

THE INFLUENCE OF STUDENTS' MOTIVATION AND INTEREST ON LEARNING OUTCOMES SCIENCE IN SMP

Irianto M. Ali^{1*}, Astuti Salim^{2**},

^{*}Nani Bili Nusantara University, Indonesia

^{**}Khairun University, Indonesia

Email : iriantomoty@gmail.com , astuti.salim.unkhair@gmail.com

Abstract. This research aims to find out whether there is an influence of motivation and interest student on students' science learning outcomes in Sorong district . This research uses a correlational method which describes the influence between variables x_1 and x_2 towards variable Y. The population in this study was all class VIII students, totaling 160 students spread across 5 classes. Meanwhile, the sample used in this research was class VIII- 2 students , totaling 23 students taken using *a simple random sampling technique* . The data collection technique in this research is a test technique in the form of essay questions and a non-test in the form of a questionnaire, then the data analysis technique uses statistical regression tests. double . The results of the analysis show that there is a motivational influence and interest in learning outcomes. Based on hypothesis testing using statistical tests of reliability on student learning outcomes, it was obtained $F_{hit} > F_{tab}$, or $7,36 > 4,32$ and $F_{hit} < F_{tab}$ or $1.408 < 3.60$ so that stated hypothesis _ there is influence between motivation and results Study student accepted . Same statistical test _ treated For see influence interest to results Study obtained mark $F_{hit} > F_{tab}$ or $5.48 > 4.32$ and $F_{hit} < F_{tab}$ or $0.6 < 1.26$ this indicates there is influence between interest to results Study . Same statistical test _ For see influence motivation and interest to results Study obtained mark $F_{hit} > F_{tab}$ or $10.00 > 4.32$ this states that there is influence between motivation and interest on learning outcomes.

Implication for Practice or policy. Teachers must plan activities that motivate students, both at the beginning of learning, during learning and at the end of learning, so that the process of motivating students is realized in each learning implementation. With the hope that this effort instills enthusiasm and a sense of ownership of the material being taught and its benefits in real life.

Keywords : motivation, interest, learning outcomes

Introduction

Education is effort aware For develop potency source Power human (HR) Education prepares man through activity Study. Quality life can improved with method push solution development man. The education process in Indonesia continues experience change in form

improvement, which is the end produce products and results education quality high (Yakin: 2021). Motivation is very important element For success student in the learning process, because with exists motivation will give rise to high interest so that influential to performance learning (Samsudin: 2019). For reach good performance, no only needed intelligence, but also growing interest from selfstudent. Without exists Interested students No will enthusiastic For do activity Study. According to (Berutu & Tambunan: 2018) Interest is something activities performed student in a way consistent During the learning process, interest is very influential how and what they are learn. Student No will interested For Study If material lessons learned No in accordance with interest they. Usually student No Like Study Because lesson No interesting for them, and them No satisfied with Lessons that are not originate from choice his interest. Because the lesson is interesting for students, however more easy done Because interest add activity Study they.

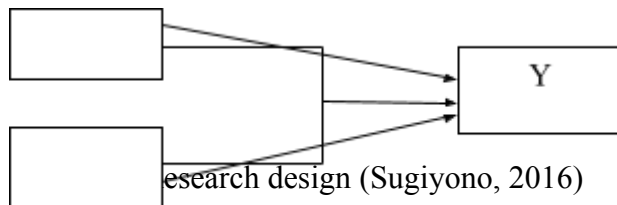
One of size success learning can seen from results Study. According to (Retariandalas : 2017) Learning is a constant process traversed by humans in his life. Because of that activity Study is activity lifetime life is done man in frame enrich and improve capacity personal. Through Study humans also gain knowledge useful knowledge For his life. The learning process is one of them can done with read. According to (Nesi, M & Akobiarek, M: 2018) Apart from implementation method learning, interest is factor supporter Because interest is a favorite taste or a feeling of interest in something desired thing, without exists compulsion. Interest generated by students will be very influential to objective achievement results effective learning.

For one student get results study well is A pride. Students who get results study well will always try For maintain and improve results learned that has he obtained. However, for get results study well it's not easy thing, because success Study student influenced by several factors and needs big effort For achieve it (Awe, E, Y. & Bengel, K: 2017). This matter in line with motivation theory Maslow is useful For give strong argument in use structure need as mover motivation man in a way comprehensive. This is what happened characteristic typical Maslow's thoughts before There is philosophy man previously. Namely about need man. One of Maslow's theory is the highest is actualization self (*Self Actualization*) Need this is what happened peak highest achievement man after needs previously fulfilled. Achievement actualization self This impact on conditions heightened psychology is also like change perception, and motivation For always grow and develop (Muazaroh , S & Subaidi : 2019).

In line with That according to Al Fath (2015) Motivation have very important function in Study students, because motivation will determine intensity business learning carried out by students, p This means students who have motivation Study tall will persistent in learn and keep going Study in a way continuous without know separated hope as well as can rule out things that can bother activity Study. Therefore that's very important For is known how much big influence motivation and interest student to results Study Science students at SMP Negeri 2 Sorong Regency. Menurit (Lidawa. Rahman & Salim: 2021) Motivation can done during the learning process going on, so student can moved For become more Good Again so that can influence ability think critical student in the learning process, therefore that, role a teacher is needed in choosing and determining the right learning strategy, because the learning strategy chosen and determined by the teacher also has its own role important in success a learning process.

Method

The type of research used in this research is experimental research, which aims to determine the influence of motivation and interest on student learning outcomes using two variables, namely the independent variable (X_1X_2) and the dependent variable (Y).



Information:

X_1 = Student motivation

X_2 = Student interest

Y = Student learning outcomes

This research was carried out in class VIII-2 of SMP Negeri 2 Sorong Regency which is located in the Aimas District, Sorong Regency, when this research was carried out in the even semester. The sample in this research was 23 students in class VIII-2 using *Simple Random Sampling*. The data research instruments used in this research are test and non-test techniques.

This test technique is to determine student motivation and learning outcomes. Instruments are used in the form of essay questions and non-tests in the form of questionnaires.

Results and Discussion

Retrieval of this data obtained through research instruments, then processed and analyzed so that the results can answer researchers' questions and test hypotheses. The research hypothesis was tested using the t test. But before using the t test calculation, first test the data using the following steps.

Based on results research that has been collected from each variable X_1 , namely the variable bell motivation as data X_1 , interest as variable data X_2 and learning outcomes as variable Y data, then the collected data made a table distribution frequency as following.

Table 1.

Distribution frequency

Statistics	Variable		
	X_1	X_2	Y
Number of Samples	23	23	23
Maximum Value	13	72	46
Minimum Value	11	59	36
Range	2	13	10
Average	11.34	66.04	41.17
Standard Deviation	1,027	4.6357	12.93
Variance	1,055	21.49	7.6047

Variables studied in study This consists from variable free and variable bound, Which become variable free is symbolized motivation and interest with X_1 X_2 , whereas variable bound is learning outcomes denoted student with Y. Description of the data presented in a way consecutive as following.

1. Description Data V variable Motivation X_1

Based on results study through question obtained from score results processing data a that has been filled student class VIII-2 of SMP Negeri 2 Sorong Regency. Research result shows

motivation data Study obtained mark lowest 53 and value high 89, range mark obtained from 89-53=36, questionnaire average motivation to learn for data X_1 obtained is 78.02 amount interval class is specified with formula $BK = 1 + 3.3 \text{ Log } 2/3$ the results obtained were 5,491 rounded becomes 5, long class obtained from range shared with interval class (36/5) was obtained value 7,2

From the results research carried out by (Konasih, A & Mariana, E: 2021) that results analysis of questionnaire and sheet data observation motivation Study Maha motivation Study students in the lesson physics influence results Study. Seen from active students, have will, and desire in follow the learning process physics so will get results study well.

2. Description Data V variable Interest Student X_2

Based on results study through questionnaire obtained from score results processing of questionnaire data that has been filled student class VIII-2 of SMP Negeri 2 Sorong Regency. Results of interest data analysis obtained mark Lowest 59 and value highest 72, range mark obtained from $72 - 59 = 13$, questionnaire average interest for data X_2 obtained is 66.04 amount interval class is specified with formula $BK = 1 + 3.3 \text{ Log } 2/3$ the results obtained were 5,491 rounded becomes 5, long class obtained from range shared with interval class (13/5) is obtained mark 2.6 standard deviation 4,6357 and variance 21,49.

3. Description Data V variable Learning outcomes Student

Based on results study through test questions, results obtained data that shows score smallest is 37 and score biggest is 56 with range mark 10 from average value results as big as is 41.17 standard deviation is 12.93 and variance is 7.6047.

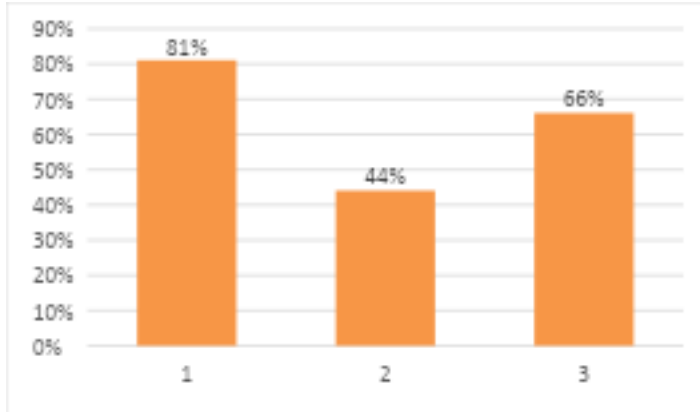


Figure 2. Percentage of motivation, interest and learning outcomes

Testing Condition Analysis

To determine the influence of motivation and interest on the learning outcomes of class VIII students at SMP Negeri 2 Sorong Regency on the concept of vibrations and waves, the data was then analyzed using regression and correlation tests. Before using regression and correlation test statistics, an analysis requirements test is first carried out, namely the normality test obtained with SPSS 16 .

Before tested with t-test equation , data first formerly analyzed with normality test For see normally distributed data or No using SPSS 16 this normality test uses SPSS 16. After being tested for normality and declared normal.

Table 2.
 Normality Test

Descriptive Statistics					
	N	Mean	Std. Deviation	Minimum	Maximum
Learning Outcomes	23	89.59	6,045	78	100

Linearity Equality Regression

Motivation to Learning Outcomes (X_1 to Y)

Based on significant test results obtained mark $F_{\text{hits}} = 7.36$ whereas For $F_{\text{tab}} = 4.32$ with level real 0.05. This matter show that coefficient regression significant H_0 rejected Because F_{hit}

$> F_{\text{tab}} (7.36 > 4.32)$. Then for linearity test obtained $F_{\text{hit}} = 32.93$ whereas For F_{tab} with thereby $F_{\text{hit}} < F_{\text{tab}} (1.408 < 3.60)$ then hypothesis expresses linear H_a accepted.

Interest to results learn (X_2 against Y)

Based on significant test results obtained mark $F_{\text{hit}} = 5.48$ whereas For $F_{\text{tab}} = 4.32$ with level real 0.05. This matter show that coefficient regression significant H_0 rejected Because $F_{\text{hit}} > F_{\text{tab}} (5.48 > 4.32)$. Then for linearity test obtained $F_{\text{hit}} = 0.6$ whereas For $F_{\text{tab}} = 11.26$ with thereby $F_{\text{hit}} < F_{\text{tab}} (0,6 < 1.26)$ then hypothesis represents linear H_0 accepted. In line with study from (Rosiana, LD & Sumilah: 2016) that There is connection between interest learning and motivation Study to results study science. The more tall interest learning and motivation learning that students have, then will the more tall results learn the science obtained . Through analysis correlation *product moment* there is connection positive between interest Study with results learning science is 0.722 then relationship can said strong, with other factors important interests and motivations pay attention to personal development students should too noticed.

Learning outcomes student

Based on results Data analysis carried out at SMP Negeri 2 Sorong Regency shows that For equality regression influence motivation to results students learn science is $\hat{Y} = a \pm b X$, where \hat{Y} ($a = 2.181$ $b = 1.70$) obtained $\hat{Y} = 11429 + 1254.21 + 41.82$ results testing equality regression pointed out that H_0 rejected at level real $\alpha = 0.05$ which means can said that motivation can influence results students learn science. Forknow there is influence motivation to results learn science concepts vibrations and waves in students SMP Negeri 2 Sorong Regency teachings 2023, with use testing The correlation coefficient between motivation or variables X_1 and student learning outcomes or variable Y is obtained r value of 0.04 and is classified in the strong category.

Based on results analysis meaningfulness correlation with influence motivation, results Study student performed by $t_{\text{hit}} (7.38)$ and t_{tab} is (4.32) level significant 0.05. Based on results the turns out $t_{\text{hit}} > t_{\text{tab}}$ or $7.38 > 4.32$ so H_a accepted and H_0 rejected, this means that there is influence motivation to results Science students learn the concept of vibrations and waves. Based on results study show that there is influence positive between motivation to results students learn science on concepts vibrations and waves, levels significant 0.05. Whereas level correlation

classified Enough. This matter in accordance with guidelines interpretation coefficient correlation.

Table 3.

Guidelines Interpretation To Coefficient Correlation (Sugiyono, 2016)

Coefficient Interval	Relationship Level
0.00 – 0.19	Very low
0.20 – 0.39	Low
0.40 – 0.59	Enough
0.60 – 0.79	Strong
0.80 – 0.100	Very strong

In carrying out research with provide motivation, science questions and questionnaires interest, then researchers can find only a small portion who have motivation low. Motivation itself has a very big influence on science learning outcomes, because solving science questions requires motivation strong learning so that push student For Study more enterprising .

Based on results the can concluded that motivation capable increase results Study student. Motivation help student in finish problem, develop abilities and skills. So motivation No only increase results Study student but also can involve student For active in the learning process, and can value difference ethics, differences level ability and disabled physique. Besides that based on study from (Ali, S. Moonti, U & Yantu, I: 2022) that consequence from lack of motivation Study student is consequence from low ability student in catch material lessons, concentration students inside class, liveliness students inside class, attitude students inside class, and habits Study student. So that motivation can created If exists encouragement something underlying business somebody For do something and have high desire and passion. With thereby can understandable that motivation is something attitude that arises from in self someone, where attitude the works For move somebody become more enthusiastic in Study.

Next h results study This show that there is influence positive interest to learning outcomes student. This matter seen from analysis equality regression obtained mark is $Y' = a + b X_2$ where X ($a= 59.07$, $b= 0,27$), so we get $Y' = 59.07 + 0.27$ Forknow equality regression the significant and linear or no, then significant test and linearity test are used Obtained mark as big

as $F_{hit} > F_{tab}$ or $5.48 > 4,32$ with $dk = n - 2 = 32 - 2 = 30$ and level real 0.05. This matter show that coefficient H_0 rejected. Meanwhile test linearity obtained $F_{hit} < F_{tab}$ $0.69 < 4,32$ with thereby hypothesis states H_a accepted and H_0 rejected and Regression simple show coefficient correlation between X_1 against Y r_{x_2y} with mark positive as big as 5.84 coefficient the determinant of $r^2 r_{x_2y}$ is equal to 34.10 which means that interest own influence as big as 34.1% against student learning outcomes. So you can concluded that there is influence interest in learning outcomes student class VIII on concept vibrations and waves. This matter in line with results study from (Azis, PA: 2016) that the Factor of in that is factors that can influence originating learning from moderate students Study. Factors This among them are: (a) interest individual is interest individual to something. Interest to learn high students cause Study student more easy and fast (b) motivation Study between one student with student other no The same. Motivation Study influenced by several factors, including: ideals students, abilities Study students, conditions students, conditions environment, elements dynamic in learning, and the teacher's efforts to teach student.

Based on results research that has been explained the can is known that there is influence positive interest student to learning outcomes obtained student. Interest as an existing factor in self, should improved so that it can reach student learning outcomes in a way maximum, like effort For increase interest, build trust self in finish problem increase interests and learning outcomes.

Study This done For aim know influence motivation and interest in a way together to learning outcomes student class VIII SMP Negeri 2 Sorong Regency on concept vibrations and waves. Influence motivation and interest student during the learning process teach walk there is influence to learning outcomes student Because seen from results have been achieved student. Apart from that, also for can see big influence motivation and interest in a way together to learning outcomes student seen from coefficient data correlation between The influence of X_1 and X_2 on Y is obtained equal to $= 5.33$ so that can said that there is influence motivation and interest in learning outcomes.

Based on results research data obtained equal to $\check{Y} = a + b_1 X_1 + b_2$ obtained $\check{Y} = 11429.44 + 1254.21 X_1 + 41.82 X_2$. Forknow equality regression the significant, then equality test is used regression double. Obtained mark as big as $F_{hit} > F_{tab}$ or $10.00 > 4,32$ with level real 0.05. This matter show that coefficient H_0 rejected. After held significant testing to correlation

double, then furthermore for a significant test coefficient correlation double obtained mark as big as $F_{hit} > F_{tab}$ or $0.5 < 4.43$ with thereby hypothesis states H_a accepted and H_0 rejected. It can be concluded that there is influence motivation and interest to students' science learning outcomes class VIII on vibration and wave concept. In line with research conducted by (Riadin, A & Estimurti, E,S: 2022) that There is influence motivation Study towards results study science. Motivation is a person's drive For do something thing, meanwhile interest is the thing you want in accordance with a person 's will with influence interest and motivation of 0.191. So that big contribution interest and motivation Study is 19.1 %.

Conclusion

Based on analyzed results so t there is (1) influence motivation on the science learning outcomes of students at SMP Negeri 2 Sorong Regency on the concept vibrations and waves and big its influence is 0.3969 or 36,69 %. (2) Yes influence interest to learning outcomes students at SMP Negeri 2 Sorong Regency on the concept of vibrations and waves and magnitude its influence as big as is 34.10 or 34.1 %. (3) Yes the influence of motivation and interest in a way together to Science learning outcomes of students at SMP Negeri 2 Sorong Regency on the concept of vibrations and waves with its influence as big as 28.40 or 28.4 %.

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