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The Influence of Religious Motivation, Physics Learning Motivation on The Results of Basic Physics Learning of Physics Education Students

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Abstract: Student learning outcomes are influenced by many factors, including motivation. With motivation a person has the drive to do something for the better. This study aims to determine the partial or joint influence between learning motivation and religious motivation on the learning outcomes of physics education students. Data collection with motivation questionnaires and learning outcomes tests during lectures in one semester. Teknik analysis of research data, using multiple linear regression analysis and the results obtained the magnitude of the correlation coefficient R, the coefficient of determination R^2, the partial correlation coefficient and the contribution of each motivation towards student learning outcomes. The results showed that there was a significant correlation together between religious motivation and motivation to learn physics with the results of learning physics shown by the price of the correlation coefficient R = 0.430 and the coefficient of determination R^2= 0.185. The effective contribution of religious motivation to physics learning outcomes was 0.138% and the effective contribution of motivation to learn physics was 0.859%. There is a significant influence of religious learning motivation and physics learning motivation on physics learning outcomes together.

Keywords: religious motivation, motivation to learn physics, results of learning physics.

Introduction

Learning is a need of every human being, because by learning humans gains skills, abilities and attitudes so that knowledge increases. Learning can also be interpreted as any physical and psychological activity carried out by each individual so that his behavior is different between before and after learning. Changes in behavior or responses, due to new experiences, knowledge and skills after learning and practicing activities (Djamaluddin A.; & Wardana, 2019). Learning skills is a result achieved by students in an effort to master physical and spiritual skills in educational units which are manifested in the form of grades in each semester. Learning outcomes cannot be directly observed, but through a process of interaction between components in the teaching and learning process. Learning outcomes are indicated by changes in behavior that occur as a result of the learning process. Many things affect learning outcomes including intellectual intelligence, emotional intelligence and spiritual intelligence. In addition, suggestions for infrastructure, teachers and other components in the teaching and learning process also greatly affect learning outcomes.

Learning motivation is part of emotional intelligence which plays an important role in determining student learning outcomes. Learning motivation is carried out by individuals as an effort to get satisfaction and self-desire in the teaching and learning process (Schunk, D.H., Pintrich, P. R. & Meece, 2012). Thenature of the motivational learning process is one of the most important dynamic aspects (Sanjaya, 2010). Motivation becomes one of the most important prerequisites in learning. Motivation is defined as the driving force

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in students so that they carry out learning activities, (Djiwandono, 2006). Motivation provides student involvement in determining learning activities. A motivated learner will willingly carry out activities for himself, success and achievement of goals. Motivation will awaken, direct, strengthen, improve and nurture the enthusiasm of learners to learn until they succeed. We recommend that before starting learning, a student must be motivated first so that learning can run perfectly. Motivation can come from within learners who naturally arise to carry out learning activities. In addition, motivation can also come from outside when getting stimuli or rewards when doing learning activities. The results of previous studies showed that learning motivation contributed 9.2% to student learning outcomes. Together with the learning style, it contributed 32.4% (Atma et al., 2021)

Religious motivation is a certain spiritual impulse that explicitly acknowledges the existence of God Almighty with all his greatness and power. Religious motivation is a measure of religion in an individual's life and provides a perspective on how religion is used to interact both with one's internal and external life (Jennings, 2016). A person's religious motivations are directed by character which includes: a) Obedience to God; b) Responsible; c) Be honest; d) Discipline; e) Politeness. (Marzuki, 2015). Religiouscharacter is an essential characteristic that must be possessed by learners (University et al., n.d.). There is a significant relationship between religious attitudes, perseverance and student learning motivation (Amin et al., 2022). As a result of this religious motivation, it resulted in a tendency to voluntarily carry out the teachings in scripture. Motivation has to do with the relationship between people, and the relationship between man and his God. The many rules and norms in religion that are carried out by its adherents will affect a person's behavior, thoughts, emotions and actions (Silberman, 2003). Therefore religious motivation will affect his life goals, well-being and life success. With high religious motivation, it will provide a change in the quality of life. To achieve a better quality of life can be done by studying as well as possible which has implications for his life. In Islamic teachings there is an order to study thatknowledge is mandatory for both male and female Muslims. In addition, whoever takes the path to seek knowledge, it will be easy for him the way to heaven. This basis makes the enthusiasm and motivation of students to learn and is also balanced by carrying out other commandments. Based on the above problems, the formulation of the problem is as follows: 1) whether there is a significant influence between religious motivation (X_1) on physics learning outcomes (Y), 2) whether there is asignificant influence between motivation to learn physics (X_2) on physics learning outcomes (Y), 3) How to model regression between religious motivations (X_1), motivation to learn physics (X_2) withn results of learning Physics (Y)

Research Methods

This research is ex post facto (comparative causal) research, which is a study conducted to examine an event that has occurred and then look back to find out the factors that can cause the event (Sugiyono, 2014). Subyek penelitian is a student of Education Fisika who is taking basic physics 1 lectures as many as 46 students at one of the state universities in Yogyakarta City. Data collection using religious motivation questionnaire instruments and motivation to learn physics on a likert scale. The motivation instrument consists of 32 questionnaire items that students must answer with a maximum score of 4 for each item, so that the maximum total score is 128. While the motivation instrument for learning physics consists of 30 questionnaire items and a maximum total score of 120. Student learning outcomes are obtained by the final grade of the lecture which is the average score during basic physics lectures for one semester. Data is processed using SPSS program version 16.00. This research is a quantitative study by analyzing statistical data obtained with partial correlation and simultaneous analysis and regression. The analysis was carried out to determine the achievement of the research objectives by using data description analysis and multiple linear analysis.

Research and Discussion

Results with the SPSS Program version 16 obtained results as in table 1, on descriptive statistics.

Table.1 Descriptive Statistics.

Descriptive Statistics

	N	Range	Minimum	Maximum	Sum	Mean	Std. Deviation	Variance
Religious Motivation	46	42.00	85.00	127.00	4885.00	1.0620E2	9.81070	96.250
Learning Motivation	46	28.00	71.00	99.00	3932.00	85.4783	5.91698	35.011
Physics Learning Outcomes	46	33.58	61.44	95.02	3554.51	77.2720	9.12264	83.223
Valid N (listwise)	46							

From T abel 1 obtained an average score of religious motivation of 106.20, learning motivation of 85.47, learning outcomes of 77.27 this shows that the learning outcomes of students are based on normal conditions which is supported by a fairly high motivation.

Table 2. Correlation coefficient and coefficient of determination.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.430[a]	.185	.147	8.42754	.185	4.865	2	43	.012	2.492

a. Predictors: (Constant), Learning Motivation, Religious Motivation

b. Dependent Variable: Physics Learning Outcomes

From Model Summary Table 2 obtained the value of the correlation coefficient of 0.430 which means in the moderately correlated category (Sugiyono, 2009), so that as a prerequisite test the analysis is fulfilled. The magnitude of the coefficient of determination obtained a value of 0.185 which means that 18.5% of physics learning outcomes are explained by learning motivation and religious motivation. In other words, learning motivation and religious motivation contributed significantly to physics learning outcomes by 18.5%, indicated by the significance in Table 3 sig.= 0.012< 0.05, the higher the motivation to learn and religious motivation the greater the results of learning physics. The value of Durbin_watson 2,492 did not give a convincing autocorrelation result.

Table 3. Regression Significance.

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	691.008	2	345.504	4.865	.012[a]
	Residual	3054.009	43	71.023		
	Total	3745.017	45			

a. Predictors: (Constant), Learning Motivation, Religious Motivation

b. Dependent Variable: Physics Learning Outcomes

The Anova table shows that multiple linear regressionsare statisticallysignificant with the F=4.865 test with degrees of freedom k=2 and n-k-1= 46-2-1=43. P-value =0.012 which is less than 0.05.

It can be said that there is a direct influence of togather between religious motivation and learning motivation with the results of learning physics.

Table 4. Partial Correlations.

Correlations

		Physics Learning Outcomes	Religious Motivation	Learning Motivation
Pearson Correlation	Physics Learning Outcomes	1.000	.012	.415
	Religious Motivation	.012	1.000	.284
	Learning Motivation	.415	.284	1.000
Sig. (1-tailed)	Physics Learning Outcomes	.	.469	.002
	Religious Motivation	.469	.	.028
	Learning Motivation	.002	.028	.
N	Physics Learning Outcomes	46	46	46
	Religious Motivation	46	46	46
	Learning Motivation	46	46	46

The correlation coefficient of a partial relationship between religious motivation and motivation to learn physics is quite low, which is 0.284 (in sufficient criteria) indicating that every time there is an increase in learning motivation there is not necessarily an increase in religious motivation. Students who have high religious motivation does not mean that the motivation to learn physics is also high. The correlation coefficient between motivation to learn physics and physics learning outcomes is 0.414 which is in the moderate category (Sugiyono, 2009) which means that every time there is an increase in motivation learning physics will be accompanied by a significant increase in physics learning outcomes. The correlation coefficient between religious learning motivation and physics learning outcomes is very low, which means that students who have high religious motivation are less willing to provide contribution to physics learning outcomes.

Table 5. Coefficient Regresi

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	29.626	20.214		1.466	.150	-11.140	70.392					
	Religious Motivation	-.107	.134	-.115	-.801	.427	-.376	.162	.012	-.121	-.110	.920	1.087
	Learning Motivation	.690	.221	.448	3.118	.003	.244	1.137	.415	.429	.429	.920	1.087

a. Dependent Variable: Physics Learning Outcomes

The regression coefficient for religious motivation is -0.107 and the learning motivation regression coefficient is 0.690 with a constant of 29.628. The multiple regression equations obtained using the least squares method are $Y = 29{,}628 - 0{,}107X_1 + 0{,}690X_2$ (Y = results of learning physics, X_1 = religious motivation, and X_2 = motivation for learning physics). The constant value of 29.628 when the religious motivation variable and the motivation variable for learning physics are equal to zero or not taken into account. The value of -0.107X_1 provides information that every time you increase one value of a religious variable, it will increase the value of -0.107 as a result of learning physics, while a value of 0.690X_2 provide information that each increase in the value of one motivation variable in learning physics will provide an additional 0.690 value of student

learning outcomes. To test each of the coefficients of regression is significant a t-test is used whose results are as follows:

1. The religious motivation variable of the t-test result was -0.801 with a t-k-1=46-2-1=43 and a p-value= 0.427 greater than 0.05. This proves that the regression coefficient for religious motivation variables is insignificant.
2. The motivation variable for learning physics resulted in a t-test of 0.448 with a t-valueof n-k-1=46-2-1=43 and a p-value =0.003 that was smaller than 0.05. This proves that the regression coefficient for the motivation variable of learning physics is significant.

The effective contribution together are indicated by the price of R^2, while the effective contribution for each of the free variables are:

The effective contribution of religious motivation to physics learning outcomes is SE(X 1 Y) = 0.115 x 0.012 = 0.00138, it can be said that the contribution of religious motivation is very small not up to 1%. The effective contribution of motivation to learn physics to physics learning outcomes is SE(X_2 Y) = 0.448 x 0.415 = 0.18592 which means that motivation to learn physics has a contribution of 18.56% to the results study physics.

Discussion

Based on the results of data analysis there is a significant influence together between religious motivation and motivation to learn physics with the results of learning physics. This is indicated by the price R^2 = 0.185 can be interpreted to mean that 18.5% of the results of learning physics are determined by both variables. The remaining 81.5% is determined by various factors, such as intelligence, interests, learning facilities, learning methods, learning styles and others. The influence is partially dominated by the motivation to learn physics that has a contribution. Previous findings provide results that motivation contributes 9.28% to the learning achievement of elementary school students (Atma et al., 2021). This provides reinforcement that it is important to take actions that make students more motivated in learning so that they can improve their learning outcomes. How to motivate learners depends on the situation and the conditions of the learning components. One way to increase motivation can be done by teaching with learning styles that are appropriate to students, adequate facilities, clear learning objectives, appropriate learning models, easily accessible learning resources, and fun teachers.

Of course, all of this must be supported by adequate funding and attention from education managers. The highest motivation to study physics with an average of 3,512, lies in question item number 25, namely: "Doing questions with friends is more fun to do on your own". This indicates that to do physics learning tasks students tend to work together. For this reason, it is necessary to develop cooperation between students in learning. One of the characteristics of learning physics is the number of problems that must be understood and to be solved. The lowest motivation lies in the questionnaire item number 23 with an average motivation of 1,487, namely: "I am happy if I see that my friend can't do the questions". This statement is an inverted motivational statement which provides information that the character of the learner is very good for his friends.

Religious motivation contributes very little to physics learning outcomes by 0.18%, which means that the higher the religious motivation the less the result in learning physics. The correlation coefficient between religious motivation and learning outcomes is R=0.012 physics is also very low. This means that there is no relationship between the religious motivation and the results of learning physics. In Islamic teachings there is an god's command to seek knowledge for its adherents and an increase in degrees for seekers of knowledge. However, this teaching has not had an impact on physics learning outcomes for students. The highest religious motivation with an average score of 3,666 lies in question item number 18, namely: " By doing worship my heart becomes calm". Calmness after worship has an impact on learning physics, but has not had a significant effect on physics learning outcomes. The lowest motivation lies in questionnaire item number 25 with an average value of 2,564, namely; "The outcome of my learning is a destiny that I must accept". In this questionnaire item, learning outcomes are only determined by fate, which

means that for those who learn and those who do not have the same results, even though destiny can be changed with maximum effort.

Conclusion

There is no significant relationship between religious motivation and physics learning outcomes of physics education students. On the contrary, there is a significant relationship between the motivation to learn physics and the learning outcomes of physics students in physics education. There is an insignificant influence between religious motivation and physics learning outcomes, or the influence of religious motivation on physics learning outcomes is very low. The influence of motivation to learn physics with the results of learning physics is very significant, so it is important to provide learning that can motivate students' learning. Thus the variables of religious motivation and motivation to learn physics together have an influence on the results of learning physics.

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