THE INFLUENCE OF EXTRINSIC LEARNING MOTIVATION TOWARD PHYSICS LEARNING OUTCOMES OF THE TENTH GRADERS OF JAYAPURA MUHAMMADIYAH SHS DURING THE COVID-19 PANDEMIC

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ABSTRACT

This study aimed to determine the relationship and influence of extrinsic learning motivation on student learning outcomes. This type of research was ex post facto research. The data collection technique in this study was non-test. The data collection instrument used was a questionnaire. The data obtained were then analyzed using the SPSS 16 program. The research was conducted at SMA Muhammadiyah Jayapura in the academic year 2020/2021. The population numbered 61 students of class X. The sample of the study was class X1 with a sample size of 30 students based on a random sampling technique. The analysis technique used was the productmoment correlation technique. Research results and data processing showed Asymp Sig. (2-tailed) = 0.000 < 0.05, meaning that there was a relationship between extrinsic learning motivation and student learning outcomes. Pearson correlation value = 0.934 was interpreted to have a very strong relationship. The value of R Square = 0.872 means that the influence of extrinsic learning motivation on learning outcomes is 87.2%. Sig value. = 0.000 < 0.05, meaning that there was an influence of extrinsic learning motivation on student learning outcomes.

INTISARI

Penelitian ini bertujuan untuk mengetahui hubungan dan pengaruh motivasi belajar ekstrinsik terhadap hasil belajar peserta didik. Jenis penelitian ini adalah penelitian ex post facto. Teknik pengumpulan data pada penelitian ini adalah non-tes. Instrumen pengumpulan data yang digunakan adalah angket. Data yang diperoleh kemudian dianalisis menggunakan program SPSS 16. Penelitian dilaksanakan di SMA Muhammadiyah Jayapura tahun ajaran 2020/2021. Populasi berjumlah 61 peserta didik kelas X. Sampel penelitian adalah kelas X1 dengan jumlah sampel 30 peserta didik berdasarkan *random sampling technique*. Teknik analisis yang digunakan adalah teknik kolerasi *product moment*. Hasil Penelitian dan pengolahan data Nilai *Asymp. Sig.(2-tailed)* = 0,000 < 0,05,

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artinya terdapat hubungan antara motivasi belajar ekstrinsik terhadap hasil belajar peserta didik. Nilai *pearson Correlation* = 0,934 diinterpretasikan memiliki hubungan yang sangat kuat. Nilai *R Square* = 0,872 artinya pengaruh antara motivasi belajar ekstrinsik terhadap hasil belajar sebesar 87,2%. Nilai *Sig.* = 0,000 < 0,05, artinya terdapat pengaruh motivasi belajar ekstrinsik terhadap hasil belajar peserta didik.

I. Introduction

Science and technology development and globalization grow quickly and enormously. The competition in the educational field increases due to the 4.0 industry [1]. One of the ways to participate in this competition is by improving the educational quality, such as improving the curriculum, the human resource, facility, and infrastructure [2]. Teachers, parents, and the community should support these improvements to improve educational quality. The discussion of educational quality cannot be separated from teaching-learning activity in educational institutions [3].

The teaching-learning activities at schools are the most fundamental activities [4]. It means the success of the educational objective achievement depends on how learners undergo the learning process. An individual introduction toward the result or progress is important. It allows the individual to struggle in improving his learning outcome. Thus, he will obtain the optimum learning outcome because the learners are motivated to improve learning outcomes [5].

Many factors influence the learning outcome improvements. One of them is learning motivation [6]. The learning quality improvement requires many efforts to do. One of them is learning motivation improvement [7]. Learners will be successful if they have the motivation to learn. It makes learners motivated and it directs their behaviors and attitudes in learning [8]. Motivation is the influential factor of learning outcomes. Learning motivation is a tendency of a learner to learn. It is encouraged by the intention to obtain excellent learning outcomes [9]. Learning motivation encourages the learning spirits of learners. Lack of learning motivation discourages learning motivation. It influences the learning outcomes of learners. Learning motivation is categorized into intrinsic and extrinsic motivations [10]. Intrinsic motivation covers learning situations, learning needs, and learning objectives of the learners. Extrinsic motivation occurs due to external factors of the learning situation. The learning process outcomes take forms into numbers and scores based on the cognitive, psychomotor, and affective assessments [8]. The features of high-motivated learning learners include the determination to work on the tasks, encounter difficulties, and show interest in solving problems. These learners do the tasks autonomously but they easily get bored with regular tasks. They could defend their arguments and have strong beliefs. They also like to solve problems [7].

Learning motivation deals with the ideals or aspirations of the learners [11]. Learning motivation is important for learners. It allows them to understand the learning objectives [6], [12]. Besides that, an excellent learning situation makes learners encouraged and able to solve the tasks excellently [13]. However, if the learners are not feeling well, they will lose their spirits to learn. Educators should notice when learners need motivation. Thus, the learning activity could last joyfully, communicatively, and interestingly without any anxiety. These situations could improve the learning creativity and activity [14]. The motivated learners will follow the learning joyfully. It also goes for the teachers. Motivated learners could complete their learning tasks and apply the learned materials.

Thus, teachers should encourage their learning motivations. It is important to reach the maximum learning outcomes [15]. Therefore, a teacher must assume his learners will struggle to accept the given learning materials [16]. The learners' learning motivation is useful to improve their learning outcomes in certain lessons [17]. With high learning motivation, learners could understand, master, and store what they learned in a long term [18]. Learners could also respect what they learned so that they find the materials useful for their daily lives in the community. Learners with high-learning motivation will obtain higher learning outcomes [19]. Learners could do various efforts to improve their learning success. Thus, they could reach excellent success as expected. Besides that, motivation also keeps the learning process of the learners running smoothly.

Based on the preliminary observation, the extrinsic learning motivation of the tenth graders of Muhammadiyah SHS Jayapura was low. The reviews about the summative, formative, midterm, and final term tests showed under-average results. Therefore, this research aimed to find out the correlation and the influence of extrinsic learning motivation toward the learning outcomes of the learners.

II. Research Method

This research type is an ex-post-facto. The independent variables of this research had existed and influenced the observation toward the dependent variables in research [20]. The researchers chose this research type because they wanted to find the influence of the dependent variables on the dependent variable. The researchers conducted this research to find out the influence of extrinsic learning motivation on the learners' learning outcomes. This research has a two-variable paradigm. It consists of the independent and dependent variables. The independent variables were the extrinsic learning motivation, symbolized by X. On the other hand, the dependent variable was the learning outcome, symbolized by Y.

The researchers conducted the research in three stages. They were the preparation, execution, and finalization stages. The preparation stage consisted of a field study. The study observed the school to determine the research problem. The next activities were - defining and formulating the problems, conducting a literature

study, tracking relevant journal articles in terms of the research variables, and formulating the research hypotheses. Then, the researchers designed the research, determined the population and the sample, conducted the research instrumentation activity, determined the data collection technique, and analyzed the data. The execution stage consisted of questionnaire distribution for the learners via an online learning medium. In the finalization stage, the researchers processed the data statistically, discussed the results, and concluded the results [21].

The population of this research consisted of the tenth graders of Muhammadiyah SHS Jayapura from two learning groups. They were the X1 and X2 with total numbers of 61 individuals. The selected sample was from the X1 learning group or class of the school. It consisted of 30 individuals. The researchers used a random sampling technique to determine the sample. This research used a questionnaire to measure the extrinsic learning motivation influence toward the physics learning outcomes of the learners via online media. The respondents answered by checking the list ($\sqrt{}$) on the given columns. The questionnaire had 28 question items. The scores of the answers used the Likert scale as shown in Table 1.

Table 1. The rubric of the extrinsic motivation questionnaire			
Indicators	Numbers	Total	
The authority expectations	1, 2, 4, 5, 6,13, 15, 17,	8	
The expectation received by the peers	3,7, 12,16, 25,26	6	
The motivation of the domination	9,18,20,21,24,27,28	7	
Feeling afraid to fail	8, 10, 11,14, 19,22,23	7	

Table 1. The rubric of the extrinsic motivation questionnaire

This research used the questionnaire to data collect the variable X data, consisting of 28 item questions. The researchers grouped the answers or the responses from each item into 4 answer levels based on the Liker scale (see Table 2).

Answers	Scores			
SA = Strongly Agree	4			
A = Agree	3			
D = Disagree	2			
SD = Strongly Disagree	1			

Table 2. The Likert scale

This research determined the normality distribution of the data by using the data normality test assisted with SPSS version 16. The guideline to make the decision was - if the value of Asymp sig (2-tailed) was lower than 0.05, the data distribution was not normal. However, if the value of Asymp sig (2-tailed) was higher than 0.005, the data distribution was normal.

The stages to examine the simple correlation analysis by using SPSS version 16 were: testing the significance to find out the existence of a significant correlation

between the variables. The test used the two-tailed test. The correlative coefficients are in Table 3.

	r-value	criteria			
0,00 until 0,29 A very weak correlation					
	0,30 until 0,49	A weak correlation			
	0,50 until 0,69	An average correlation			
	0,70 until 0,79	A strong correlation			
_	0,80 until 1,00	A very strong correlation			

Table 3. The correlative coefficient criteria

The applied regression-test type was the simple regression test to predict both independent and dependent variables. The applied linearity test was to find out the linear correlation between the variables. It meant each change in a variable would be entailed by a proportional change of the other variable.

III. The Results and Discussion

The normality test result of the data showed the indicator of authority expectation influenced the learning outcomes with a significant score of 0.899. The indicator of the expectation received by the peers influenced the learning outcomes with a significance of 0.762. The indicator of the domination motivation influenced the learning outcomes with a significance of 0.948. The indicator of feeling afraid to fail influenced the learning outcomes with a significance of 0.763. All significance values of the indicators were higher than 0.05. Thus, each indicator had a normal distribution. Then, the researchers conducted the data normality test. Overall, the data of extrinsic motivation and learning outcomes had correlations with significances of 0.830 and 0.245. It showed that the normality test of the learning outcome had a sig score of 0.830 higher than 0.05. On the other hand, the learning outcome had a sig score of 0.245 higher than 0.05. It showed the data had a normal distribution.

The correlative analysis had a function to determine the confidence between the variables: X or learning motivation and Y or learning outcome. Table 4 shows the correlation analysis.

Table 4. The conclution analysis of A toward 1						
Independent Variable	Sig. (2-tailed)	Pearson Correlation				
Learning motivation	0,000 < 0,05	0.934				
Remarks	It has the correlation	A strong correlation				
Dependent variable = learning outcome						
$KD = r^2 x \ 100\% = 0.934x \ 100\% = 93.4\%$						

Table 4. The correlation analysis of X toward Y

The determinant coefficient is 93.4%. This value shows the contribution of variable X toward Y. On the other hand, the coefficient value of the X and Y correlation is 0.934. The correlation value between 0.80 - 1.00 indicates the strong

correlation between learning motivation and learning outcome. The processed data result showed a significant value of 0.000. Thus, H_0 is denied (sig < 0.05). It meant there was no significance between learning motivation toward learning outcomes.

Table 5. The regression analysis result of the influence of X toward Y

Model	Unstandardized Coefficients		Standardized Coefficients	Т	Sig.		
	В	Std. Error	Coefficients				
(Constant)	56,147	1,889		29,867	.000		
Learning motivation	.291	.021	.934	13,802	.000		
Dependent variable = learning outcome							
R = 0,934							
R Squre = $0.872 = 0.872 \times 100\% = 87.2\%$ (The determining coefficient)							

The obtained data from the regression analysis are in Table 5.

Based on the calculation, the value of a is 56.147. It is a Constanta that means X = 0. It meant learning motivation influenced the learning outcomes. T value of b is 0.291. It meant the learning motivation improvement influenced the learning outcome with a correlative coefficient of 0.291. The regression equation is Y = 56.147 + 0.291 (X). The value of determining coefficient is 0.872 or it is equal to 87.2%. The value meant the learning motivation (X) influenced the learning outcome with a percentage of 87.2%. On the other hand, the percentage of 12.8% showed other unexamined factors influenced the model.

Based on the data processing results, the researchers obtained a significant value of 0.000. This value is lesser than 0.005. Thus, H_0 is denied and H_a is accepted. It meant there was a correlation between the extrinsic learning motivation toward the learners' learning outcomes. Based on the correlative analysis results, the researchers obtained a correlative coefficient of 0.934. It indicated that extrinsic learning motivation (X) had a strong correlation with the learning outcome (Y). This strong correlation level was in line with the previous research. It showed that extrinsic learning motivation influenced significantly the learners' learning outcomes [22], [23]. Rimbarizki (2017) also supported that motivation influenced the learners' learning behaviors. It encouraged them to improve their eagerness and determination for learning. Motivation has an important role to encourage and making learners feeling joyful while learning. Learning motivation could energize the learners to follow the learning process. Thus, learners could obtain better learning outcomes [8]. The physics learning outcomes of the learners were excellent although the learning was in an online manner during this COVID-19 pandemic [24]–[26]. The physics teacher carried out the physics lesson with the Zoom meeting application. The teacher had explained the materials about lights and optics, temperature and heat, dynamic electricity, and electromagnetic wave. The learning outcomes were excellent because of the strong extrinsic learning motivation.

The analysis results of the extrinsic motivation indicators showed each indicator had a significant correlation with the learning outcomes. Based on the data, the researchers concluded that the extrinsic learning motivation of the learners was excellent. The data processing results obtained a positive regression equation. It indicated that extrinsic learning motivation (X) had a positive correlation toward the learning outcomes (Y). It showed that higher extrinsic learning motivation led to higher learning outcomes. This result was in line with the previous research. It showed that extrinsic learning motivation influenced significantly the learners' learning outcomes [27], [28]. If learners have higher learning motivation, their learning outcomes are also higher [6].

This result supported the research of Fitriyani *et al.* (2020). They explained the positive and significant correlations between learning motivation toward the learning outcomes of the learners [9]. Research by Yuliana *et al.* (2019) showed that learning motivation had a positive and significant correlation toward the learning outcome improvement [10]. For this reason, teachers must establish the learners' learning motivation to achieve the maximum learning outcomes [29], [30]. The teaching-learning process will last effectively if the learners have learning motivation. Teachers have to struggle maximally to establish learning motivation. It is important because learning motivation is the key to success in achieving better learning outcomes. Teachers should establish this learning motivation for learners gradually [31].

The normality data test and the percentage analysis of the four-extrinsic learning motivation showed: the scales of strongly agree with a percentage of 34%, agree with 62%, disagree with 4%, and strongly disagree with 0%. The second indicator showed the scales of strongly agree with 33%, agree with 55%, disagree with 11%, and strongly disagree with 1%. The third indicator showed the scales of strongly agree with 59%, disagree with 7%, and strongly disagree with 0%. The fourth indicator showed the scales of strongly agree with 59%, disagree with 59%, disagree with 45%, agree with 53%, disagree with 1%, and strongly disagree with 0%. Based on the data analysis of the four indicators, the researchers found the extrinsic learning motivation of the learners was excellent. Therefore, it could be concluded the extrinsic learning motivation positively and significantly influenced the learning outcomes.

IV. Conclusion

This research found the correlation between learning motivation toward learning outcome with a significant value of 0.000 < 0.05. The correlation obtained a correlative coefficient value of 0.934. It indicated there was a strong correlation between learning motivation toward learning outcomes. Learning motivation influenced the learners' learning outcomes proven by a significant value of 0.000 < 0.05. The simple regression equation of this research is Y = 56.147 + 0.291 (X). The learning motivation influenced the learning outcomes with a percentage of 87.2%. Thus, the remaining percentage, 12.8%, indicated other unexamined influential

factors. Therefore, there is a need for further studies about the improvement and disimprovement of learning motivation toward learning outcomes on other aspects.

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