ANALYSIS OF STUDENT LEARNING ACTIVITY IN THE FIRST MIDDLE SCHOOL OF JAMBI CITY

Nur Ika Sandi Pratiwi1*, Astalini2, Dwi Agus Kurniawan3

1,2,3 Program Studi Pendidikan Fisika, Fakultas Keguruan dan Ilmu Pendidikan, Universitas Jambi, Jl. Lintas Jambi-Ma. Bulian No. Km. 15, Mendalo Darat, Kec. Jambi Luar Kota, Muaro Jambi, Jambi 36122.

*email: nurikapratiiw026@gmail.com

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Abstract

The purpose of this study was to determine the activeness of student learning in science subjects at Junior high school 18 Jambi City, Junior high school 21 Jambi City, and Junior high school 24 Jambi City. The research method used is a mixed research method with an explanatory design. The research subjects were students of Junior high school 18 Jambi City, students of Junior high school 21 Jambi City, and students of Junior high school 24 Jambi City, totaling 567 students. The data analysis technique used descriptive statistics for quantitative data and Miles Huberman's analysis for qualitative data. The results of the study on the three indicators show that students are categorized as having good learning activeness on the indicator Physical Activeness (59.3%), Intellectual activity (45.5%), Emotional Activeness (46.7%), and for the indicator Mental Activeness (43.7%) is in the sufficient category. The high percentage of the four indicators is supported by the results of interviews which state that students have good physical activity, seen from students who are active in conducting experiments, students do not only see but also participate in carrying out the exercise according to the experimental process. Then intellectual activeness can be seen from students who actively ask questions and also don't just rely on the material provided by the teacher. Furthermore, the indicators of mental activeness are in the quite visible category of students who have begun to dare to express their opinions or work on questions in front of the class. And the indicators of emotional activeness are in a good category, seen from students who are stinging and enthusiastic in implementing science learning.

Keywords: Science, Learning Activity, Junior High School
INTRODUCTION

Education is one of the areas that are strategic enough to be used as a vehicle for the development of superior and character human resources [1]; [2]. Human education can change behavior and knowledge for the better [3]; [4]. Education plays an active role in improving the quality and quantity of human resources [5]; [6]. Efforts should be made in education to print high-quality human resources can be a way of getting used to establish a culture of critical thinking in students in the learning process [7]. To improve the quality of education in Indonesia, it must also be supported by the quality of it education personnel [8]. Teacher competence is one of the important factors that determine the success of the learning process. The learning process is an activity designed to help someone learn a new ability or value [9]. Learning is the process of obtaining information and values in system management [10]. This information can be in the form of ideas, ideas, the knowledge that packaged interestingly so that students are interested in learning and are active in seeking answers to all the problems they face [11].

Since the beginning of the twenty-first century, there has been an industry 4.0 which is characterized by technological integration between biological, physical, and digital spheres [12]. Future workplaces will place more emphasis on STEM skills [13]. STEM stands for Science, Technology, Engineering, and Mathematics [14]. Therefore it is very important to spark student interest in science or science learning. Science learning at the junior high school level, especially that has contributed to making students able to become a generation who has a scientific attitude in life and the environment [15]. Science has provided provisions to solve the problems of everyday life, considering that science is a student who seeks answers to the questions of what, why, and how natural phenomena are associated with the composition of structures and nature, changes and dynamics of nature. Activities developed in science learning should aim to encourage students to be more sensitive to the world around them [16].

When students have a high curiosity about science, this will make students often ask the teacher, students often ask the teacher to show that the student is active in learning activities. This is by [17] statement that student activity in the learning process leads to high interaction between educators and students. Student activeness in learning is very important and must be understood, realized, and must be developed by every teacher in the learning process. It must be applied by students in every form of learning activity. Learning activities are actions that are carried out by students during the learning process, where students participate actively in the classroom learning so that these students gain knowledge, experience, and understanding as well as other aspects of what has been done [18]; [19]. Student learning activities also defined as a process of teaching and learning activities that require students to be actively involve and participate in the learning process to change student behavior [20]. Activeness in the classroom occurs when there are activities carried out by teachers and students, what is meant by active learning here are activities that are physical or mental in learning activities to support the teaching and learning process [21]. In learning activities, students are required to be more active, and, students is allowed to present their ideas about the topics discussed [22].

For students who are active in learning activities, interest is an important thing that students must have. Students who are interested in learning will have an interest in the material being taught. Apart from student interest, they also need encouragement or movement to achieve their goals or ideals. Interest in learning is also an
aspect of fostering motivation, a phenomenon that is formed as a result of social interaction and the involvement of students in learning activities. Motivation is one of the most important factors to encourage student enthusiasm for learning. Learning will be effective and active if students are motivated to learn [23]. Differences in student motivation have an impact on science learning achievement. Students who are highly motivated in learning tend to get high learning outcomes, meaning that the higher the motivation, the more intense the effort and, the higher the learning achievement they get. Apart from interest and motivation to be active, it is also an important factor in achieving learning goals. Learning activeness that arises from students will result in the formation of knowledge and skills which will lead to increased learning outcomes [24]. Therefore, the three factors above are very important to achieve good learning outcomes.

Active learning is the involvement of students, where students play an active role in the class so that students gain experience, knowledge, understanding, and other aspects that has been done. Learning activities are included in learning activities to construct knowledge which means students can actively build an understanding of the problem or everything they face in learning activities [25]. Active learning includes activities where students are involved, meaning that students do something and think about what they are doing. Active learning is usually described as student-centered learning in collaborative building of knowledge [26]. 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 everyday life [24]. The active involvement of students in the learning process will make every concept and material conveyed by the teacher easier to understand and remember. Conversely, when students learn passively, students will undergo the learning process without curiosity, without questions, and without any interest in student learning outcomes. Students who are actively learning will have high curiosity, for example by actively asking questions. [27]; [28] states that 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, able to answer questions, enjoy being given learning assignments and so on.

Because no research measures student learning activities in science subjects in Jambi City, especially in Junior high school 18 Jambi city, junior high school 21 Jambi city, and junior high school 24 Jambi city the researchers are interested in conducting this research. It is hoped that the results of this study can be used as a reference for further research or can be a guide for teachers to measure student learning activities. The purpose of this study was to determine how learning activity science students at Junior High School Jambi City 18, junior high school 21 Jambi city, and junior high school 24 Jambi city.

**METHOD**

**Types of research**

This research is a mixed-methods study with an explanatory design. According to [29], the explanatory design is a research design in mixed research characterized by the collection and analysis of quantitative data in the first stage then followed by the collection and analysis of qualitative data in the second stage which is built on the initial quantitative results. This research was conducted at junior high school 18 Jambi City, junior high school 21 Jambi City, and junior high school 24 Jambi City. [30] states that the population is an area of generalization consisting of objects or subjects that have certain qualities and facts, which are determined by the researcher.
to be studied and then draw conclusions. The population in this study were all students of junior high school 18 Jambi City, junior high school 21 Jambi City, and junior high school 24 Jambi City. While the sample is a small portion taken to represent a population of 567 students.

Data collection technique

Data collection techniques in this study using instruments in the form of a questionnaire or questionnaire and interview sheets. This study, using an instrument in the form of a learning activeness questionnaire adapted from [31] which consists of 25 statement items. This learning activeness questionnaire uses a Likert scale, with four options: always (SL), often (SR), Sometimes (KK), Rarely (JR), and Never (TP). Score for answers to positive questions SL = 5, SR = 4, KK = 3, JR = 2, and TP = 1, and scores for answers to negative statements SL = 1, SR = 2, KK = 3, JR = 4, and TP = 5. The lattice of the student learning activeness questionnaire is as follows:

| Variable          | Indicator            | (+) | (-) | Total |
|-------------------|----------------------|-----|-----|-------|
| Physical Activity | 1, 3, 6, 2, 4, 5     | 9   |
| Intellectual     | 7, 9                 | 8   |
| Learning activity | 14, 16               | 15  |
| Mental Activity   | 17, 20               | 18, 4|
| Emotional Activity| 22, 24, 25           | 21, 5|

Table 1. The Grille of the Student’s Learning Activeness Instrument

Interview sheets, in addition to having to use instruments as a guide for interviews, when conducting interviews, researchers can use other tools such as tape recorders, pictures, brochures, and other materials that can help run the interview smoothly. In collecting data, here the researcher also uses interviews as a data collection technique, this interview is conducted as a preliminary study to find problems that must be researched, and also if you want to know other things from the respondents in depth.

Research procedure

This research procedure was carried out starting by distributing questionnaires or questionnaires, then analyzing quantitative data, then identifying the results to be followed up. After that, qualitative data was collected, then qualitative data analysis was carried out, then the results of qualitative data were obtained, and the results of quantitative and qualitative research were interpreted.

Data analysis technique

Data analysis in this study used quantitative data analysis using the SPSS 24 program to find descriptive statistics. Descriptive statistics are descriptions or presentations of large amounts of data, in this case in the form of a summary of frequencies such as mode, mean, median, maximum, minimum, and standard deviation [32]. Then proceed with interviews to strengthen the data generated. This qualitative data analysis used Miles Huberman's analysis.

RESULT AND DISCUSSION

The results of the research that have been carried out are as follows:

Physical Activity

On the indicators of physical activity, we can see the results from the questionnaire that has been distributed, with the results as shown in Table 2 below:
Table 2. Physical activity indicator

| Classification | %   | Mean | Min | Max |
|----------------|-----|------|-----|-----|
| 9.0 - 16.2     | 0   | 0    |     |     |
| 16.3 - 23.4    | 3   | 0.5  |     |     |
| 23.5 - 30.6    | 66  | 21.6 | 37.8| 23  |
| 30.7 - 37.8    | 336 | 59.3 |     |     |
| 37.9 - 45.0    | 162 | 28.6 |     |     |

Based on table 2, shows that the learning activeness of students at Junior high school 18 Jambi City, Junior high school 21 Jambi City, and Junior high school 24 Jambi City on the dominant physical activity indicator is in the good category with data acquisition of 59.3% (336 of 567) students, with the maximum score achieved is 45 and the minimum score is 23. This shows that generally, students are already active in science learning activities. The results of the research also showed that 0.5% (3 of 567) students had a bad attitude towards indicators of physical activity. Then, as many as 21.6 % (66 of 567) students were in the sufficient category, and as many as 28.6% (162 of 567) students had excellent learning activeness. Then obtained an average value of 37.8.

**Intellectual Activity**

Based on table 3, shows that the learning activeness of students of Junior high school 18 Jambi City, Junior high school 21 Jambi City, and Junior high school 24 Jambi City on the indicators of dominant intellectual activity is in a good category with data acquisition of 45.5% (258 of 567) students, with the maximum score achieved is 35 and the minimum score is 10. This shows that generally, students are already active in science learning activities. The results of the research also showed that 0.7% (4 of 567) students had very poor indicators of intellectual activity. Then, as many as 6.5 % (37 of 567) students were in a bad category, and as many as 22.9% (130 of 567) students had quite good learning activeness. Then obtained an average value of 25.87.

**Mental Activity**

Based on table 3, shows that the learning activeness of students of Junior high school 18 Jambi City, Junior high school 21 Jambi City, and Junior high school 24 Jambi City on the indicators of dominant mental activity is in a good category with data acquisition of 45.5% (258 of 567) students, with the maximum score achieved is 35 and the minimum score is 10. This shows that generally, students are already active in science learning activities. The results of the research also showed that 0.7% (4 of 567) students had very poor indicators of intellectual activity. Then, as many as 6.5 % (37 of 567) students were in a bad category, and as many as 22.9% (130 of 567) students had quite good learning activeness. Then obtained an average value of 25.87.
Table 4. Mental activity indicator

| Range     | Classification | %   | Mean | Min | Max |
|-----------|----------------|-----|------|-----|-----|
| 4.0 - 7.2 | Very bad       | 5   | 0.9  |     |     |
| 7.3 - 10.4| Not bad        | 74  | 13.1 |     |     |
| 10.5 - 13.6| Enough        | 248 | 43.7 | 13.3| 7   |
| 13.7 - 16.8| Good           | 167 | 29.5 |     |     |
| 16.9 - 20.0| Very good     | 73  | 12.9 |     |     |

Based on table 4, shows that the learning activeness of students of Junior high school 18 Jambi City, Junior high school 21 Jambi City, and Junior high school 24 Jambi City on the indicators of dominant mental activity is in the sufficient category with data acquisition of 43.7% (248 of 567) students, with a maximum score of 20 and a minimum score of 7. This shows that generally, students are active in science learning activities. The results of the study also showed that 0.9% (5 of 567) students had very poor indicators of intellectual activity. Then, as many as 13.1% (74 of 567) students were in a bad category, and as many as 12.9% (73 of 567) students had excellent learning activeness. Then obtained an average value of 13.3.

Emotional Activity

On the indicators of mental activity, we can see the results from a questionnaire that has been distributed, with the results as shown in Table 5 below:

Table 5. Emotional activity indicator

| Range     | Classification | %   | Mean | Min | Max |
|-----------|----------------|-----|------|-----|-----|
| 5.0 – 9.0 | Very bad       | 1   | 0.2  |     |     |
| 10.0 – 13.0| Not bad       | 8   | 1.4  |     |     |
| 14.0 – 17.0| Enough        | 112 | 19.8 |     |     |
| 18.0 – 21.0| Good          | 265 | 46.7 |     |     |
| 22.0 – 25.0| Very Good    | 181 | 31.9 |     |     |

Based on table 5, shows that the learning activeness of the students of Junior high school 18 Jambi City, Junior high school 21 Jambi City, and Junior high school 24 Jambi City on the indicators of emotional activity is dominant in the good category with data acquisition of 46.7% (265 of 567) students, with the maximum score achieved is 25 and the minimum score is 9. This shows that generally, students are active in science learning activities. The results of the study also showed that 0.4% (1 of 567) of students had very poor indicators of emotional activeness. Then, as many as 1.4% (8 of 567) students were in a bad category, and as many as 19.8% (112 of 567) students had quite good learning activity, and 31.9% (181 of 567) students were in the category very good. And the average value is 20.76.

Discussion

Based on the results of the questionnaire analysis in table 2 with indicators of physical activity, shows that the dominant students are in a good category. Physical activeness can include taking notes, what is meant here is when students are aware of the motivation and purpose of writing, for example writing the results of the experiment. Then the second physical activity can include reading, in learning activities to read has a big influence. Almost part of learning activities is reading, to learn well it is necessary to read well because reading is a learning tool. Furthermore, discussing, in the discussion activity there are several learning activities such as asking questions, issuing opinions, or suggestions, and so
on. If in the learning process there is a discussion, it will develop the potential of students so that students become more critical and creative in discussions. Furthermore, hearing is a response that occurs because of the stimulation of the sound. Receiving waves by the sound of the listener's senses does not mean there is a conscious perception of what is heard, because of this fact that many people hear but in fact, they do not understand or remember what they are hearing. The results of the interviews that have been conducted show that when the teacher or friend demonstrates the experiment in front of the class the students pay attention seriously. Besides, they also actively ask if they do not understand the material provided by the teacher, this shows that students have a high curiosity. With this high curiosity, students become aware of the role of science in solving problems and making life better. This is in line with [33] said that curiosity can be seen as a desire to benefit from science so that when curiosity is not fulfilled it will cause unpleasant feelings. Students also participate in using the tools and materials in the experiment according to the experimental procedure, students have also been able to write down the results of the experiment. So that based on the results of the interview data analysis conducted, it is known that students of junior high school 18 Jambi City, junior high school 21 Jambi City, and junior high school 24 Jambi City have 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 3 with indicators of intellectual activeness, it shows that the dominant student is categorized as good. From the results of interviews that have been conducted, students who get bad criteria reveal that science subjects are difficult because in science learning students are required to memorize theories, formulas, and also many concepts. Besides, in science, sometimes they are required to fantasize because the learning material is abstract and has never been seen in everyday life. So when teachers give complicated questions, they feel lazy to work on the questions 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 complex science questions, 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 right answer. This shows that students have an unyielding character. According to [34], never giving up is a character who doesn't give up easily in doing something, always has an optimistic attitude, and easily gets up from adversity.

Students' learning activeness at junior high school 18 Jambi City, Junior High School 21 Jambi City, and junior high school 24 Jambi City on the liveliness of mental dominance in both categories. 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, if they find things that are contrary to the experimental results, the 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 active in discussing and expressing opinions, students are also able to solve any questions given by the teacher, and can remember the material that has been studied and can restate theoretically. The results of the interview show that students already have good mental awareness. However, some
respondents who had poor criteria stated that they did not like science subjects, because it was difficult to understand them, and were ashamed to express their opinions when discussing them, students also did not want to work on questions given by the teacher in front of the class. Then some students have sufficient criteria by stating that students sometimes have good self-confidence and sometimes don't have good self-confidence in learning science, when students have good self-confidence students will dare to express their opinions in discussions so that it can improve active students in learning science. This statement is by what was expressed [35] which said that self-confidence will motivate one to achieve one's success in solving the problems at hand. So, students on this indicator of mental activity can be said to have good learning activities.

Based on the results of the questionnaire analysis in table 5 with indicators of emotional activeness, it shows that students of Junior high school 18 Jambi City, Junior high school 21 Jambi City, and Junior high school 24 Jambi City are the most dominant in the good category. Based on the results of interviews that have been conducted, it shows that students have a high interest in learning. This can be seen in the expressions of students who feel enthusiastic and excited in learning science, happy, and calm when the learning activities take place. The enthusiasm of students in learning science can be seen when they do the experiment they do it seriously. By conducting experiments, the learning theory and concepts presented will be easier for students to understand. Through experiments, students will also gain direct experience, so they can increase their power to accept, store, and apply the concepts they have learned. Thus, students are trained to be able to find various concepts that are studied holistically, meaningfully, authentically, and actively. The way learning experiences are packaged 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 earth-space has the potential to develop students' experience and competence in understanding the natural surroundings.

The results of this study provide the findings that student learning activeness in science subjects 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 produce a fresh and conducive classroom atmosphere, where every 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 learning. Besides, student activeness can be shown through behaviors such as searching for needed sources of information, being active in expressing opinions, and being enthusiastic in asking questions [36]. Student activeness in the teaching and learning process will also result in the formation of knowledge and skills which will lead to an increase in student achievement or learning outcomes [37]; [24]. So that with this research, it is hoped 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.
CONCLUSION

Based on the results of the study, it can be concluded that the student's learning activeness in science subjects at Junior high school 18 Jambi City, Junior high school 21 Jambi City, and Junior high school 24 Jambi City. Physical activity indicators are based on good criteria with a percentage of 59.3%, indicators of intellectual activity are in the good category with a percentage of 43.7%, and indicators of emotional activity are in the good category with a percentage of 46.7%.

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