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The Influence of Student Interest on Student Learning Outcomes in Science Subjects

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Abstract. The formulation of the problem in this study is how the comparison and influence of interest in learning on science learning outcomes of students in SMP 22 Batanghari and SMP 1 Muaro Jambi. The purpose of this research is to find out how the comparison and influence of interest in learning on science learning outcomes of students at SMP 22 Batanghari and SMP 1 Muaro Jambi. This study also serves to see how important student interest in learning is to student learning outcomes in science subjects at the junior high school level. This study uses a mix method research with explanatory design and the data analysis technique used is random sampling. Based on the t-test of student interest in learning and student learning outcomes obtained a significance value of <0.05 so it can be concluded that there is a difference between student interest in learning and student learning outcomes in science subjects at SMP 22 Batanghari and SMP 1 Muaro Jambi. Based on the regression test of student interest in learning and student learning outcomes obtained a significance value of <0.05 so it can be concluded that there is an influence between student interest in learning and student learning outcomes in science subjects at SMP 22 Batanghari and SMP 1 Muaro Jambi.
Keywords: Interest, science, education

Introduction

One of the foundations in life that must be built as well as possible is education. Education is a quality system which is the expectations and demands of all stakeholders in education which is built from several interconnected components (Fadhli, 2017; Saat, 2015). In general, education is an interaction between the factors involved in it in order to achieve educational goals and a means to advance all areas of human life (Ilham, 2019; Ramdhani, 2014). Besides that, education is an effort to form a complete human being physically and mentally intelligent, healthy, and virtuous and an important aspect in the era of globalization, without education, a group of people can live and develop like aspirations (aspirations) to progress (Mustari & Rahman, 2014; Rini & Tari, 2013; Yuristia, 2018). education not only 'leads out' into a life of opportunity, but can 'lead out'

of precarious disaster situations to safety (Luetz & Sultana, 2019). Education is a process of learning the knowledge, skills, and habits of a group of people that are passed down from one generation to the next through teaching, training, and research.

The learning process is a goal-conscious process, namely to improve the cognitive, psychomotor and affective aspects of students. The learning process is a communication process, namely the process of delivering messages from the source of the message through certain channels/media to the recipient of the message which is often seen as the heart or core of learning activities (Dewi, 2020; Jayul & Irwanto, 2020). Effective learning can be done by creating students' motivation and interest in learning to always be involved and participate in the learning process and appropriate strategies are needed so that learning can run optimally (Fakhrurrazi, 2018; Mahmudah, 2018). Proses Good teaching and learning is based on the existence of a good relationship or interaction between students and teachers, students and students, and students and teachers occupy an important position for the formation of socio-emotional conditions (Mansyur, 2020; Nugraha, 2018). Students who engage in an experiential learning process using a systematic and continuous approach can obtain and apply knowledge from authentic learning experiences (Trongtorsak et al., 2021). In order for the learning process to run smoothly, students need an interest in learning in participating in learning.

Interest in learning is an impulse in oneself to do something that can make him interested and happy. Another aspect that determines learning other than readiness for change is the interest in learning (Prasetyo et al., 2021; Setiawan & Aden, 2020). Interest is an activity carried out by students on a regular basis in the learning process (Berutu & Tambunan, 2018). Interest is very influential in learning because if the subject matter studied is not appropriate, students will not be interested in doing learning well (Saputra & Agus, 2021; Ubaidillah, 2019) Interest in learning is a very important thing that must exist in students so that they are able to learn, because with interest can also determine the learning achievement of students themselves. (Kartika et al., 2019; Nasrullah et al., 2018). Student learning interest is an internal factor that affects student learning and learning outcomes.

Learning outcomes and overall student achievement are indicators of competence and the degree of behavioral change in question. Learning outcomes are a description of the abilities possessed by students after participating in the learning process which includes cognitive, affective and psychomotor abilities (Nurrita, 2018; Putri et al., 2018). Learning outcomes can be used as a reference to determine the strengths and weaknesses or success of students in various fields of study or subjects they take (Pradilasari et al., 2019;Saputra et al., 2018). The quality of education can be known and measured from student learning outcomes that are manifested in the values obtained by students (Kristiyanto et al., 2020). The learning outcomes highlighted by students are the result of efforts in the learning process. Thus, teachers should strive to improve student learning outcomes through various learning activities that allow students to develop their abilities (Yuliati & Lestari, 2019).

This research was previously conducted by (Riwahyudin, 2015), this study concluded that the interest in learning in students will lead to good learning outcomes. In this study, only normality and linear regression tests were carried out, and also the purpose of this study was to determine the direct effect of students' attitudes and interests on students' science learning outcomes. This research is also in line with research conducted by (Fridani et al., 2020), In this study, it was concluded that interest in learning had an influence on science learning outcomes. In this study only test descriptions and test hypotheses.

This research also serves to see how important students' interest in learning is to student learning outcomes in science subjects at the junior high school level. By seeing how important students' interest in learning is to student learning outcomes in science

subjects which are concluded from questionnaires and interviews, the objectives taken are to determine the comparison of student interest in learning and student learning outcomes in science subjects and to determine the effect of student interest in learning and results. student learning in science subjects at the junior high school level. The purpose of this study is to determine the comparison and influence of student interest in learning with student learning outcomes in science subjects at SMP 22 Batanghari and SMP 1 Muaro Jambi.

Methods

This research uses mix method research with explanatory design. according to (Hermawan, 2019) Mix method research is a combination method between quantitative research methods and qualitative research methods. The explanatory design is carried out in several stages of research, starting with data collection, analyzing data and formulating quantitative analysis results, then proceeding with data collection, analyzing and formulating qualitative data, and ending with interpreting the research results. (Creswell, 2012).

Instruments in this study used 2 types of instruments, namely questionnaires and interviews. Where the questionnaire used consisted of a student learning interest questionnaire and a multiple choice question questionnaire on student learning outcomes as well as interviews conducted with students. There are 15 valid statement items about students' interest in learning and a multiple-choice questionnaire consisting of 25 questions, 20 valid questions with a cronbach alpha of 0.78. This instrument uses a Likert scale. The scale consists of 5 points with a very appropriate value is 5, appropriate is 4, adequate is 3, less appropriate is 2, and not appropriate is 1. Each statement is representative of each indicator of student interest in learning and multiple choice questions for student learning outcomes . The focus of this research is on 3 dimensions of student interest in learning, namely attention in learning, learning materials and teacher attitudes, and benefits of subjects. The grid of student learning interest questionnaires in this study can be seen in Table 1. The description of the questionnaire instrument for student learning interest in science subjects is as follows:

Table 1. Grid of Student Interest Questionnaire Instruments in Science subjects

Variable	Indicator	No. Statement Items
Student interest	Attention in learning	1,2,3,4,
	Learning materials and teacher attitudes	5,6,7,8,9,10
	Benefits of subjects	11,12,13,14,15
Number of Statements		15

Due to the questionnaire on student learning interest and student learning outcomes using a Likert scale consisting of 5 categories, there are intervals in each category, and the intervals in each category can be seen in Table 2. The descriptions of the categories of student interest in learning and student learning outcomes in science subjects are as Table 2.

Table 2. Categories of student learning interests and student learning outcomes in

science subjects

Category	Interval Indicator			
	Student interest			Student learning outcomes
	Attention in learning	Learning materials and teacher attitudes	Benefits of subjects	
Very not good	4 – 7.2	6 – 10.8	5 - 9	0 – 4
Not good	7.3 – 10.4	10.9 – 15.6	10 - 13	5 – 8
Enough	10.5 – 13.6	15.7 – 20.4	14 - 17	9 – 12
Good	13.7 -16.8	20.5 – 25.2	18 - 21	13 – 16
Very good	16.9- 20	25.3 - 30	22 -25	17 - 20

The population of this study was 120 students consisting of 60 students of SMP 22 Batanghari and 60 students of SMP 1 Muaro Jambi. The sampling technique is random sampling. The reason for taking research subjects from 120 students consisting of 60 students of SMP 22 Batanghari and 60 students of SMP 1 Muaro Jambi is because the school has done a lot of learning so that students' interest in learning and student learning outcomes at the school can be seen.

The data analysis technique used was random sampling because the samples used were students of SMP 22 Batanghari and SMP 1 Muara Jambi which were in accordance with the variables of interest in learning and student learning outcomes. The use of random sampling in this research is to save time, cost and effort, and also allows the results of the research to be more precise and thorough, because all data from smaller research objects will be easier to analyze in detail. From these data, descriptive statistical tests and inverential tests were then carried out in the form of testing assumptions and hypotheses. In the assumption test, three tests were carried out, namely the normality test, linearity test, and homogeneity test. Normality test serves to determine whether the data is normally distributed (Amin et al., 2021). Linearity test serves to determine whether two variables have a linear relationship or not significantly (Amin et al., 2021). Homogeneous test serves to find out whether several groups of research data have the same variance or not (Buadiarti et al., 2021). Then test the hypothesis in the form of t test and regression test. The t-test serves to determine the comparison of the teacher's communication variables to the student's discipline character. Regression test serves to determine the effect of student interest in learning variables on student learning outcomes. These tests were then tested using SPSS 26 to obtain accurate results.

In collecting data, the first thing to do is to select students based on the categories given by the researcher, then provide questionnaires and conduct interviews about student interest in learning and student learning outcomes. Questionnaire is a data collection technique that is carried out by giving a set of questions or written statements to respondents to answer (Sugiyono, 2013). This questionnaire was addressed to students in SMP 22 Batanghari and SMP 1 Muaro Jambi, namely 120 students who became subjects in this study, which aims to determine the effect of student interest in learning on student learning outcomes. Then the questionnaire data was processed using the SPSS application. The use of the SPSS application functions to view descriptive statistics in the form of mean, min, max, percentage, and category of students as well as to see the results of several tests such as testing assumptions and testing hypotheses (Kamid, et al., 2021) The data needed in research can be collected or obtained from various data sources. The data collection procedure in this study is in accordance with the following Figure 1.

Figure 1. Research Procedure

Results and Discussion

Descriptive Statistics Test

The description of student interest in learning and student learning outcomes, which results will be obtained from distributing questionnaires in class VII at SMP 22 Batanghari and SMP 1 Muaro Jambi on indicators of attention in learning as shown in the following Table 3.

Table 3. Description of students' interest in learning on indicators of attention in learning

Student Response	Interval	F	%	Category	Mean	Median	Min	Max
SMP 22 Batanghari	4 – 7.2	0	0	Very not good	14.72	14.0	11.0	20.0
	7.3 – 10.4	0	0	Not good				
	10.5 – 13.6	20	33.35	Enough				
	13.7 -16.8	27	45	Good				
	16.9- 20	13	21.7	Very good				
SMP 1 Muaro Jambi	4 – 7.2	0	0	Very not good	14.98	14.0	11.0	20.0
	7.3 – 10.4	0	0	Not good				
	10.5 – 13.6	21	35.0	Enough				
	13.7 -16.8	23	38.3	Good				
	16.9- 20	16	26.7	Very good				

The description of student interest in learning on indicators of learning materials and teacher attitudes, as shown in the following Table 4.

Table 4. Description of student interest in learning on indicators of learning materials and teacher attitudes

Student Response	Interval	F	%	Category	Mean	Median	Min	Max
SMP 22 Batanghari	6 – 10.8	0	0	Very not good	20.9833	20.5	15.0	30.0
	10.9 – 15.6	4	6.7	Not good				
	15.7 – 20.4	26	43.3	Enough				
	20.5 – 25.2	24	40.0	Good				
	25.3 - 30	6	10.0	Very good				
SMP 1 Muaro Jambi	6 – 10.8	0	0	Very not good	21.75	21.0	15.0	29.0
	10.9 – 15.6	2	3.3	Not good				
	15.7 – 20.4	23	38.3	Enough				
	20.5 – 25.2	23	38.3	Good				
	25.3 - 30	12	20.0	Very good				

The description of student interest in learning on the indicators of the benefits of subjects, as shown in the following Table 5.

Table 5. Description of student interest in learning on the indicators of the benefits of the subject

Student Response	Interval	F	%	Category	Mean	Median	Min	Max
SMP 22 Batanghari	5 - 9	4	6.7	Very not good	16.6667	17.0	8.0	23.0
	10 - 13	7	11.7	Not good				
	14 - 17	23	38.3	Enough				
	18 - 21	21	35.0	Good				
	22 -25	5	8.3	Very good				
SMP 1 Muaro Jambi	5 - 9	1	1.7	Very not good	16.6333	16.0	7.0	25.0
	10 - 13	6	10.0	Not good				
	14 - 17	30	50.0	Enough				
	18 - 21	16	26.7	Good				
	22 -25	7	11.7	Very good				

The description of student learning outcomes at SMP 22 Batanghari and SMP 1 Muaro Jambi, as shown in the following Table 6.

Table 6. Description of student learning outcomes at SMP 22 Batanghari and SMP 1 Muaro Jambi

Student Response	Interval	F	%	Category	Mean	Median	Min	Max
SMP 22 Batanghari	0 – 4	0	0	Very not good	13.95	14.0	7.0	19.0
	5 – 8	5	8.3	Not good				
	9 – 12	16	26.7	Enough				
	13 – 16	20	33.3	Good				
	17 - 20	19	31.7	Very good				
SMP 1 Muaro Jambi	0 – 4	0	0	Very not good	13.3833	14.0	6.0	19.0
	5 – 8	6	10.0	Not good				
	9 – 12	20	33.3	Enough				
	13 – 16	21	35.0	Good				
	17 - 20	13	21.7	Very good				

Descriptive statistics are used to see the mean, median, frequency, percentage by analyzing the results based on the existing categories (Lapinova & Saichev, 2017). The results of the descriptive statistical test were obtained. Based on table 3, a description of students' interest in learning on the indicators of attention in learning was found that SMP 22 Batanghari with a percentage of 45% in the good category while SMP 1 Muara Jambi with a percentage of 38.3% in the good category, so it can be concluded that SMP 22 Batanghari is superior to SMP 1 Muaro Jambi on the indicator of attention to learning. Based on Table 4, a description of student interest in learning on the indicators of learning materials and teacher attitudes, it was found that SMP 22 Batanghari with a percentage of 40.0% in the good category while SMP 1 Muaro Jambi with a percentage of 38.3% in the good category, so it can be concluded that SMP 22 Batanghari is superior to SMP 1 Muaro Jambi on indicators of learning materials and teacher attitudes. Based on table 5, the description of students' interest in learning on the subject Benefit indicator

found that SMP 1 Muara Jambi with a percentage of 50.0% in the sufficient category while SMP 22 Batanghari with a percentage of 38.3% in the sufficient category, so it can be concluded that SMP 1 Muaro Jambi is superior to SMP 22 Batanghari. According to Yunitasari & Hanifah, (2020) the interest in learning is one of the most important factors for the success of students' learning, interest arises from within the students themselves. Factors from outside the interest in learning are how the teacher teaches. Based on table 6, the description of student learning outcomes at SMP 22 Batanghari and SMP 1 Muaro Jambi, it was found that SMP 22 Batanghari with a percentage of 36.7% in the moderate category was the same as SMP 1 Muaro Jambi with a percentage of 36.7% in the sufficient category. Achievement of learning achievement or student learning outcomes can be classified into several aspects such as; cognitive aspects, affective aspects and psychomotor aspects (Syafi'i et al., 2018).

Assumption test

In this assumption test, there are three tests to be performed, namely normality test, linearity test and homogeneity test.

a. Normality Test

Normality test is a test that is useful for determining the data that has been collected is normally distributed or not. The data requirements are said to be normally distributed if the value of sig. > 0.05 (Kamid, et al., 2021). The descriptions of the results for the normality test of student interest in learning and student learning outcomes at SMP 22 Batanghari and SMP 1 Muaro Jambi are shown in the Table 7.

Table 7. Description of the normality test of student interest in learning and student learning outcomes at SMP 22 Batanghari and SMP 1 Muaro Jambi

Variable	School	Sig.	Distribution
Student Interests	SMP 22 batanghari	.200	Normal
	SMP 1 Muaro Jambi	.200	Normal
Student learning outcomes	SMP 22 batanghari	.200	Normal
	SMP 1 Muaro Jambi	.100	Normal

b. Linearity Test

Linearity test is a test used to determine the form of the relationship between the independent variable or the dependent variable. The data conditions are said to be related if the value of sig. < 0.05 . The description of the results for the linearity test of student interest in learning and student learning outcomes at SMP 22 Batanghari and SMP 1 Muaro Jambi are shown in the Table 8.

Table 8. Description of student interest in learning and student learning outcomes at SMP 22 Batanghari and SMP 1 Muaro Jambi

Variable	School	Sig.	Distribution
Student Interests* Student learning outcomes	SMP 22 batanghari	0,022	linear
	SMP 1 Muaro Jambi	0,025	linear

c. Homogeneity Test

Homogeneity test is a test used to determine whether the data used is homogeneous or not. The data requirements are said to be homogeneous if the value of sig. > 0.05. The description of the results for the homogeneity test of student interest in learning and student learning outcomes at SMP 22 Batanghari and SMP 1 Muaro Jambi are shown in the Table 9.

Table 9. Description of the homogeneity test of student interest in learning and student learning outcomes at SMP 22 Batanghari and SMP 1 Muaro Jambi

Variable	School	Sig.	Distribute
Student Interests	SMP 22 Batanghari	0.573	Homogen
	SMP 1 Mauro jambi	0.374	Homogen
Student learning outcomes	SMP 22 Batanghari	0.125	Homogen
	SMP 1 Mauro jambi	0.443	Homogen

After the descriptive statistical test was carried out, the analysis was carried out for the next test, namely the assumption test. Analysis of data assumptions in this study using normality test, linearity test and homogeneity. The first assumption analysis test is about the normality test. Based on Table 7. The description of the normality test of student interest in learning and student learning outcomes at SMP 22 Batanghari and SMP 1 Muaro Jambi obtained the results from the normality test, namely the significance value > 0.05, it can be concluded that the data is normally distributed. Based on table 8. Description of the linearity test of student interest in learning and student learning outcomes at SMP 22 Batanghari and SMP 1 Muaro Jambi, the results of the linearity test were obtained, namely the significance value < 0.05, it can be concluded that there is a linear relationship between student interest in learning and student learning outcomes. at SMP 22 Batanghari and SMP 1 Muaro Jambi. Based on table 9, the description of the homogeneity test of student interest in learning and student learning outcomes at SMP 22 Batanghari and SMP 1 Muaro Jambi obtained the results of the homogeneity test, namely the significance value > 0.05, it can be concluded that the data used in this study was homogeneous.

Hypothesis Test

In this hypothesis test, the tests carried out are T test and regression test. The t-test aims to determine whether the independent variable has an effect on the dependent variable, while the regression test aims to determine the effect between student interest in learning and student learning outcomes.

a. T-Test

The description of the results for the T test of student interest in learning and student learning outcomes at SMP 22 Batanghari and SMP 1 Muaro Jambi are shown in the Table 10.

Table 10. Description of the T test of student interest in learning and student learning outcomes

Variabel	School	Sig.(2-tailed)
Student Interests	SMP 22 Batanghari	0.047
Student learning outcomes		0.020
Student Interests	SMP 1 Muaro Jambi	0.044
Student learning outcomes		0.031

b. Regression Test

The description of the results for the regression test between student interest in learning and student learning outcomes at SMP 22 Batanghari and SMP 1 Muaro Jambi is shown in the Table 11.

Table 11. Description of the regression test of student interest in learning and student learning outcomes

Schools	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
SMP 22	61.437	3.455		12,473	.014
Batanghari	.052	.023	.023	.303	.0144
SMP 1 Muaro	82.442	6.354		13,200	.013
Jambi	.073	.053	.034	.302	.0224

Then, the hypothesis test was conducted, namely t test and regression test. The first hypothesis test, namely the t-test, was carried out with the aim of knowing the comparison between the two schools by comparing the two variables (Ernawati et al., 2021; Zurweni et al., 2021). Based on Table 10. The description of the T test of student interest in learning and student learning outcomes at SMP 22 Batanghari and SMP 1 Muaro Jambi obtained the results from the T test, namely the value of sig. (2-tailed < 0.05, it can be concluded that there are differences in student interest in learning and results Students' learning at SMP 22 Batanghari and SMP 1 Muaro Jambi Based on Table 11 a description of the regression test of student interest in learning and student learning outcomes at SMP 22 Batanghari and SMP 1 Muaro Jambi, the results of the regression test are sig values (2-tailed) <0.05, it can be concluded that there is an influence between student interest in learning and student learning outcomes at SMP 22 Batanghari and SMP 1 Muaro Jambi.

Based on the results of interviews with students, it can be seen that students' interest in learning in participating in the student learning process is reduced because the model or learning method used is not interesting. During the learning process using ordinary learning, students are not actively involved so that students easily feel bored so that when doing tests students cannot focus. Besides that, excessive use of gadgets makes students not interested in learning, thus affecting their learning outcomes.

In addition to the environment, the desire and enthusiasm for learning is influenced by the condition of the students themselves at the time of learning, if the conditions faced are not supportive, usually students will tend to be less interested in learning or lack concentration in following each lesson given (Sirait, 2016). Interest is a desire or drive that is owned by an individual that aims to achieve the goal to be achieved optimally (Laras & Rifai, 2019). Strong interest will lead to persistent, serious effort and not easily discouraged in the face of challenges, on the other hand if someone's interest is low then his effort is also low and even seems to ignore (Berutu & Tambunan, 2018).

This research is in line with previous research conducted by (Riwahyudin, 2015) it was found that interest in learning had a direct positive effect on students' science learning outcomes, meaning that the interest in learning that existed in students would lead to good learning outcomes. This research is also in line with (Fridani et al., 2020) The results obtained that interest in learning has an influence on learning outcomes in science. Students who have a high interest in learning get better learning outcomes than students who have a low interest in learning. The generalization and updating of this research is to determine the differences and the effect of student interest in learning and

student learning outcomes. With this research, it can be known in more detail and accurately based on the tests that have been carried out by this research.

The limitation of this study is that it only compares the variables between students' interest in learning and student learning outcomes. Researchers suggest to conduct further research to compare the variables of student interest in learning and student learning outcomes with other variables.

Conclusion

Based on the t-test of student interest in learning and student learning outcomes, it was found that there was a difference between student interest in learning and student learning outcomes in science subjects at SMP Negeri 22 Batanghari and SMP 1 Muaro Jambi. Based on the regression test of student interest in learning and student learning outcomes, it was found that there was an influence between student interest in learning and student learning outcomes in science subjects at SMPN 22 Batanghari and SMPN 1 Muaro Jambi.

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