

Positive Correlation Between Learning Motivation and Student Learning Outcomes in Physics Subjects Momentum and Impulse Materials

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Abstrak

Motivasi merupakan salah satu dari beberapa hal yang menentukan keberhasilan belajar siswa. Tanpa adanya motivasi, proses belajar sulit untuk mencapai keberhasilan yang optimal. Tujuan dari penelitian ini adalah untuk mengetahui pengaruh pembelajaran motivasi terhadap hasil belajar siswa kelas XI. Jenis penelitian ini adalah penelitian kuantitatif. Instrumen yang digunakan untuk mengumpulkan data pada penelitian ini adalah angket minat belajar dan tes soal pilihan ganda. Teknik analisis data uji prasyarat yang dilakukan diantaranya uji korelasi dengan bantuan software SPSS 21. Teknik pengumpulan data dalam penelitian ini digunakan soal dengan 30 butir soal dengan materi momentum dan impuls berganti secara teratur. Populasi penelitian ini adalah siswa kelas XI. Metode yang digunakan dalam penelitian ini adalah Deskriptif Statistik. Uji persyaratan analisis data yang digunakan adalah uji korelasi. Uji korelasi digunakan untuk menentukan seberapa kuat hubungan antara dua data apakah variable bebas mempunyai hubungan yang kuat terhadap variable terikat dengan kriteria pengambilan keputusan yaitu Sig. (2-tailed) < α yaitu 0,01. Berdasarkan hasil penelitian ini, menunjukkan bahwa terdapat pengaruh positif yang signifikan antara siswa motivasi belajar fisika siswa kelas XI terhadap hasil belajar pada materi momentum dan impuls.

Kata kunci: Learning Motivation, Learning Outcomes, Physics

Abstract

Motivation is one of several things that determine the success of student learning. Without motivation, the learning process is difficult to achieve optimal success. The purpose of this study was to determine the effect of learning motivation on student learning outcomes in class XI. This type of research is quantitative research. The instruments used to collect data in this study were a learning interest questionnaire and multiple choice questions. The prerequisite test data analysis techniques were carried out including the correlation test with the help of SPSS 21 software. The data collection technique in this study used questions with 30 questions with momentum and impulse material changing regularly. The population of this study were students of class XI. The method used in this research is descriptive statistics. The data analysis requirements test used was a correlation test. The correlation test is used to determine how strong the relationship between the two data is whether the independent variable has a strong relationship to the dependent variable with the decision-making criteria, namely Sig. (2-tailed) < α of 0.01. Based on the results of this study, it shows that there is a significant positive influence between students' motivation to learn physics in class XI students on learning outcomes on momentum and impulse materials.

Keywords: Learning Motivation, Learning Outcomes, Physics

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1. INTRODUCTION

Education is a process for acquiring and imparting skills that are carried out by students. Education itself has a goal to develop the potential contained in students, so that they can think critically and creatively (Asmarani & Idrus, 2017; Astalini, et al., 2019). Education is a process in order to influence students to be able to adapt as best as possible to their environment, so that it will cause changes in themselves. School is one of the places where the educational process takes place through teaching and learning activities between teachers and students (Oktaviana et al., 2016; Wijayanti & Wasitohadi, 2015). Natural Sciences (IPA) is a science that studies the entire universe and its contents (Hairida, 2016; Parmiti et al., 2021). However, science has limited knowledge, namely things that can only

be understood by the senses (sight, hearing, taste, touch and touch) (Eliyana, 2020; Rostikawati & Permanasari, 2016). Physics is a branch of science that studies objects in nature physically and written down mathematically so that they can be understood by humans and used for the welfare of mankind (Puspitasari, 2019; Yusuf & Wulan, 2015). Physics learning is a learning process that involves students in studying nature and its symptoms through a series of scientific processes that are built on the basis of scientific attitudes to acquire and process knowledge, skills and attitudes in order to achieve certain learning goals (Priyantini et al., 2015; R. Z. Putri et al., 2017).

Physics is one of the subjects that has been introduced to students from elementary school to college (Darmaji et al., 2019; Lestari & Diana, 2018). However, in reality physics lessons are less attractive to students in general, because they are considered difficult, so the physics learning process is not as expected. One of the problems students have in learning in class is the lack of understanding of the concept of the subject matter. This difficulty then caused the students' lack of interest in physics. This causes the activity of students in participating in physics learning in class to be low. The physics learning process carried out by students as learning subjects is of course influenced by several factors, both factors from students and factors from the environment (Pasaribu et al., 2017; Simatupang et al., 2017). Physics is part of science, so students' attitudes towards Physics subjects are also included in students' attitudes towards science (R. M. Putri et al., 2019; Wahyudi & Lestari, 2019). Based on the results of observations of student attitudes at SMA Negeri 5 Muaro Jambi during the learning process in class, it can be seen that there are positive and negative attitudes towards physics subjects. The positive attitude of students towards physics subjects is seen when students are enthusiastic during the learning process, students are active to ask and answer questions given by the teacher, especially during group discussions in class, the positive attitude of students is the interaction between students and teachers in the learning process. While the negative attitude of students towards physics subjects is seen when students are not active in the learning process, students are silent from the beginning of the learning process until the end of learning, and students talk to friends next to them during the learning process group discussions take place in class (Astalini. et al., 2018; Hardian et al., 2018).

Interest in learning is a desire or willingness accompanied by intentional attention and activity which ultimately gives birth to pleasure in changing behavior, both in the form of knowledge, attitudes, and skills (Aprinawati, 2017; Supriyono, 2018). Explain that one's enjoyment of physics will also affect learning achievement. This is because there is a relationship between attitude and learning achievement. Learning attitude is an important factor to determine student achievement. Students who prefer a subject will get good grades on that subject (Jufrida, 2019; Tamayanti et al., 2019). Fun in learning physics is the love of students to learn physics which is upheld by high curiosity (Astalini. et al., 2018). Physics will be easily accepted if students' attitudes are positive in involving strategies to solve problems in it. Weak motivation to study physics due to a lack of understanding of the nature, benefits, beauty and employment that can result from studying physics (Aminoto et al., 2019). So that learning physics feels more fun, then the benefits of studying physics need to be understood. To face any obstacles or difficulties while studying physics, learning motivation is the first capital.

Motivation is an impulse contained in a person to try to make changes in behavior for the better in meeting their needs (Hakim & Windayana, 2016). Motivation is a desire that arises in oneself to do something (Suprihatin, 2015). A person who has a strong desire will usually work hard to achieve his goals. Extrinsic motivation is motivation that arises from outside but does not always have a relationship with learning activities (Sulistiyari, 2018; Yulianingsih et al., 2020). Extrinsic motivation forms such as learning to fulfill obligations, avoiding punishment, getting prizes, increasing prestige, getting praise and learning for the

demands of the desired position. While intrinsic motivation is learning motivation that arises purely from oneself to be able to solve a problem or achieve a goal. Motivasi dianggap penting dalam upaya belajar dan pembelajaran dilihat dari segi fungsi dan nilainya atau manfaatnya (Primadona et al., 2018). One of the physiological factors which include learning motivation, interest in learning, and study habits. A student who has high motivation and interest will carry out the duties of the teacher no matter how heavy the task is (Jufriada, 2019).

One of the efforts so that students are not passive during the learning process in class so that one of the objectives of learning physics can be achieved is to choose or develop their own appropriate teaching materials for students (Sari et al., 2017). So that it can motivate students to be able to follow the learning well. Students will be motivated to learn and engage in the learning process in a positive attitude towards physics, and vice versa. They are activated when individuals face unfamiliar problems, uncertainties, questions, or dilemmas. Therefore, students who have a positive attitude towards physics will increase and have the enthusiasm to learn physics. Students who like to study physics will have good analytical thinking skills (Darmaji, 2019). Student participation is very important in the implementation of the learning process in the classroom (Khodijah et al., 2016). With increasing student participation, student achievement will also increase. The urgency of this research is very important because in this study it was only carried out at SMA Negeri 5 Jambi City which was related to learning motivation on student learning outcomes. The gap in this study is found in research that covers the whole of the results of the filled student observation questionnaire. This research is in line with research which explains that the success of the learning process can be seen from learning outcomes where learning outcomes are influenced by good attitudes and motivation of students (Astalini, 2019). In a study, an assessment is needed to determine the development, progress, and learning outcomes of students during the learning of the educational program (Basuki, F et al., 2019).

Learning outcomes are the realization of the achievement of educational goals, so that the measured learning outcomes are highly dependent on the educational goals (Arrasyid et al., 2017; Kurnia et al., 2016). Learning outcomes are an achievement achieved by someone in following the learning process which can be measured from the results of the exercise or test taken from the material that has been delivered (Pasaribu et al., 2017; Saputra et al., 2019; Utami et al., 2017). Student learning outcomes will be optimal if students are motivated in learning. Learning motivation has a significant relationship with learning outcomes obtained by students (Saputra et al., 2019). Therefore, it would be better if in delivering learning materials the teacher paid attention to the learning motivation of each student. The purpose of this study is to see how the relationship between the student's motivation for physics subjects on momentum and impulse material at SMA Negeri 5 Jambi City in class XI MIPA 6. This study focuses on the relationship between learning motivation and student learning outcomes. This research was conducted by taking samples from the students of SMA Negeri 5 Jambi City in class XI MIPA 6 through questionnaires and test instruments. Therefore, this study aims to determine whether there is a relationship between student motivation and learning outcomes obtained by means of product moment correlation test.

2. METHODS

The type of research used is quantitative research with a descriptive approach. Descriptive research is collecting data based on the factors that support the object of research, then analyze these factors to look for their role. This research was conducted at SMA Negeri 5 Jambi City with a total population of 30 students in class XI MIPA 6, with the number of

samples taken as many as 27 students. This research was conducted from February to March 2021 at SMA Negeri 5 Jambi City in class XI IPA 3 for the academic year 2020-2021 on momentum and impulse material and learning motivation for students. The subjects of this research are students of SMA Negeri 5 Jambi city class XI MIPA 6 academic year 2020-2021. The data collection technique used in this study was a questionnaire and test instrument. This study used a questionnaire that was carried out online using a cellphone or laptop where when doing research at that time we were still prohibited from entering students due to the covid 19 season. Questionnaire technique was used to collect data on student learning attitudes. The research instrument used includes a questionnaire for student learning attitudes which consists of 4 answer criteria, namely SS: Strongly Agree, S: Agree, TS: Disagree, STS: Strongly Disagree. The test consists of 25 questions in the form of multiple choice. The function of the test in research is as a measuring tool for student learning outcomes in the cognitive domain.

In this case, to determine the level of student learning outcomes in physics subjects. The data obtained were analyzed using descriptive statistical techniques. Descriptive statistics are descriptions or presentations of large numbers in this case in the form of summary frequencies, e.g. mean, maximum and minimum. The procedures in this study are a) administering a research permit to the party concerned, b) determining the research subject, c) taking research data using test instruments that are distributed to students, and d) then the data obtained is processed and analyzed using SPSS data processing software. This research was conducted at SMA Negeri 5 Jambi City with a predetermined procedure.

3. RESULTS AND DISCUSSION

Results

Correlation Test

The correlation test is used to determine how strong the relationship between the two data is whether the independent variable has a strong relationship to the dependent variable with the decision-making criteria, namely Sig. (2-tailed) < α of 0,01. The results of the correlation test are presented in Table 1.

Table 1. Correlation Test Results

| | | Learning Motivation | Learning Outcomes |
|------------------------|-----------------|--------------------------------|------------------------------|
| Learning Motivation | Pearson | 1 | 0.912 |
| | Correlation | | |
| | Sig. (2-tailed) | | 0.000 |
| Learning Outcomes | N | 27 | 27 |
| | Pearson | 0.912 | 1 |
| | Correlation | | |
| | Sig. (2-tailed) | 0.000 | |
| | N | 27 | 27 |

Discussion

The correlation in this study analyzed the indicators: [1] student interest in learning [2] test results of physics learning material momentum and impulse. Based on Table 1, it can be seen that the relationship between motivation and student learning outcomes obtained the value of Sig. (2-tailed) of 0.000 with a Pearson correlation of 0.912, then H0 is rejected or it can be said that there is a positive and significant relationship between motivation and physics learning outcomes for class XI MIPA 6 at SMA Negeri Jambi City. From the

research results obtained, learning motivation has a positive and significant relationship to learning outcomes. Therefore, it would be better for a teacher to be able to make physics a favourite subject, so that students have a better view of physics. One solution to increase student activity, interest and attention in the learning process is to condition students to be able to learn actively by sharing information with their friends. So that it will encourage students to be more enthusiastic and motivated in learning, so that student learning outcomes are even better.

Interest in learning is a desire or willingness accompanied by intentional attention and activity which ultimately gives birth to pleasure in changing behavior, both in the form of knowledge, attitudes, and skills (Aprinawati, 2017; Supriyono, 2018). Explain that one's enjoyment in physics will also affect learning achievement. This is because there is a relationship between attitude and learning achievement. Learning attitude is an important factor to determine student achievement. Students who prefer a subject will get good grades on that subject (Jufrida, 2019; Tamayanti et al., 2019). Fun in learning physics is the love of students to learn physics which is upheld by high curiosity (Astalini. et al., 2018). Physics will be easily accepted if students' attitudes are positive in involving strategies to solve problems in it. Weak motivation to study physics due to a lack of understanding of the nature, benefits, beauty and employment that can result from studying physics (Aminoto et al., 2019). So that learning physics feels more fun, then the benefits of studying physics need to be understood. To face any obstacles or difficulties while studying physics, learning motivation is the first capital.

Motivation is an impulse contained in a person to try to make changes in behavior for the better in meeting their needs (Hakim & Windayana, 2016). Motivation is a desire that arises in oneself to do something (Suprihatin, 2015). A person who has a strong desire will usually work hard to achieve his goals. Extrinsic motivation is motivation that arises from outside but does not always have a relationship with learning activities (Sulistiyari, 2018; Yulianingsih et al., 2020). Forms of extrinsic motivation such as learning to fulfill obligations, avoiding punishment, getting rewards, increasing prestige, getting praise and learning for the demands of the desired position. While intrinsic motivation is learning motivation that arises purely from oneself to be able to solve a problem or achieve a goal. Motivation is considered important in learning and learning efforts in terms of its function and value or benefits (Primadona et al., 2018). One of the physiological factors which include learning motivation, interest in learning, and study habits. A student who has high motivation and interest will carry out the duties of the teacher no matter how heavy the task is (Jufrida, 2019).

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process can be seen from learning outcomes where learning outcomes are influenced by good attitudes and motivation of students (Astalini, 2019). In a study, an assessment is needed to determine the development, progress, and learning outcomes of students during the learning of the educational program (Basuki, F et al., 2019).

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4. CONCLUSION

There is a positive relationship between learning motivation and physics learning outcomes. This is because motivation is something that plays an important role in learning, especially learning physics. This is because learning motivation is a desire that arises in oneself to do something. The higher the motivation to learn, the higher the learning outcomes and the lower the motivation, the lower the learning outcomes. One solution to increase student activity, interest and attention in the learning process is to condition students to be able to learn actively by sharing information with their friends.

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