

Investigation of Learning Activity in Secondary School

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Abstract

This study aims to examine the activeness of student learning towards science subjects in junior high school. The research method used was a mixed research method with an explanatory design. The subjects were students of junior high school amounted to 148 students. The analysis of data using statistical techniques descriptive for quantitative data and analysis Miles Huberman for qualitative data. The results of the five indicators show that students are categorized as having good learning activeness on the indicator "High Curiosity (45,3%)", "Dare to Take Risks (73,7 %)", "Wanted for New Experiences (55,4 %)", and "Proactive (57,4 %)". Then, students are categorized as having sufficient learning activeness on the indicator "Never Give Up (45,3 %)". The high percentage of the five indicators is supported by the results of interviews stating that students have a high curiosity seen from students who is actively asking questions and also not only rely on the material provided by the teacher, students have dared to make their own decisions and dare to face the problems given by the teacher without fear of being wrong, students are enthusiastic in conducting experiments or experiments because through theoretical experiments can be easier to understand and through experiments learning experiences can be obtained directly, and students are always looking for opportunities to learn and involved in learning activities, and students have a high enthusiasm for learning science but they are not confident in their abilities.

Keywords: Education, Science, Learning Activities

1. Introduction

In essence, education is a process in helping self-development so that it can face all changes and problems with an open attitude and creative approach without losing one's identity. With their education will open the potential values of each individual (Bichi et al., 2019; Dwianto et al., 2017). Without an education, it can cause humans to be less developed which results in humans being underdeveloped. Therefore, education is a very important thing that must be owned by every human being, which is useful for improving one's quality. The purpose of education in Indonesia is to be interactive, inspirational, and motivate students to increase resources who are cautious, responsible, have faith, have good character, are disciplined, and have high intelligence (Astalini et al., 2018). The first education a person receives is family. But not only families, but schools are also a vehicle for shaping the character of the nation and are important locations where "Nation Builders" can hone their skills and are expected to compete in the global arena (Jayanti & Wiratomo, 2017; Kurniawan & Astalini, 2019). So families and schools must unite in forming an intelligent individual, namely, one who has extensive knowledge, has a noble character, and has skills in certain fields.

The activeness of students in the learning process leads to high interaction between educators and students (Effendi, 2016). Student activeness in learning is a fundamentally important issue and must be understood, realized, and must be developed by every teacher in the learning process. Thus, it means that it must be applied by students in every form of learning activity. activity learning is a do undertaken by students during the learning process, where students are working or actively participate in learning in the classroom so that such students will gain the knowledge, experience, and understanding as well as other aspects regarding what has been done (Astuti & Kristin, 2017; Hadibrata & Rubiyanto, 2019). To activity student learning is also defined as a process of teaching and learning activities that

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require students actively involved and participate in the learning process to change the behavior student (Pour et al., 2018). Activeness in the classroom occurs when there are activities carried out by teachers and students, where what is meant by active learning, in this case, is an activity that is physical or mental in learning activities to support the success of the teaching and learning process (Maharani & Firosalia, 2017). In learning activities, students are required to be more active, that is, students are allowed to present their ideas about the topics discussed (Moma, 2017).

Active learning is that there is its involvement of students, where students participate actively in the classroom so that students gain experience, knowledge, understanding, and other aspects about what has been done (Pamungkas et al., 2018). Learning activity is included in learning activities to construct their knowledge, which means students can actively build an understanding of the problems or everything they face in learning activities (Susanti & Kurniawati, 2017). Active learning includes activities where students are involved this means students are doing something and thinking about what they are doing. Active learning is usually described as a learning-centered learning in which learners participate in building knowledge collaboratively (Roman & Uttamchandani, 2018). Student activeness in the learning process can stimulate and develop their talents, students can also practice critical thinking, and can solve problems in everyday life (Fadjrin, 2017). The active involvement of students in the learning process will make every concept and material presented by the teacher easier to understand and remember. Conversely, when students learn passively, students will go through the learning process without curiosity, without any questions, and without any attraction to student learning outcomes. When students learn actively, they will have a high curiosity, for example by actively asking questions. Students are said to be active if they find behavioral characteristics such as frequently asking teachers or other students, willing to do assignments given by the teacher, being able to answer questions, being happy to be given learning assignments and so on (Suitriani et al., 2016).

The research that is relevant to this research is research entitled "The influence of the talking stick learning model on student learning activeness" (Pour et al., 2018). The results of this study indicate that there is a positive influence between the talking stick learning model on student learning activeness. Furthermore, other research indicate that there is a high positive correlation between the activeness of students and the value of final learning outcomes, which means if the increase in the value of student activity, the value of final learning outcomes will also increase (Astuti & Kristin, 2017). The similarity of previous research with research conducted by researchers today is that this study both measures student learning activeness. The difference between previous research and research conducted by researchers at this time is that in previous studies measuring how effective learning affects student achievement, how is the relationship between learning activeness and learning outcomes closely, then the effect of using learning models on student learning activeness. Meanwhile, in this study, the researcher only wanted to describe the learning activeness of students at the first high school in Jambi City so that it became a finding and a starting point for moving into further research.

Because no research that measures student learning activeness in science subjects in Jambi City, especially at secondary school Jambi City State 18, researchers are interested in conducting this research. It is hoped that the results can be used as a reference for further research or can be a guide for teachers to measure the learning activeness of students. The Objective of this study was to determine how activity learning students to the eyes of science subjects in secondary school Jambi City State 18.

2. Method

This research is *mixed-method* research using *the explanatory* design. *Explanatory* design is a research design in mixed research which is characterized by the collection and analysis of quantitative data in the first phase then followed by the collection and analysis of qualitative data in the second phase which is built based on the results of the initial quantitative (Creswell, 2014). This research was conducted at 18 Junior High Schools in

Jambi City. Population in a study means a generalization area that consists of objects that have certain quantities and characteristics determined by researchers to study and draw conclusions (Siyoto & Sodik, 2015). The population in this study were all students of class VII, VIII, and IX SMP 18 City Jambi. While the sample is a small part taken to represent a population of 147 people. Data collection techniques in this study used instruments in the form of questionnaires or questionnaires and interview sheets. In this study using a questionnaire of learning activeness (Emosda. & Anggraini, 2018). Furthermore, this questionnaire was the researcher whose feasibility test (validity and reliability). The learning activeness questionnaire consisted of 25 statements using a Likert scale of 5 namely Always (SL), Frequently (SR), Sometimes (KK), Rarely (JR), and Never (TP). Scores for answers to positive questions are SL = 5, SR = 4, KK = 3, JR = 2, and TP = 1.

Interview sheet, at the time of the interview in addition to use right instrument as a guide for the interview, then the researcher can use other tools such as a tape recorder, pictures, brochures, and other material that could interview to be smooth. In gathering the data, here the researchers also used the interview as data collection techniques, the interview was conducted as a preliminary study to find problems that must be investigated, and also if you want to knowing other matters of respondents in depth. In this study the number of respondents to be interviewed was smaller / smaller, amounting to 10 student respondents in SMP N 18 Jambi City. Data analysis in this study used quantitative data analysis using the SPSS 24 program to look for descriptive statistics. Descriptive statistics is a description or presentation of large amounts of data, in this case in the form of summary frequencies, for example, mode, mean, median, maximum, minimum and standard deviation (Cohen et al., 2007). Then proceed with interview intended to strengthen the resulting data. Analysis of this qualitative data using Miles Huberman's analysis.

3. Result and Discussion

Results

The results of descriptive data analysis using SPSS from student learning activeness questionnaire data for high curiosity indicators, with results as in Table 1. Based on Table 1, it was noted that as many as 44.9 % (66 out of 147) students were categorized as good with a maximum score of all statements in the indicator of high curiosity was 25. This shows that most students admitted about the existence of high curiosity during the science learning process, and students realize that learning science in school is very important even though sometimes students find it very difficult to understand the concepts that are in science. Then there were 30.6 % (45 out of 147) students categorized as sufficient which meant students were still confused about the role of science in daily life, this was indicated by the results of a questionnaire that stated that they were still hesitant to have a high curiosity towards Natural science. While as many as 24.5 % (36 out of 147) students are categorized as not good this shows students consider learning science is not too important, and students do not know what benefits will be gained when students learn science, other than just getting good grades. This is shown by those who do not have a high curiosity about science. The results of descriptive data analysis using SPSS from the student learning activeness questionnaire data for indicators of abstinence, with results as in Table 2.

Table 1. High Curiosity

Range	Classification		%	Min	Max
	Attitude	Freq			
5.0 – 9.0	Very bad	1	0.7		
9.1 – 13.0	Not bad	35	23.8		
13.1 – 17.0	Enough	45	30.6	7.0	25
17.1 – 21.0	Good	61	41.5		
21.1 - 25.0	Very good	5	3.4		

Table 2. never give up

Classification			%	Min	Max
Range	Attitude	Freq			
5.0 – 9.0	Very bad	5	3.4		
9.1 – 13.0	Not bad	17	11.6		
13.1 – 17.0	Enough	67	45.6	7.0	20
17.1 – 21.0	Good	48	32.7		
21.1 - 25.0	Very good	10	6.8		

Based on Table 2, it can be described that the dominant students of SMPN 18 Kota Jambi responded sufficiently with the acquisition of data in the amount of 45.3 % (67 out of 147) were in the sufficient category for indicators of never giving up. This shows that students do not yet understand the importance of science in daily life, and shows that students cannot yet see themselves as scientists. In natural science learning indicators of abstinence can be done utilizing when learning in class students are diligent and diligent in taking notes. Besides, it can also be applied when conducting experiments and when solving questions given by the teacher, with no easy surrender to solve the questions given, if the questions given are difficult then students will try to solve these questions by finding answers from Other literature is not only based on what is given by the teacher. Then 39 % (58 of 147) students based on data analysis included in either category. Some students already understand the importance of science, so they have an attitude that never gives up on learning science. While as many as 14.9 % (22 of 147) students are categorized not good, it shows that students do not understand the importance of science, and cannot show their attitude as a student to think critically and unyielding in solve the problem in scientific. So based on the results of the data analysis conducted, it was found that the students of SMPN 18 Jambi City had sufficient learning activeness towards indicators of never giving up. The results of descriptive data analysis using SPSS from the student learning activeness questionnaire data for indicators of risk-taking, with the results shown in Table 3.

Table 3. Dare to Take Risks

Classification			%	Min	Max
Range	Attitude	Freq			
5.0 – 9.0	Very bad	3	2.0		
9.1 – 13.0	Not bad	10	6.8		
13.1 – 17.0	Enough	26	17.7	4.0	20
17.1 – 21.0	Good	49	33.3		
21.1 - 25.0	Very good	59	40.1		

Based on Table 3, it can be described that the dominant students of SMPN 18 Jambi City responded well with data acquisition of 73.4% (108 out of 147) in the good category for indicators of risk taking. This shows that students have a good ability to take risks in learning science. In science learning indicators of risk taking can be done in a way when learning in class students dare to take decisions. Moreover, it can also be applied when conducting experiments or experiments. Then 17.7 % (26 of 147) students based on data analysis included in the sufficient category. This means that some students are still confused about the importance of learning science so that they are still confused about why they have to dare to take risks in learning science. While as many as 8.8% (13 out of 147) students are categorized as not good, this shows that students do not understand the importance of activeness in learning science so they still do not dare to take risks in learning science. The results of descriptive data analysis using SPSS from the student learning activeness questionnaire data for indicators wanting to find new experiences, with the results shown in Table 4.

Table 4. Want to Find New Experiences

Classification			%	Min	Max
Range	Attitude	Freq			
5.0 – 9.0	Very bad	0	0.0		
9.1 – 13.0	Not bad	9	6.1		
13.1 – 17.0	Enough	57	38.8	18	37
17.1 – 21.0	Good	62	42.2		
21.1 - 25.0	Very good	19	12.9		

Based on Table 4, it can be described that the dominant students of SMPN 18 Jambi City answered well with data acquisition of 55.1% (81 out of 147) being in the good category for indicators wanting to look for new experiences, with a maximum score of 37. This shows that students have the activeness of learning good science proven from students who dare to look for new experiences in learning. In science learning indicators want to look for new experiences that can be done in a way when learning students do not only rely on materials provided by the teacher alone, but students also look for from other sources. It also can be applied by the way students often practice in working on questions from books or other sources and not just accepting bribes from the teacher. Then 38.8% (57 out of 147) students based on data analysis included in category enough. Whereas 6.1 % (9 out of 147) students are categorized as not good, this shows that students do not understand the importance of active science learning, this is indicated by students not wanting to find new experiences in learning science and only rely on material provided by a teacher only. The results of descriptive data analysis using SPSS from the student learning activeness questionnaire data for proactive indicators, with results as in Table 5.

Table 5. Proactive

Classification			%	Min	Max
Range	Attitude	Freq			
5.0 – 9.0	Very bad	0	0.0		
9.1 – 13.0	Not bad	16	10.9		
13.1 – 17.0	Enough	47	32.0	8.0	20
17.1 – 21.0	Good	56	38.1		
21.1 - 25.0	Very good	28	19.0		

Based on Table 5, it can be described that the dominant students of SMPN 18 Jambi City responded well with the acquisition of data in the amount of 57.1 % (84 out of 147) were in the good category for proactive indicators, with a maximum score of 20. Proactive behavior itself can be defined as action take the initiative to improve the new environment better by opposing the permanent state (status quo) of an organization, and not passively accepting the situation or can also be said to be proactive behavior as behavior that can directly change the surrounding environment (Windiarsih & Etikariena, 2017). Then 32 % (47 out of 147) students based on data analysis included in the sufficient category. While as many as 10.9% (16 out of 147) students are categorized as not good, this shows that the student does not understand how to change the environment with students actively learning or actively participating in science learning activities.

Discussion

Based on the results of the questionnaire analysis in Table 1 with indicators of high curiosity, it shows that dominant students are in a good category. Curiosity is an attitude or action that always tries to find out more, deeply, and extends from something it has learned, seen, and heard (Raharja et al., 2018; Wicaksana et al., 2017). The results of the interviews that have been conducted show that even though students find it difficult to learn science because they are required to learn abstract concepts, memorization, and formulas, they still have high curiosity, this can be seen from their efforts to obtain incomplete subject matter. If

the teacher is incomplete in providing material, students try to find material from other sources. Besides, they also actively ask questions if they don't understand the material provided by the teacher, this shows that students have a high curiosity. With this high curiosity, students come to know the role of science in solving problems and making life better. This is in line with what stated that curiosity can be seen as a desire for the benefit of science so that when curiosity is not fulfilled, it will cause unpleasant feelings (Raharja et al., 2018). So that based on the results of the interview data analysis conducted, it was found that students of junior high school 18 Jambi City had good science learning activeness. This can be seen from the enthusiasm of students to take part in science learning in class, and also the high curiosity of students.

Based on the results of the questionnaire analysis in Table 2 with the never-giving up indicator, it shows that the dominant students are categorized as quite good. Based on the results of interviews that have been conducted, students who get bad criteria reveal that science subjects are difficult because in learning science students are required to memorize theories, formulas, and also many concepts. Besides, in science sometimes they are required to have fantasies because the learning material is abstract and has never been seen in their daily lives. So when the teacher gives a complicated problem, they feel lazy to work on the problem because they don't understand the learning material, and prefer to copy answers from friends rather than having to solve them themselves. Meanwhile, students who get good criteria reveal that science is an interesting subject to understand because there are so many benefits that can be felt in everyday life and are directly related to nature. Besides, when the teacher gives an assignment in the form of a complex science question, students feel more challenged to solve the problem, when they cannot solve the problem they will continue to try hard to solve the problem until they get the answer correctly. This shows that students have an unyielding character. Never giving up is a character that does not give up easily in doing something, always has an optimistic attitude, and easily gets up from adversity (Tetep & Suparman, 2019; Yudha, 2019).

Student learning activeness at junior high school 18 Jambi City on indicators of risk-taking in science learning is dominant in the good category. Based on the results of interviews that have been conducted by students who are in the good category, are active in carrying out science learning activities such as conducting experiments, when they find things that are contrary to the experimental results, students will respond critically, have high curiosity and never give up. Besides, from the interviews that have been conducted, it can be seen that students are actively working on each assignment given by the teacher. When the teacher gives assignments to be completed in groups or individually, students also dare to make their own decisions and dare to face the problems given by the teacher without fear of mistakes and dare to take all the risks that might occur when completing the assignment. From the results of this interview, it indicates that students dare to take risks in implementing science learning. However, some respondents had bad criteria, they stated that they did not like science subjects, because it was difficult to understand, so they also did not dare to take risks in solving problems that existed in science and did not have good confidence in learning science. Then some students have enough criteria by stating that students sometimes have good self-confidence and sometimes don't have good self-confidence in learning science when they have good self-confidence they will dare to face all the possibilities that will occur. Conversely, if students do not have good self-confidence, they will not dare to take risks in learning and will also cause inactivity in learning activities. This is by what was expressed that self-confidence will motivate for achieving one's success in solving the problems at hand. So, it can be said that students on this indicator have good learning activity (Tresnawati et al., 2017).

Based on the results of the questionnaire analysis in Table 4 with the indicator of wanting to find new experiences, it shows that the most dominant students at junior high school 18 Jambi City are in a good category. Based on the results of interviews that have been conducted, it shows that students have high enthusiasm for learning. This can be seen from their statements which reveal that when doing experiments, they do it enthusiastically and earnestly. By conducting experiments or experiments, the theory and learning concepts

conveyed will be easier for students to understand and understand. Through experiments or experiments, students will also gain direct experience, so that they can increase their power to receive, store, and apply the concepts they have learned. Thus, students are trained to be able to find their various concepts that are studied holistically, meaningfully, authentically, and actively. The way of packaging learning experiences is very influential on the meaning of the experience for students. Learning experiences that show more related conceptual elements will make the learning process more effective. The science learning process that combines various concepts of physics, chemistry, biology, and space earth has more potential to develop students' experience and competence in understanding the natural surroundings. Besides, when asked if they always worked on the questions before learning them first? they answered no. This is because they do not have previous experience, so they must first study each learning material to do the problems well. Experiences for carrying out comprehensive scientific inquiry activities will help students to gain a deeper understanding. In science lessons learning experiences that can be developed include designing and making work through the application of the science concept in its integration which is characterized by scientific methods, scientific attitudes, and scientific communication (Listyawati, 2012).

Student learning activeness at junior high school 18 Jambi City on proactive indicators in learning science is in a good category. Proactive behavior is defined as a behavior where a person is willing to take the initiative in improving current conditions or creating new things rather than adapting to existing conditions (Deviyanti & Sasono, 2015). Besides, proactive behavior is also related to looking for opportunities to learn and engaging in learning activities. Based on the results of interviews that have been conducted, students who are in the good category have an active attitude in carrying out science or science learning activities such as conducting experiments and doing assignments given by the teacher. Besides, from the interviews that have been conducted, it can be seen that when the teacher gives assignments to be completed in groups or individually if students find it difficult to solve them students dare to ask questions, and in the implementation of learning in class students always participate actively in learning and when students have their spare time will fill it with learning or do assignments given by the teacher. From the results of this interview, it indicates that students are always looking for opportunities to learn and are involved in learning activities, in this case, it means that students have a proactive character in learning science. However, some respondents had bad criteria, they stated that they did not like science subjects, because it was difficult to understand, so that when the teacher explained in class or gave assignments they were ignorant of the teacher's explanation, when at the end of the lesson they didn't want to ask questions even though they do not understand the material presented by the teacher. Then some students have sufficient criteria by stating that students sometimes often ask questions when they find it difficult to learn science, often take the time to learn science because they realize that science is important in everyday life and sometimes don't want to take the time to learn science. and ignorance of what is explained by the teacher, so that when the lesson ends and they do not understand what the teacher says, they do not want to ask. Students who have a proactive personality will be willing to get involved and take the initiative to identify and contribute to various activities and situations. If the level of student activity is high, the students will be involved in the learning process and will also be higher (Prilanita & Sukirno, 2017).

The learning process is essentially a process of interaction between the teacher and students which contains the activities of students through various interactions and learning experiences experienced by both. Student activeness makes learning run by the learning plan that has been prepared by the teacher, the form of student activity can be in the form of activities on themselves or activities in a group. The active participation of students is very influential in the process of thinking, emotional, and social development. Besides, the activeness of students in the learning process can stimulate and develop their talents, students can also practice critical thinking, and can solve problems in the learning process. To increase student activity, teachers can play a role by systematically engineering the learning system, increasing student interest, and arousing student motivation, and using

media in learning (Wibowo, 2016). So that it can stimulate the activeness of students in the learning process.

The results of this study have provided the findings that student learning activeness in science lessons is in a good category. Involving students actively in science learning is very important because in science learning many problem-solving activities require student activity. The activeness of students in the learning process will lead to high interaction between teachers and students or students and students themselves. This will result in a fresh and conducive classroom atmosphere, where each student can involve his / her abilities as much as possible. Learning is said to be effective if student activity and student learning outcomes in the quality learning process are marked by the number of responses from students, the number of questions or answers about the material being studied, or ideas that may arise related to the concept of the material being studied. Besides, students' activeness can be demonstrated through behaviors such as searching for needed information sources, being active in expressing opinions, and being enthusiastic in asking questions (Wiguna et al., 2014). Student activeness in the teaching and learning process will also result in the formation of knowledge and skills that will lead to increased student achievement or learning outcomes (Anggraeni & Wasitohadi, 2014). So that with this research it is expected that the teacher will know the importance of student activity in learning, and the teacher can optimize the level of student activity because the teacher is responsible for achieving optimal student learning outcomes

4. Conclusions and Suggestions

Learning activeness of students towards science subjects Indicator that I have good criteria are indicators Curiosity are High, Dare to Take Risks, want to Find New Experiences, and be Proactive. The rest for the indicator of never giving up obtaining sufficient criteria. Students who obtained the results of the questionnaire with good criteria from the indicators have high curiosity stating that although Science is a difficult subject, students still have a high curiosity, this is seen from in addition to getting material from the teacher students also read from other references and actively when the teacher explains. Furthermore, students who get results with good criteria for risk-taking indicators state that they have dared to make their own decisions and dare to face the problems given by the teacher without fear of being wrong. Furthermore, students who get results with low criteria for indicators want to find new experiences they are excited about doing experiments or experiments because through theoretical experiments it can be easier to understand and through experiential learning experiences can be obtained directly. Furthermore, students who obtain results with good criteria for proactive indicators are always looking for opportunities to learn and engage in learning activities. Then, students who obtain results with sufficient criteria for indicators of unyielding states that there is a high motivation to learn science would but they are not confident in their capabilities.

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