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The Effect of Learning Interest on Students' Concept Understanding Ability Against Subject Pressure

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Abstract: This article discusses the effect of interest in learning on students' ability to understand physics concepts at SMA N 06 Sarolangun on the subject of pressure. This study uses a quantitative approach with correlational methods. The population of this study were students in classes XI IPA 1, XI IPA 2, and XI IPA 3. The sampling was carried out using a purposive sampling technique, namely class XI IPA 1. The data collection technique in this study was by using tests and non-tests. The test used is in the form of post-test questions with a total of 5 multiple-choice questions to measure students' understanding of concepts, especially on the subject of pressure. Meanwhile, non-test data collection is in the form of a questionnaire to measure how interested students are in learning. The questionnaire used totalled 10 question items. To find out if students were interested, students had to answer 9 out of 10 questions in a positive direction, with the answer choices being interested up or interested and very interested. And for understanding the concept, If students can answer four questions, then they are started to understand. But conversely, if they answer the 3 questions below, then they are stated not to understand the understanding of the concept of physics regarding pressure material. In accordance with the results of the study using data that had been processed using proven quantitative methods and it was found that the learning interest of class XI IPA students was very low and affected how students' conceptual understanding of physics, especially the subject of pressure

INTRODUCTION

Humans really need the name of education. Education is the most important thing in the development of a country. It can be concluded from the contents of Law no. 20 of 2003 that education is a thing or effort that has been planned so that the learning Improvement and improvement in education and teaching at all levels of school can be done by increasing the quality of the learning delivered. because in line with the current development of science and technology, students are required to be able to develop their potential through the learning they get at school. Learning is expected

to create interest in students to be able to know things that can stimulate their thoughts, ideas and build skills in thinking productively, creatively and innovatively in the future. Physics is a science that is closely related to the environment.

Physics is the most basic science to study several other sciences. Therefore, this physics must be very well understood by students, of course. Physics is one of the sciences that uses a fairly high understanding because it is more about understanding than memorizing. Conceptual understanding is not only the ability of students to master the material, but also students can re-express how well-studied lesson concepts are (Adisna et al., 2020). In conclusion, in learning physics it is necessary to understand the concept, because with an understanding of the concept students will more easily solve problems in physics with their understanding of the concept (Komariyah et al., 2018). Judging from the fact that now there are many students who have high achievements but with low understanding of concepts, this happens because students memorize more material. Memorizing the material does not rule out the possibility that students can excel but will quickly forget in the future. Something that is done with interest in it will get the desired result.

Judging from the fact, from the past until now, students are not very interested in learning physics. When they hear the word physics, they may immediately become unenthusiastic and immediately assume that physics is very difficult, so that there is no interest in students in learning physics. In the absence of this interest, the attitude of students will be very refusal when studying physics, they do not want to study physics more deeply, causing them to have no understanding of the concept, especially in the subject of pressure.

Interest is one of the things that can affect a person's business. With great interest, the effort that will be carried out will also be even greater and of course it will produce satisfactory results. (Tarbiyah & Teacher Training, n.d.). one of the factors that influence the learning process is student learning interest. Interest is an important foundation for someone to do something well. And other factors that influence the low student physics learning outcomes include the negative behaviors of students. students who are interested in learning about physics will study it seriously. such as studying diligently, feeling like following the presentation of physics lessons, and even being able to find difficulties in learning, completing practice questions and practicums because of the attraction that is gained by studying physics. Because without an interest in learning, students tend to be preoccupied with their own pleasures, such as not concentrating onthe learning process.

Therefore the teacher needs to apply interesting and understandable learning methods in order to generate interest in learning so that the lessons given are easy to understand and understand. For this reason, interest in students must be fostered continuously so that it increases within them. Several factors influence the success of students in learning physics, namely internal factors which include initial abilities, intelligence, learning motivation, study habits, learning anxiety, interest in learning and others. While external factors include the family environment, school environment, community environment, socio-economic conditions, and others.

Understanding is a result obtained by students from the learning process where these individuals can explain the information obtained in their own sentences. There are 6 categories of understanding in Bloom's taxonomy namely knowledge (knowledge), understanding (comprehension), application (application), synthesis (symthesis) evaluation (evaluation). The factor that influences low learning outcomes is the rejection behavior of students towards a subject that learning will run smoothly with satisfactory results, it must be accompanied by interest. Especially in learning physics, students who are interested in learning physics will take part in learning physics in class seriously and actively continue to study, especially physics lessons.

The understanding ability of students can be seen from the test results in solving problems, one of which is in learning physics. Students must be able to develop their thinking skills and not just memorize subject matter, but in learning students are able to understand the concepts being taught so that students can solve and find solutions to a problem. As we know that physics is an empirical science, so to solve the physics problems students must first understand the concepts of the material being studied. When we want to study physics, the most important thing is to understand the concepts of physics first. Learning concepts are arranged systematically. So it is necessary to master the concept in each subject matter before proceeding to the next material. The earlier concepts taught will be the basis for the development of subsequent concepts. Therefore understanding the concept and interest in student learning is very important. If students don't understand the concept, students will have difficulty solving physics questions.

In this study, there are differences between previous research and current research, namely there are 4 differences. The first is in terms of the research location where the places studied are different, the second is in terms of the sample where the current sample is students of class XI IPA SMA 06 Sarolangun. The three methods used are quantitative methods and data collection techniques used to provide questionnaires and questions to students. Fourth, in terms of research results where the results of the analysis are the difference with previous research. So that is the difference between the current research and the previous research. Current and past researchers have the same goal, namely to determine the effect of interest in learning on students' understanding of learning concepts.

From this background, the researcher is interested in researching in more depth and thoroughly regarding "the effect of Learning Interest on Students' Ability to Understand Physics Concepts in the Main Subject of Pressure" because in an increasingly sophisticated era, children are blinded by technological advances that make them less interested in learning, because children are more dominant in playing gudget than studying so that interest in learning is reduced, especially in calculations, especially physics lessons.

METHOD

This type of research is a quantitative approach using correlational methods. The quantitative approach is an objective research approach that includes the collection

and analysis of quantitative data and uses statistical methods in its testing. The variables in this study are learning interest and understanding of concepts. As the independent variable is interest in learning and the dependent variable is understanding of the concept. The subject population used in this study was class XI IPA 1, XI IPA 2, and XI IPA 3, which consisted of 75 students. The sample used was class XI IPA 1 with a total of 25 students using a purposive sampling technique (Adisna et al., 2020). Purposive sampling is a sampling technique with certain considerations. The data collection technique in this study was in the form of a test to measure conceptual understanding of the stress material with 5 multiple choice questions. While the non-test data collection technique is in the form of a questionnaire sheet. The questionnaire sheet is a form of design that contains written questions that are used to obtain reports about students. Where the Likert scale used is Very Interested (SB), Interested (B), Not Interested (TB), Very Not Interested (STB) which consists of 10 questions. Furthermore, the questionnaire was distributed to students of class XI IPA 1 who became the sample to get students' learning interest. As for the test instrument, namely in the form of questions containing as many as 5 multiple choice questions, the questions were distributed to students of class X1 IPA 1 in order to find out the students' understanding of the learning concept.

The preparatory stages for this study were: (1) determining the research location, (2) determining the instrument for the test in the form of multiple questions and non-test in the form of a questionnaire, (3) conducting instrument trials at the specified research location, (4) analyzing the result data from instrument trials, (5) meeting the school principal, (6) contacting the subject teacher concerned and determining the time for administering the test. Implementation phase: (1) analyze the data obtained, (2) draw conclusions from the data that has been analyzed. The implementation phase is as follows: (1) giving the test questions in multiple forms to students directly (2) distributing interest questionnaires to students directly Data collection techniques used to obtain data on learning interest and understanding of concepts are tests and non-tests. Data collection was in the form of tests to measure understanding of physics concepts in the form of multiple questions. while the non-test data to obtain the results of students' interest in learning by giving in the form of a questionnaire.

The research instrument used was a physics concept understanding test and a learning interest questionnaire. The questionnaire used uses a Likert scale. The Likert scale uses a checklist. This questionnaire uses positive direction questions with a total of 10 questions. From each item or positive question selected, there are 4 answer choices, namely Very Interested (SB), Interested (B), Not Interested (TB) and Very Not Interested (STB). Data is calculated using Microsoft Excel. So from the instrument above the researcher determines that in order to state that students are interested, namely students must answer 9 out of 10 questions in a positive direction with the answer choices being interested up or interested and very interested. To state that students understand the concept, the researcher uses a test instrument by giving 5 multiple choice questions. If students can answer 4 questions then they are stated to understand. But conversely if they answer 3 questions below then they are declared not to understand the understanding of the concept of physics regarding pressure material.

RESULT AND DISCUSSION

This research was conducted at SMA 06 Sarolangun with the total number of respondents being students of Class XI IPA 1, XI IPA 2, XI IPA 3 were 75 students, with a total sample of 25 students, this sampling technique used purposive sampling. The instrument in this study was using a questionnaire and the results of the test questions. Questionnaires were given to students to get students asking as many as 10 questions, as well as taking the results of the test questions were given to gain an understanding of physics concepts using 5 questions. The purpose of distributing questionnaires and questions to respondents is to generate data. after the data is obtained, the data is processed and calculated using Microsoft Excel to get the average value, standard deviation (S), the highest value and the lowest value Table 1.

Table 1. The Data of Reaserch

No	Difference	Concept Understanding	Student interest
1	Total value	1240	712
2	The Highest score	80	40
3	Lowest Value	40	29
4	Range	40	11
5	Number Of Classes	6	6
6	Class Length	7	2
7	Mean	62	35,6
8	Median	60	36
9	Modus	60	38
10	Standard Deviation	15.76137851	2.603641175

From the data that has been obtained above, data regarding the highest, lowest, range, number of classes, class length, mean, median, mode, and standard deviation values can be obtained.the data that has been obtained above, it can be obtained both data on understanding the concept and interest in learning so that it is easy to understand, it is presented in the form of a frequency distribution table like table 2 below for students' understanding of physics concepts.

Table 2. Frequency distribution of students' understanding of physics concepts

Interval	f	x	x^2	fx	$f\,x^2$	fkb	fka
40-46	5	43	1849	215	46.225	20	5
47-53	0	50	2500	0	0	15	5
54-60	8	57	3249	456	207936	15	13
61-67	0	64	4096	0	0	7	13
68-74	0	71	5041	0	0	7	13
75-81	7	78	6084	546	298116	7	20

From the data that has been obtained above, it can be obtained both data on understanding the concept and interest in learning so that it is easy to understand, it is presented in the form of a frequency distribution table like table 1.2 below for students' understanding of physics concepts, , apart from being in the form of a frequency distribution data table, the data is also displayed in form a polygon diagram like Figure 1.2 below for student learning interest.

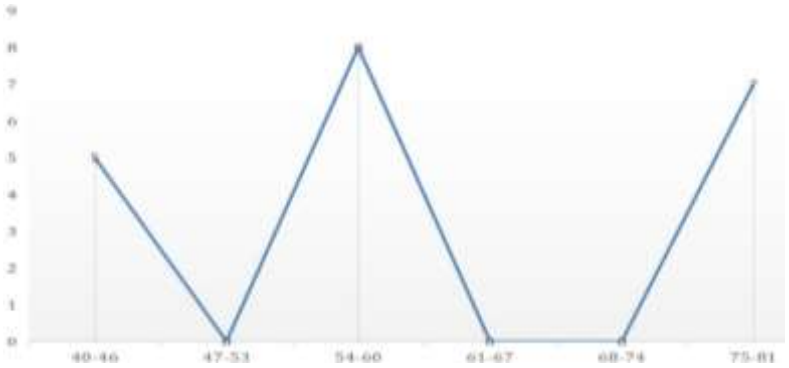

Figure 1. polygon diagram of students' understanding of the concept

In addition to understanding the concept, there is also data on learning interest which is presented in the form of a frequency distribution table as shown in table 1.3 below.

Table 3. Frequency distribution of students' learning interest

Interval	***f***	***x***	x^2	***fx***	fx^2	***fkb***	***fka***
29-35	9	32	1024	288	82944	11	9
36-42	11	39	1521	429	184041	20	20

Based on the results of the frequency distribution table, students' interest in learning shows that at intervals 29-35 they obtain a frequency of 9 and have a value of 9, while at intervals 36-42 they obtain a frequency of 11 and a value of 20, apart from being in the form of a frequency distribution data table, the data is also displayed in form a polygon diagram like Figure 1.2 below for student learning interest.

Figure 2. Student Learning Interest.

The data that the researcher has obtained above is used to find out and show the significance of the correlation of students' learning interest and understanding of physics concepts in stress material at SMAN 06 SAROLANGUN. From the research conducted, it was found that only 8 students answered 9 out of 10 questions with answers interested (B) above, while the rest of class XI IPA 1 answered 8 out of 10 questions with answers not interested (TB) down. As for understanding the concept of the results of the data obtained, there were 6 students and above who answered 4 questions correctly while the other students answered questions 3 and below correctly. After conducting research and

receiving data in the form of understanding physics concepts and students' learning interests, the researchers processed the data that had been obtained. The instrument in this study was using a questionnaire and the results of the test questions. Questionnaires are given to get students' interest in the amount of 10 questions, and taking the results of the test questions is given to gain an understanding of physics concepts with 5 questions. Interest in learning is measured using a Likert scale, namely very interested (SB), interested (B), not interested (TB), not very interested (STB). Meanwhile, the ability to understand concepts is done by looking at how many students answered the questions correctly.

To find out the students' understanding of the concept, that is by looking at the data on the understanding of physics concepts in the pressure material. It can be seen in number 1 that 7 people chose the correct answer, namely choice C, 7 people chose the wrong answer, 7 people chose A and 6 people chose option D. Meanwhile For number 2, 10 people chose the correct answer with option D, 9 people answered wrong with choice C and 1 person with choice A. In number 3, 10 people who got the correct answer, namely choosing option B, 7 people choosing the wrong answer, choose A, 2 , 1 person chose answers C and D. In question no 4, it was found that all students chose the wrong answer. And in number 5 it was found that all students chose the correct answer, namely A So it can be stated that if 6 students answered 4 questions correctly out of the 5 questions given, they were declared to have understood the concept, and vice versa from the rest of the participants who answered questions as many as 3 down out of 5 The questions given can be stated that they don't understand the concept. There are many factors that cause a lack of understanding of concepts and, judging from the learning process, students tend to memorize more theories, formulas and laws of physics. So that students who only memorize without understanding the concept of the subject, they will find it difficult to solve questions that are slightly different from the examples in physics subjects, especially on pressure material. In addition, other factors that cause low students' understanding of concepts, namely, students' lack of interest and motivation to repeat the material that has been taught. Educators say that understanding concepts is the basic provision for students to succeed in learning physics.

Furthermore, to determine students' interest in learning, the researcher used a Likert scale, namely Very Interested (SB), Interested (B), Not Interested (TB), Very Not Interested (STB). To find out whether the students were interested or not, the researcher gave a questionnaire in the form of 10 questions. If students answer 9 out of 10 questions with answers interested (B) above then it can be categorized that they are interested in learning, whereas if they answer 8 out of 10 questions with answers not interested (TB) down then it can be categorized they are not interested in learning at all. . Apart from that, the calculation of this questionnaire is also the same as the concept comprehension test, namely the researcher also presents it in the form of the highest score, lowest score, range, number of classes, class length. This is also taken into account to obtain or form a frequency distribution table of students' learning interest, then followed by creating a polygon diagram. Not only taking this into account in calculating the learning interest of

students using a questionnaire, it also takes into account the average, median, mode and standard deviation.

In accordance with the results of research with data that has been processed using proven quantitative methods and it is found that students' interest in learning is very low because only some of them answer questions interested in this affects how students' understanding of physics concepts, especially the subject of pressure, is observed from the questionnaire given with the average : 35.6, mode : 38, median : 36 and standard deviation : 2.60. for understanding the concept obtained from the sol test which totals 5 questions obtained the average: 62, mode: 60, median: 60, and standard deviation: 15.76. Physics from time immemorial in the eyes of students is one of the most difficult subjects. Judging from the data that has been obtained, the learning interest of students is very low. Low interest in learning resulted in low students' understanding of physics concepts at the school. It can be seen from the data obtained that on average from 5 questions, only 6 students answered 4 questions correctly, while 14 students answered 3 questions correctly down. Therefore, interest greatly influences the understanding of learning concepts.

Mastery of physics concepts must be based on students' conceptual understanding of physics lessons, especially on stress material. If this can be mastered, the students will easily remember the material, especially the stress material and if the lesson is repeated, the student will be able to explain it easily. In this case the understanding of the concept of physics is very much determined by students' learning interests. With an interest in physics subjects, these students will have deeper aspirations to understand a teaching material and always try to examine the goals in these subjects. But conversely, if students are less interested or not at all interested in physics lessons, they will not be serious about physics lessons. They will find it more difficult to accept any physics material taught by the instructor because there is no desire for the physics learning process. With the lack of student interest in physics lessons, student behavior tends to be indifferent or not too focused on physics lessons. Therefore, educators should convey the basic concepts of each material in teaching and not only convey formulas that tend to make students memorize so that they easily forget, educators should conduct direct demonstrations or practicums when explaining so that students are more motivated to learn, educators should design learning strategies meaningful, and educators should demonstrate the application of physics in everyday life. In addition, students are expected to be able to repeat the material they have learned, not to rely on their memorization skills, to do more practice questions and students are expected to be more thorough in reading questions and counting.

Usually the factors that influence student learning interest are internal and external factors, internal factors which include initial abilities, intelligence, learning motivation, study habits, learning anxiety, interest in learning and others. While external factors include the family environment, school environment, community environment, socio-economic conditions, and others. besides that the teacher's learning method also influences the interest and understanding of student learning concepts. If the method used is too monotonous or boring, students tend to get bored and sleepy, which makes them

uninterested and unable to understand the physics concepts being taught. To avoid this, there are several ways to increase student interest in learning, namely the teacher provides the right method or one that is not boring so that students can be happier in learning physics, for example the teacher provides interesting learning such as doing by example in everyday life, and can use visual media. , audio, social media or others.

CONCLUSION

From this research it can be concluded that the students' interest in learning is very low and greatly influences how students' understanding of physics concepts, especially the subject of pressure. There were 8 students who answered 9 out of 10 questions with answers interested (B) up, while the rest of class XI IPA 1 answered 8 out of 10 questions with answers not interested (TB) down. As for understanding the concept of the results of the data obtained, there were 6 students and above who answered 4 questions correctly while the other students answered questions 3 and below correctly. So the lack of interest in student learning and students' understanding of concepts is influenced by several factors such as the teacher's learning methods in class which are too monotonous or too boring and can be from facilities and infrastructure. For this reason, there are ways that a teacher can do so that students can foster their interest in learning, namely by the way the teacher provides interesting learning that is not boring. Because of that, the authors suggest educators to always motivate students that physics is not a difficult thing, and always innovate both from the learning media and the methods that will be taught. And besides that, if you want to do research with this title, it's better if the number of samples and population is increased. And for the questions being tested, it should be further improved according to the standards in order to get data that is more valid and as desired.

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