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IDENTIFICATION OF STUDENTS' ATTITUDES ON MULTIPLE LEARNING INTEREST AND SOCIAL IMPLICATIONS OF SCIENCE SUBJECT

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ABSTRACT

The purpose of this study was to identify how students' attitudes at SMPN 6 Batanghari toward science subject by using two indicators, namely: the social implications of science and interest in increasing the time of science learning. This research used a quantitative approach with a survey method and the instrument was an attitude questionnaire. The sample in this study was 143 students at SMPN 6 Batanghari. Data analysis in this study used descriptive statistics. The results obtained showed that the attitudes of students in SMPN 6 Batanghari on the indicator of attitude of interest in increasing the amount of time for learning science can be said to be quite good, and for attitudes the social implications of science can also be said to be good. From the overall results of the data, there were many factors that influence the positive or negative attitudes of students in the science learning process. Thus, the teacher must be able to foster more students' attitudes in science subject so that students have a positive attitude and can achieve better performance and can provide insight and knowledge to teachers related to student attitudes in the science learning process so that they are able to assist teachers in making lesson plans, methods, models and strategies that fit to the characteristics of students' attitudes.

Keywords: Attitudes, The Social Implications of Science, Increase Science Learning Time.

INTRODUCTION

Education is very important because it can create the next generation of the nation to be high integrity person. Education is a systematic process of activity to produce progressive changes in Sugiana's human behavior (2019). Education is needed because it can shape the characters of the students, namely "thinking and acting critically, creatively, collaboratively, cross-cultural understanding, communication, mastering the use of computers, careers and learning about one's abilities" Cintamulya (2019). Education is also very important in life, because through education someone can place himself well in the family and community. However, currently getting a good education is quite difficult. It is a fact that in today's life environment, getting a good education or decent work is increasingly competitive (Daulay, 2014). It requires education to be continuously developed in accordance with the development of times. The purpose of education must be inspirational, active and able to motivate students (Damanik, 2013). It can merely be achieved if it is supported by several affected factors such as the quality of teaching, teaching methods used, teaching materials used, preparation of materials, and curriculum used. That potential achievement can be obtained through educational institutions such as in Junior High School (Astalini et al, 2018). One of the subjects in Junior High School which is classified as difficult and less attractive to students so that it takes quality improvement in the learning process is science subject.

Education of science is the cognition that concerns about nature and the source of material related to daily life. Education is also a tool to improve the quality of human resource as a guarantee of the progress of a nation in this country. Through the improvement of human resources, it can be realized to face of global competition nowadays (Alannasir, 2016). Science in teaching and learning process is one of the subjects that must be learned by the students in elementary school (SD). Science is a knowledge that has implementation requires evidences about natural law and can be proven by scientific methods (Asrial, et al., 2018). There are various factors that greatly affect student learning outcomes, such as internal factors and external factors. Internal factors are factors found in students, namely "self-concept, creativity, motivation, habits, anxiety, interests and so on" (Tiorena, Sariningsih, 2019). In addition to these factors, there are other factors that influence the learning process of science in junior high schools, namely the attitude of students in the learning process of science.

Attitudes are thoughts and feelings that help us behave when we like and dislike something (Hardiyanti, et al., 2018). Attitude can be seen by how someone's response to

an object both positively and negatively. The attitudes come from the students themselves, namely the feeling of an object which is shown in feelings of like or dislike (Astalini, et al., 2019). The attitude of students to science subject will help them in the process of learning it. Students who have a positive attitude in science subjects will tend to understand the concepts of science more quickly than students who do not. Science subject is related to nature, but not all students have a good attitude in Natural Sciences, students who have a positive attitude in Natural Sciences will tend to have an interest and pleasure when they face some problems in Natural Sciences. According to Kurniawan, et al. (2019), the pleasure of learning science subject can be defined as the comfort and happiness feeling. Those are the evidences that every student has a positive attitude towards science. There are two indicators used to determine student attitudes in natural science subjects. In this study, researchers took indicators of student attitudes toward science subjects, namely: (1) Interest in increasing the time of learning science, (2) Social implications of science.

In the first indicator, the interest in increasing the time for science learning is indeed very important, it is impactful for students. At the Junior High School level, students begin to exploit career-related matters as the preparation for their future. Career exploration is truly important to be instilled to students since their early adolescence or Junior High School era so they will have lots of information, appropriate choices and plenty of time to consider about their future in accordance to their talents and interests to the next higher level (Priyanto, 2016). Therefore, the students who have career interest in science must have a positive attitude in science subjects. If from the beginning the student already has the desire to have a career in the field of Natural Sciences, he will try to deepen the knowledge related to Natural Sciences by increasing the time of learning science. Students who have the desire to pursue a career in science will have a high level of interest and curiosity in science subjects so that students will develop and broaden their horizons to increase knowledge related to science. If a student has an interest in a career in the field of Natural Sciences, of course from the beginning he will increase his time to learn Natural Sciences in order to have a deeper understanding of science subjects.

Learning time refers to the specific time students set for themselves to learn and gain the knowledge (Ukpong & George, 2013). Students who increase the amount of time to study for science will look for another related knowledge about science rather than merely depend on the knowledge they get from school. Students who have a positive attitude in increasing the time of learning science will practice on their own when they

don't understand a concept and problem in a science subject. Therefore, students who are trained to practice the examination in science will be more proficient and faster in deciding the formula or concept used in the exam (Astalini, et al., 2018).

The second indicator is the social implications of science. Students must have a good social implications attitude in science subject in order to achieve better performance and educational goals. Dimensions of science social implications will be more meaningful if students can control themselves in achieving the goals of education (Astalini, et al., 2018). Attitude is a very important part possessed by educated people, either at the level of primary education or in tertiary education. Attitude will also affect one's success in achieving the desired learning achievement (Jufrida, et al. 2019) attitude of social implications in science are the most important part that students must have in studying natural science. Social implications can create the attitude of independence and student cooperation in the learning process (Astalini, et al., 2018).

Students who have a positive attitude in the social implications of science will have learning independence and a good cooperative attitude in the learning process of Science. Independence of students arises when students are able to do worksheets by not looking at the answers of their friends. The collaboration arises when the teacher asks students to conduct experiments in groups Astalini, et al. (2018). The teacher has an important role in shaping the attitude of students' social implications of science in the learning process. The lack of knowledge from teachers about the weak attitudes of students towards science subjects exacerbates the circumstances in which students' the negative attitudes towards science will increase Astalini, et al. (2018). The role of the teacher who helps students to be able to think independently will foster a positive attitude of students.

This study aims to identify students' attitudes in science subjects using indicators, namely: (1) Interest in increasing science learning time, (2) Social implications of science. Knowing students' attitudes in natural science subject will provide insight and help teachers to have better understanding of how methods, or appropriate ways that can be used to assist students in understanding natural science subjects.

RESEARCH METHOD

The research design used in this study was a quantitative approach with a survey method. The quantitative approach is a scientific approach to managerial and economic decision making, however, the use of quantitative approaches is not only used in the economic sector, but also in all sectors that use studies and quantitative analysis. Through

this quantitative research approach, the researcher used numbers with the description. It also aims to describe the attitude indicators at SMPN 6 Batanghari.

Subjects taken in this study were 143 students. Sampling techniques is a way to determine the number of samples in accordance with the sample size that will be used as the actual data source, taking into account the characteristics and population distribution in order to obtain representative samples (represent). To obtain accurate data, the appropriate sampling method is required. Sampling for research can be done with a variety of techniques. The sampling technique used in this research is total sampling.

Instruments of collecting the data used in this study were attitude questionnaires and observations. The data collection techniques were carried out to determine the interest in learning science. Questionnaire is a data collection technique where the participant / respondent fills in a question or statement then after it is complete, it will be returned to the researcher Sugiyono (2012). The questionnaire in this study used a likert scale with a value of 5 points, namely SD = Strongly Disagree, D = Disagree, N = Normal, A = Agree, SA = Strongly Agree. Furthermore, the participants were given an interest test of increasing the learning time of Natural Sciences subject and Social Implications of Natural Sciences to identify student attitudes from 13 statement items.

Tabel 1: Indicator of Learning Environment Questionnaire

Variable	Indicator	Statement	Total Items
Attitude	Interest in increasing time to learn Science	6, 20, 34, 44, 13, 27, 39, 48	8
	Teacher and student relation	15, 29, 1, 8, 22	5

The research procedure in this study was begun by formulating the problem and variables and then followed up by looking for a literature review, after everything was ready then the data collection technique was conducted by distributing the attitude questionnaire to 143 students at SMPN 6 Batanghari. Analysis of the data used was descriptive statistics. The results obtained after processing the data using SPSS 22. Descriptive statistics are an overview or presentation of large amounts of data that include

mean, mode, median, maximum, minimum, and standard deviation are descriptive statistics (Cohen, 2007).

FINDING AND DISCUSSION

Research Findings

This study was used to identify students' attitudes on the indicator of interest in increasing the time of science learning and the social implications of science. The results were obtained from data processing using SPSS 22. Data was collected at SMPN 6 Batang Hari with a total of 143 students. The results of the student attitude questionnaire in the analysis below using the attitude categories are; very bad, bad, pretty, good, very good. The assessment is based on frequency and percentage of all students who have chosen each of these attitude categories. Furthermore, by using the attitude scale used was a Likert scale consisting of 5 ratings namely; 1 = very bad, 2 = bad, 3 = enough, 4 = good, 5 = very good). This assessment was appropriate based on the total number of students who chose each attitude scale and used the mean, mode, median, maximum, minimum and standard deviation. The results of this attitude assessment were obtained by using descriptive statistical analysis of SPSS data processing software.

a. Interest in science learning time

The table below is the result of descriptive data analysis of students' attitudes towards science based on indicators of interest in learning science, it can be seen in the table below:

Tabel 2: Interest in duration of learning Science

Classification	Attitude	Total	%	Standard Deviation	Mean	Modus	Median	Min	Max
8,0-14,4	Worst	1	0,7						
14,5-20,8	Bad	4	2,8						
20,9-27,2	Enough	60	42,0	0,69697	3,5743	4,0	4,0	1	5
27,3-33,6	Good	68	47,6						
33,7-40,0	Very Good	10	7,0						

From the table above, it shows that the results of the assessment of student attitudes, based on indicators of interest in science learning time obtained data results namely: the category of student attitudes inworst was as much as 0.7% (1 of 143 students), students

with a bad category of 2.8 % (4 out of 143 students), students in the moderate category were 42.0% (60 out of 143 students), students in the good category were 47.6% (68 out of 143 students), and students with very good attitudes were 7.0 % (10 out of 143 students). While based on the scale of students' attitudes from the results of the data above shows the mean score was (3.5743) mode is 4. Besides, the standard deviation was (0.69697) which is smaller (<) than the mean (3.5743). It means that the mean score is a representation of all the sample data examined or shows valid research data. These results indicate students' attitudes towards science on the indicator of interest in increasing science learning time showing positive attitudes on science lessons and can be seen from the results of data analysis that 47.6% of students or 68 of a total of 143 students in good category. From the data it is also supported by the results of the attitude scale on the questionnaire where most chosen scale by students was scale 4 which is good.

b. Social Implications of science subject

The table below is the result of descriptive data analysis of students' attitudes towards science based on the indicators of social implications in Natural Sciences. It can be seen in the table below:

Tabel 3: Social implication of science

Classification	Attitude	Total	%	Standard Deviation	Mean	Modus	Median	Min	Max
5,0-9,0	Worst	0	0						
10-13	Not Good	1	0,7						
14-17	Enough	18	12,6	0,68320	4,2168	4,0	4,0	2	5
18-21	Good	73	51,0						
22-25	Very Good	51	35,7						

The table above shows students' attitudes towards science based on social implications of science indicators in junior high schools (SMP). The results of the data above show that: students' attitudes in worst category were 0% (0 out of 143 students), in not good category were 0.7% (1 of 143 students), students in the moderate category were 12.6% (18 of 143 students), students in the good category were 51.0% (73 of 143 students), and students with very good category of attitudes were 35.7% (51 out of 143 students). While based on the attitude scale from the results of the indicator questionnaire shows the data

obtained had a mean score 4.2168, mode was 4, from the analysis of data obtained with a standard deviation (0.68320) is smaller (<) than the mean (4.2168) This mean score represents all research data samples and shows valid research data. These results indicate that students' attitudes toward science on the indicators of the social implications of science, students have a positive attitude and in the good category. This is supported from the results of the data above which shows 51.0% and 73 students from 143 total students were in good range and supported by the mode score or dominant attitude scale is 4 good.

DISCUSSION

Attitude is a form of student expression in learning and a tendency to reflect feelings about certain aspects. Riwahyudin (2015) also explained that, attitude is a condition of mental emotional readiness to take a particular action when a situation is faced. Attitude shows a person's condition to be ready to do something, not a real behavior. attitude can be measured by individual ability of an object. In this study, researchers measured the attitude of science using two indicators, namely interest in increasing the time to study science and the social implications of science. Attitudes are very useful for knowing students' feelings during the process of learning science, whether positive or negative attitudes if students have a positive attitude then it will affect the field of science. Interest increases the amount of time studied in science.

a. Interest in increasing the amount of time to learn science subject

An interest in increasing the time of learning science is an attitude of students in which their curiosity in learning science is very high. In table 2 it can be seen that the interest in increasing science learning time has a good attitude category which is 4.76% of 68 students out of 143 students with a median of 4.0 and mode 4. From the above data it can be said that the student's attitude towards the indicator of interest to increase science learning time is in the good category. It can be seen from the response of students about some enjoyment statements or student activities that refer to the increasing of learning time. Alike in doing the questions about science beyond the questions given by the teacher. Asking about science to the teachers outside the school time. Watch or find out things related to science independently.

Therefore, students who multiply science learning time will automatically like and interested in natural science subjects unconsciously. According to Nurhasanah&Sobandi (2016) interest in learning means that if someone who is interested in a subject then he

will have a feeling of interest in that subject. Increasing the time of science learning will help students to deepen knowledge related to science subjects. The use of learning time effectively and efficiently will make it easier for students to practice discipline in order to improve the achievement of targets in learning that is satisfying learning outcomes Putri&Nurhuda (2017).

b. Social Implications of Natural Sciences (social implications of science)

The social implications of science are how students apply science subject into social life or in other words the social implications of science will foster positive attitudes of students. In table 2 above it can be seen that the social implications of science have good attitudes categories of 51.0% of students 73 of 143 students with a mean of 4.21 and Mode 4. From the results of the mean and mode data it can be revealed that from the attitude of students towards the indicators of the social implications of science included in good category. It means that students at SMPN 6 Batanghari have good attitudes of social implications. It can be seen from the many students who gave positive responses to statements relating to social implications. Students who have the attitude of good social implications will prioritize the interests associated with science. Such as improving and completing practical tools that are able to support students in the science learning process. In addition students will have an independent attitude and good cooperation when faced with problems related to science.

Learning independence is the main requirement for students so they can complete assignments, believe in their own abilities, and not depend on others Nasution (2018). Students who have independence in learning will certainly have their own motivation in finding things related to science. Then, they will try to find renewals related to science in social life. Learning independence is related to how students behave independently when learning, the ability to find additional relevant learning resources other than those delivered by the teacher Septiyaningsih (2017). Through the attitude of social implications will help students in the learning process. Students who have a good attitude in social implications of science will be able to have independence and can work together in a group.

CLOSING

In this study the researcher used 2 indicators; interest in increasing the learning time of Natural Sciences and the social implications of Natural Sciences. Based on the data above, the attitude of students in SMPN 6 Batanghari on the indicator of attitude of

interest in increasing the time of learning science can be said to be quite good, and for attitudes the social implications of science can also be said to be good. From the overall results of the data, there are many factors that influence the positive or negative attitude of students in the science learning process. So the teacher must be able to foster more student attitudes in natural science subjects so that students have a positive attitude and can achieve better achievement. Through this research, it can provide insight and knowledge to teachers related to student attitudes in the science learning process so that it is able to assist teachers in making learning plans, methods, models and strategies in accordance with the characteristics of student attitudes. In addition, the results of this study can be a reference for similar research in order to be able to further develop methods, indicators or matters relating to the research.

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