

THE EFFECT OF INITIAL ABILITY AND LEARNING INTEREST ON PHYSICS LEARNING ACHIEVEMENT OF STUDENTS OF STATE SENIOR HIGH SCHOOL 1 LAWE SIGALA-GALA

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Keywords:

Initial ability, Interest,
Achievement in learning
physics

ABSTRACT

The purpose of this study was to determine the influence of initial and secondary abilities. interest in learning towards physics learning achievement at Lawe Sigala-gala 1 State Senior High School. The research method used in This research is a survey method. The data analysis technique uses regression techniques and multiple correlation. The sample size was 76 students obtained using the technique *Slovin*. The instrument used is a multiple choice test to measure the ability initial and questionnaire to measure learning interest, while physics learning achievement was taken from the teacher's document. The results of the hypothesis test, namely (1) there is an influence of initial ability and interest Study in a way together to performance Study physics (2) there is the influence of initial ability on physics learning achievement (3) there is an influence of interest Study to performance Study physics.

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INTRODUCTION

Each student has a different view about physics lessons. Some people view physics as a fun subject and others Which look at physics as lesson Which difficult. For Which consider physics enjoyable, then interest will grow in students to learn physics and optimistic in solving challenging problems inphysics lessons. On the other hand, for those who consider physics as a difficult subject, then the students will be pessimistic in solving physics problems and dislike physics lessons. These attitudes will certainly influence learning outcomes that will they achieved in Study.

A number of factor,Which influence success participant educate in Study physics, including internal factors which include initial ability, intelligence level, learning motivation, learning habits, learning anxiety, learning interest, and so on. Whereas factor

external covering environment family, environment school, community environment, socio-economic conditions, and so on. In this study, the author focuses on internal factors in students with the following results: achieved by students. These internal factors are initial abilities and interests. Study.

Writer focus study This only on factor internal specifically ability beginning and interest Students of State Senior High School 1 Lawe Sigala-gala study, matter This because of writer want to know How big is the influence of initial ability on physics learning achievement, and the influence interest in learning towards physics learning achievement. In addition, the author also wants to know how much big influence ability beginning and interest Study in a way together to performance Study physics.

Interest is Wrong One factor determinant in success education. Impact from existence interest Study can grow method new in Study students. Learning is said to be successful if it can foster attitudes, behavior and method think in solve the problems that faced.

A student will be successful in his/her studies if the student himself/herself... Educate there is a desire to learn. Interest will be formed if there is effort from within himself and there is also external encouragement from teachers, family and the environment to like and pay attention to physics lessons and be interested in working on problems Which given Teacher.

While another thing that usually arises in learning physics is initial ability. students. Students' initial abilities are abilities that they already have. by students before participating in the learning that will be provided. Ability This beginning describes the readiness of students to receive the lessons that will be taught. delivered by the teacher. It is important for teachers to know the initial abilities of students before he starts with his studies, because in this way he can know Do students have the knowledge that is a prerequisite for follow learning to what extent students have learned what material is will served.

Each student has various experiences, conditions and potentials. when enter situation Study. He has own attitudes and intelligence certain as well as experience Study previously in in and also in outside school. Everything This is background behind or characteristics participant educate. Knowledge or ability Which has owned participant educate Which relate with the lessons that will be followed play a very important role in the process Study teach in school.

The initial abilities of students before starting to study a lesson. relevant bring a lot of influence to results learn that will be in achieve.

LITERATURE REVIEW

Performance Study Physics

Study is process change behavior in demand Which intentional based on experience which is not merely attitudes and values but also mastery of knowledge and skills.

Study according to Hamalik (2001:27), "Study is modification or strengthening behavior through experience". According to this understanding, learning is the process of an activity and not the result or goal. According to Sutikno (2004: 67-68), that:

"Learning is the process by which people acquire various skills, abilities and attitude. Can Also interpreted, that Study That is a process business Which done by someone to obtain a change in behavior new as a whole as a result of his experience in his interactions with environment".

A has Study If behavior his behavior has changed as consequence his experience. The changes in behavior are relatively permanent and not as it happens or temporary conditions.

Learning achievement is the result or level of ability that has been achieved by students. after following the teaching and learning process for a certain period of time, either in the form of changes behavior, skills and knowledge and then will be measured and assessed. Then manifested in numbers or statements.

Learning achievement is a change in the abilities and skills possessed participant educate after He follow a series activity Study teach. The more skilled in mastering various information and skills that are given, the more Good also performance Which achieved.

Improvement in learning achievement can be achieved if students as participants Students are given the opportunity to participate in the learning process and experience it in its entirety. every activities that There is.

Whereas Marsun and Martaniah in Sia Tjundjing (2000:71) to argue that:

"Learning achievement is the result of learning activities, namely the extent to which students mastering the subject matter being taught, which is followed by the emergence of feelings satisfied that he has done something well. This means learning achievement only Can known If has done evaluation to learning outcomes student".

So learning achievement is the maximum result achieved by a person. after carry out efforts Study. Performance Study is results or level the abilities that students have achieved after following the teaching and learning process in certain time in the form of changes in behavior, skills and knowledge and then will measured And rated Which Then realized in number or statement.

Performance is skills or results concrete Which can achieved on momentor a certain period. Based on this opinion, the achievements in this study are the results that has been achieved participant educate in learning process. Usually the measure of student learning achievement is symbolized in the form of numbers, letters or words. Student learning achievement can be evaluated using certain standards, Good based on group norms or the norm that No set.

Physics is part from science (science), Physics on in essence is gathering knowledge, method think, and investigation, Science as gathering knowledge can in the form of fact, draft, principle, law, theory, And model. Physics viewed as a process and at the same time a product, so that in learning it must consider effective and efficient learning strategies or methods namely through practical activities. According to Supiyanto (2007:1) that, "physics is a fundamental science that is the backbone of the development of science knowledge and technology".

Martin longing (2004:1) disclose that: "Physics is knowledge knowledge that studies natural phenomena and the interactions of these natural phenomena. In In physics, we study the phenomena of natural objects, both those that occur in objects... object (material) Which can observed, and also the thing that No can be observed (micro)".

Based on the theory and explanation above, it can be concluded that learning achievement Physics is the ability of students to master the basic material of physics (understanding and can explain and solve problems and can apply the material in everyday life) after carrying out the physics learning process which recorded on each end of semester in in book the report that called report card.

Ability Beginning

According to Mohammad Zain in Milman Yusdi (2010:10) defines it as Ability is our capability, skill, strength to try on our own. Meanwhile, Anggiat M. Sinaga and Sri Hadiati (2001:34) define ability as: as a basis someone who with by itself associated with implementation work effectively or very succeed.

Ability beginning is results Study Which got before get ability Which more tall. Ability beginning participant educate is prerequisite to take part in learning so that they can carry out the learning process well good. A person's ability is obtained from training throughout his life, and what Which brought for face a experience new. According to Rebbber in Muhibbin Syah (2006:121) said that "initial abilities are the initial prerequisites for know there is a change".

Initial ability can also be called *prior knowledge* (PK). PK is important step in the learning process, so every teacher needs to know the level of PK possessed by the students. In the process of understanding, PK is factor main Which will influence experience learning for the participant educate.

In the learning process, PK is a framework in which students filter new information and seek meaning about what he is learning. The process Forming meaning through reading is based on the PK in which students will achieve their learning goals. From the description, initial abilities are a prerequisite Which must owned participant educate before enter learning material lesson next Which higher.

Interest Study

Interest influence results Study no doubt again. If someone doesn't interested in learning something cannot be expected to succeed well in it. learning something. According to Sardiman (2001:74) "Interest is a condition that occurs when somebody see characteristics of his own needs".

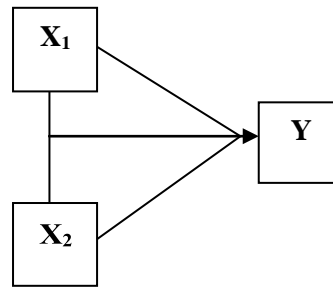
Understanding interest According to language (Etymology), it is effort and the will to learning and looking for something. In terminology, interest is a desire, favorite and will towards something.

Interest is a driving force that is believed to be powerful in the learning process. Therefore, teaching should provide greater opportunities for development interest a participant educate. Interest close very the relationship with feeling like and No like, interested or No interested.

Interest in learning is a feeling of pleasure, liking and attention towards efforts to learn get knowledge knowledge. In activity Study, student in school to study various sciences and efforts are made to ensure that all students get good grades. Good Which of course you can achieved with have interest learn that tall.

METHOD

Method study Which used in study This is method survey. The analysis techniques used are multiple regression and correlation analysis. This study implemented in SENIOR HIGH SCHOOL Country 98 Jakarta and SENIOR HIGH SCHOOL Country 106 Jakarta, on month September to December 2013. The number of samples in this study as many as 76 students were selected using the Slovin technique. The relationship between the three the variable can depicted as following:



Picture 1. Design Study

Information:
 X_1 = Initial Ability
 X_2 = Interest Study
 Y = Learning achievement Physics

As explained above, there are three types of data collected in this research. The three data sources are based on three research variables, namely data about the independent variable (X_1) namely initial ability, the independent variable (X_2) namely interest learning, and the dependent variable (Y) is physics learning achievement collected by use questionnaire or questionnaire And mark report card semester odd year teachings 2013/2014 Which obtained from school documents.

Before questionnaire made into tool collector data, moreover formerly held instrument analysis, through test try the instrument consisting of test validity and testing reliability, intended know eligibility instrument For made into as instrument study.

RESULTS AND DISCUSSION

Based on results processing data obtained results

Table 1.
Coefficient Determination
Model Summary

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1 | .874 ^a | .764 | .757 | 3.07384 |

a. Predictors: (Constant), Interest Study, Ability Beginning

b. Dependent Variables: Performance Study Physics

Source: Data processed, 2024

Table 2.
The Significance of the Relationship between Initial Ability and Learning Interest on
Learning Achievement Physics
ANOVA^b

| Model | Sum of Squares | Df | Mean Square | F | Sig. |
|--------------|----------------|----|-------------|---------|-------------------|
| 1 Regression | 2228.41 | | 1114.20 | 117,924 | .000 ^a |
| Residual | 689,74 | 7 | 9,44 | | |
| Total | 2918.15 | 7 | | | |

a. Predictors: (Constant), Interest Study, Ability Beginning

b. Dependent Variables: Performance Study Physics

Source: Data processed, 2024

Table 3.
Test Significant Coefficient Regression Double
Coefficients^a

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|----------------------|-----------------------------|------------|---------------------------|------|------|
| | B | Std. Error | Beta | | |
| 1 (Constant) | 23,97 | 4.47 | | 5.35 | .00 |
| Ability Beginning | .61 | .30 | .22 | 2,03 | .04 |
| Interest in Learning | .58 | .09 | .67 | 6.18 | .00 |

a. Dependent Variables: Performance Study Physics

Source: Data processed, 2024

Discussion

Influence Ability Beginning And Interest Study In general Together To Performance Study Physics

From the data description after the correlation analysis was carried out, a correlation coefficient was obtained. as big as 0.874 And coefficient determination as big as 76.4%, after done testing with the SPSS 18 program it is proven that the correlation coefficient is significant. This means that there is an influence of the independent variables X_1 (initial ability) and X_2 (interest). Study in a way together to variable bound Y (learning achievement physics).

Whereas from analysis regression the equality line $\hat{Y} = 23.973 + 0.615 X_1 + 0.583 X_2$. The constant value = 23.973 shows that with the ability the beginning and the lowest interest in learning, it is difficult for students achieve learning achievements good physics, while the regression coefficient values of 0.615 and 0.583 indicate that there is a positive influence on the independent variables X_1 (initial ability) and X_2 (interest) learning) together with the dependent variable Y (physics learning achievement). The number coefficient regression also shows that every There is increase one mark initial ability, there will be an increase in physics learning achievement of 0.615, and Every time there is an increase in one value of learning interest, there will be an increase in learning achievement physics as big as 0.583.

After testing the linearity of the regression line using the program SPSS 18 obtained that line regression the linear. From testing significance coefficient regression Which Also done with program SPSS 18 obtained that, The regression coefficient is significant, which means that it is true that there is an influence of the variable free X_1 (ability beginning) And X_2 (interest Study) in a way together to dependent variable Y (performance study physics).

According to the synthesis of existing theories, initial abilities are abilities that have been students have before taking part in the learning that will be given. Interest Learning is a feeling of pleasure, liking and attention towards efforts to gain knowledge knowledge. Whereas performance Study physics is ability student in master the main material of physics (understand and be able to explain and solve questions Which as well as can apply material in life daily) after carry out the physics learning process which is recorded at the end of each semester in report book that called report card.

The higher the initial abilities of students before taking part in learning furthermore so will the more tall also performance Study which will achieved. Especially If followed by a high interest in learning which can maximize the potential of existing resources. owned, Which on Finally can produce learning achievement that more good.

From the theoretical description it can be assumed that the higher the ability If the

beginning is followed by a high interest in learning, the higher the achievement will be studying physics in achieving knowledge, skills and attitudes in the subject lesson physics.

From the quantitative information and theory, the researcher concluded that there is influence of ability beginning and interest Study in a way together towards achievement Study physics.

Influence Initial Abilities to Performance Study Physics

From testing hypothesis obtained that mark $t_{count} = 2,036$ And $Sig = 0.045$. Because Sig value < 0.05 then H_0 is rejected which means there is a significant influence of the variable free X_1 (ability beginning) to variable bound Y (performance Study physics).

According to the synthesis of existing theories, initial abilities are abilities that have been owned by students before participating in the learning that will be given. While Physics learning achievement is the ability of students to master the main material physics (understand and be able to explain and solve problems and be able to applying the material in everyday life) after carrying out the learning process physics which is recorded at the end of each semester in a report book called report card.

Ability beginning is results Study Which got before get ability Which more tall. Ability beginning is prerequisite Which must owned by students before entering the next lesson material learning. higher. So a student who has good initial abilities will be higher fast understand material compared to with participant educate Which No have ability beginning in learning process. From the quantitative information and theory, the researcher concluded that there is influence initial ability towards learning achievement physics.

Influence Interest Study to Performance Study Physics

From testing hypothesis obtained that mark $t_{count} = 6,183$ and $Sig = 0,000$. Because the Sig value < 0.05 then H_0 is rejected which means there is a significant influence. independent variable X_2 (interest in learning) to variable bound Y (performance Study physics).

According to synthesis theory Which There is in Chapter II, interest Study is feeling like, Like And attention to business For get knowledge knowledge. Whereas performance Study physics is ability participant educate in control material main physics (understand and can explain and solve problems and can apply the material in everyday life) after carrying out the physics learning process which noted on every end semester in in book report Which called report card.

Interest is Wrong One factor determinant in success education. A student will be successful in his/her studies if the student has... there is a desire to learn. Interest influences student learning outcomes without a doubt Again. If someone is not interested in learning something there is no hope succeed well in learning something. In learning activities, students in school learn various knowledge knowledge and endeavored so that all student getting good grades can of course be achieved by having an interest in learning Which tall. From the quantitative information and theory, the researcher concluded that there is influence interest Study to performance study physics.

CONCLUSION

Based on discussion results study on chapter previously, so study This has succeeded in answering the proposed hypothesis. Thus the conclusion of research result This is:

1. There is an influence of initial ability and interest in learning together on performance Study physics. Matter This shown mark coefficient correlation double as big as 0.874 with a contribution of 76.4% to physics learning achievement. This influence significant with the sig value obtained being 0.000. This value is more small of 0.05 which means the influence is significant.
2. There is an influence of initial ability on physics learning achievement. This influence significant with the sig value obtained being 0.045. This value is more smaller than 0.05 which means the influence is significant. Based on this, The better the students' initial abilities, the better their learning achievements will be. its physics.
3. There is influence interest Study to performance Study physics. Influence This significant with the sig value obtained of 0.000 which is smaller than 0.05. Based on this, the better the students' interest in learning, the better it will be. Good Also performance Study physics.

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