the category of achievement motivation were generally in the average category with a frequency of 60 and a percentage of 73.0%. In order to answer this research question, participants' responses on the Achievement Motivation scale were collated and categorized into three levels. The summary of the results was shown on the below table:

Table 1. Descriptive Analysis of Achievement Motivation

Interval Score	Category	Frequency	Percentage
$X > 127$	Very Good	12	15%
$109 \leq X \leq 127$	Average	60	73%
$X < 109$	Poor	10	12%

Table 2. Distribution of Achievement Motivation Indicators

No.	Achievement Motivation Indicators	Total Score	Mean	Percentage(%)	Category
1	Love challenges and competences	3306	4,03	70	Average
2	Like to work hard	1029	4,18	67	Average
3	Discipline	1878	3,82	50	Average
4	Have hopes and desires for success and achievement	3478	3,86	64	Average

Based on the results of descriptive analysis, at each indicator namely love challenges and competencies, like to work hard, discipline, and have hopes and desires for success and achievement as a whole were included in the average category. The highest results were obtained on love challenges and competencies indicator with a total score of 70%, while the lowest was on indicator of discipline at 50%.

Descriptive Learning Outcomes

The results of the descriptive analysis, it was seen that of the 82 students who were the research samples, the highest score was 90.00; the lowest score obtained was 40.00; with an average score (mean) of 74.1; and standard deviation 11.7. Student learning outcomes in general are in the good category with a frequency and percentage of 45.12%. In order to answer this research question, participants' responses on the learning outcomes scale were collated and categorized into five levels. The summary of the results as shown on the below table:

Table 3. Descriptive Learning Outcomes

Interval Value of Learning Outcomes	Frequency	Percentage	Category of Learning Outcomes
81 – 100	27	32.93%	Very Good
66 - 80	37	45.12%	Good
56 - 65	10	12.20%	Good Enough
41 – 55	7	8.54%	Less Good
0 -40	1	1.22%	Very Poor

Inferential Statistical Analysis

Test Prerequisite Analysis

The analysis prerequisite test was the normality test and linearity test. The prerequisite analysis test of learning methods, achievement motivation and scientific attitudes as well as the learning outcomes using the SPSS for windows program.

Normality test

To find out whether in the regression model the dependent and independent variables were both normally distributed or not, it could be done with the normality test. A good regression model was normally distributed close to normal.

The normality test was used to determine whether of each variable was normally distributed or not. If the Kolmogorov-Smirnov significance value was greater than 0.05, then the data was normally distributed and vice versa if the Kolmogorov-Smirnov significance was less than 0.05, the data was not normally distributed. Based on the results of the normality test, it was obtained that the Z value was 0.737 with a probability of 0.649. Because the probability value was greater than 0.05, the data was normally distributed.

Tabel 4. Result Test of Kolmogorov-Smirnov One Sample Kolmogorov-Smirnov

		Achievement Motivation (X ₁)	Learning Outcomes (Y)
N		82	82
Normal Parameters	Mean	118.1829	74.0732
	Std. Deviation	8.85846	11.65426
Most Extreme Differences	Absolute	.081	.148
	Positive	.081	.097
	Negative	-.038	-.148
Kolmogorov- Smirnov Z		.737	1.340
Asymp. Sig. (2- tailed)		.649	.055

Test distribution was normal

Linearity test

Linearity test was used to test linearly related variables or not, whether it violated linear assumptions or not. The independent variable was said to have a linear relationship with the dependent variable if the significance value of the deviation from linearity was greater than the probability level $\alpha = 0.05$ or (Sig. > A = 0.05). Based on the results of the analysis with the test of linearity, the significance value of each dependent and independent variables of 0.758 was > α (0.05). Based on the value of F: from SPSS, it was obtained that the F count was 0.793 < 2.722 F table. Because F count was smaller than F table, it could be concluded that there was a significant linear relationship between Achievement Motivation (X₂) and Learning Outcomes (Y). The results of the linearity test could be concluded that the independent variables had a linear relationship with the dependent variable. So that, it met the requirements for a parametric statistical test.

Table 5. Linearity Test Results

Independent Variable	Dependent variable	Significance Value Linearity Test	Terms	Conclusion
Achievement Motivation	Learning outcomes	0,758	> α (0,05)	Linear

Partial hypothesis test (t test)

The Influence of Achievement Motivation on Learning Outcomes

Partial testing was used to determine whether there was influence between the independent variable and the dependent variable partially could be used with the t test. The results of the analysis of the partial hypothesis test between the

independent variables X1 to Y. The results of data processing using the SPSS 18.0 program obtained the results of the analysis with the regression test for partial test (one one), F count of 10.791 and with a significance of 0.002a because the significance value was smaller than $\alpha = 0.05$ or $p < 0.001$, it could be concluded that the calculated F value was significant, meaning that H1 was accepted. So, it could be concluded that there was an effect of achievement motivation on learning outcomes of science students.

Simultaneous results using analysis of variance for regression obtained F count 10.791 with a significance value of 0.002. Because the significance value < level of significant (0.05), it could be concluded that simultaneously achievement motivation had an effect on learning outcomes. Therefore, the hypothesis showed there was a positive effect of achievement motivation on learning outcomes of science students was accepted.

Table 6. ANOVA^b

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1307.551	1	1307.551	10.791	.002 ^a
	Residual	9694.010	80	121.175		
	Total	11001.561	81			

a. Predictors: (Constant), Achievement Motivation (X2)

b. Dependent Variable: Learning outcomes (Y)

Table 7. Result of Regression Coefficient Calculation

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	20.471	16.363		1.251	.215
	Achievement Motivation (X2)	.454	.138	.345	3.285	.002

Dependent Variable: \ Learning outcomes (Y)

The coefficient for the variable achievement motivation (X1) was 0.345 or it could be expressed as a linear equation $Y = 0.345 (X1)$. In the table, the t value was 3.285 with sig = 0.002a, so H_0 was rejected, in other words, achievement motivation had an effect on learning outcomes, this meant that H1 was accepted. The magnitude of the contribution of achievement motivation to learning outcomes was known from Standardized Coefficient Beta of 34.5% and the rest was coming from other factors. This meant that achievement motivation contributed 34.5% to learning outcomes and the rest was explained and influenced by other factors.

Based on the results of simple linear regression analysis, the effect of achievement motivation (X1) on the learning outcomes of science students (Y), the regression coefficient value $b = 0.454$ and a constant value = 20.471. Thus, a simple regression equation was obtained, namely $\hat{Y} = a + bX1$, namely $\hat{Y} = 33.271 + 0.454 X2$. Achievement motivation regression coefficient (X1) of 0.454 meant that an increase in the value of the achievement motivation variable with the assumption that the other independent variables were constant would cause an increase in learning outcomes of science students by 0.454.

DISCUSSION

Based on the results of research, it showed that the achievement motivation of students owned the average category with a frequency of 60 was 73% of respondents, and the learning outcomes achieved were in the good category as many as 45.12% of respondents and as much as 8.54% of respondents in the poor category. Also based on the results of research on student achievement motivation, it was obtained an average score of 118.2 and based on the category of achievement motivation it was included in the average category but the learning outcomes achieved by students were in good categories. These were caused by other factors beyond achievement motivation.

From the data analysis, it was obtained t count of 3.285 with a probability of 0.002 which illustrated that the level of achievement motivation had a positive influence on the learning outcomes achieved by students. From the results of the research data analysis, it turned out that the learning outcomes achieved by students were not optimal, because several were still in the very poor category and several others are in the good enough category with a value of 56-65, there were even 1.22% that fell into the very poor category of failing in frequency learning outcomes 1. Based on the results of regression analysis, it turns out that the high and low learning outcomes achieved by students were influenced by achievement motivation by 13.3%, it proved that student achievement motivation was not so dominant in influencing student learning outcomes. From the datas, it turned out that most students have high achievement motivation, but the learning outcomes achieved were not optimal.

The results showed that the level of influence of achievement motivation based on the frequency distribution was in the average category. The results of inferential analysis show a significant result between the influence of achievement motivation on learning outcomes of science students with the regression equation $\hat{Y} = 33,271 + 0,454 X2$.

It made perfect sense that students who did well in the school might enjoy learning, feel capable of taking on challenges, and enjoy mastering material independently as a result of receiving high marks and positive feedback. It was also possible that students who did poorly in school were more frequently subjected to lectures from teachers and parents about how and why they should do better, thus

turning their attention to more external sources of motivation. At least some evidence, however, suggestion that democratic parenting practices are positively correlated with achievement even when controlling for previous academic achievement (Steinberg, Lamborn, Dornbusch, & Darling, 1992).

Motivation is the driving force behind all of a person's actions. Individual needs and wants have a strong effect on their behavioral pathways. Motivation is an internal condition that stimulates, directs and maintains behavior. There is a strong relationship between learning and motivation. According to Abraham Maslow when the needs for love and ownership are met, the individual can then focus on the need for a higher level of intellectual achievement. At this stage the urge to learn increases (Woolfolk, 2004).

Motivation itself can come from within or come from outside. For example, students' intrinsic motivation will tend to learn when they are about to face an exam because they feel happy with the subject being tested. They will be motivated to learn when they are given choices and will tend to feel happy in facing challenges, for example, assignments given by their lecturers can be done because they are according to their abilities. This is in accordance with the research of Hassanzadeh and Galin (2013), In general, motivation helps people to be successful & happy, also when people are motivated by happiness, they tend to experience life satisfaction. They will be motivated to continue working for the things that will make them happy. Motivation inspires people to move forward and progress will help to make people happy, especially if they are working towards the things that make them happy, so motivation leads to happiness in life.

Each individual has a different motivation - maybe the one who has a low motivation for achievement is because of an unpleasant learning experience in the past. While several students are motivated by extrinsic factors, others may be motivated purely by intrinsic factors. In this situation, students may have goals they want to achieve at a certain time. In order to achieve their goals, the information they learn is very valuable to them.

Maslow's theory quoted by Kotze (2008) states that a person has the motivation to fulfill several different kinds of needs, namely physiological needs, security needs, social needs, self-esteem needs, and self-actualization needs. Meanwhile, according to Woolfolk (2004), personal factors that affect motivation include goal orientation, interests and emotions, as well as self-schemas or students' beliefs about themselves. In the learning process, there are several kinds of motivation that can be given to students, including giving numbers or grades, prizes, competition, ego-involvement, giving tests, knowing the results, praise, punishment, desire to learn, recognized interests, as well as goals.

Every student has different achievement motivation. There are students who have high achievement motivation, some are low. Students are said to have high achievement motivation if the desire to succeed really comes from within oneself. These students continue to work hard both in situations of competing with others,

and in working alone. Meanwhile, students who have low achievement motivation tend to fear failure and are less willing to take risks in achieving higher achievement.

According to Anni (2004) students who have high achievement motivation will study longer than students who have low achievement motivation. Even though they have experienced failures, failure is interpreted due to lack of effort and not due to external factors. In short, students who have achievement motivation have the desire and hope to succeed and if they experience failure, they will try hard to achieve success. Therefore, students who have high achievement motivation tend to experience success in doing learning tasks at school. No matter how difficult the failure they experienced, they still tried. Shah (2008) also argues that motivation is the internal state of the organism, both humans and animals, which encourages it to do something. In this sense, motivation means a power supplier (energizer) to behave in a directed manner.

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