RELATIONSHIP ATTITUDE NATURAL SCIENCES TO RESPONSIBILITY IN JUNIOR HIGH SCHOOL

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Abstrak. Pendidikan mempunyai peran yang sangat penting dalam mencerdasakan kehidupan bangsa. Pendidikan seharusnya tidak hanya melahirkan seseorang yang ahli dalam bidang tertentu, namun termasuk juga bagaimana seseorang mampu membawa diri dalam lingkungan bermasyarakat, berbangsa dan bernegara sesuai dengan norma dan aturan yang berlaku. Oleh karena itu karakter tanggung jawab dan sikap terhadap mata pelajaran sangat penting dimiliki oleh setiap individu. Namun, pendidikan yang terjadi saat ini masih belum memberi ruang untuk siswa berperilaku jujur karena proses pembelajaran cenderung mengajarkan pendidikan moral dan budi pekerti sebatas pengetahuan yang tertulis dalam teks. Oleh karena itu penelitian ini dirancang untuk mengetahui hubungan sikap dengan tanggung jawab siswa terhadap mata pelajaran IPA terutama siswa SMP. Penelitian ini adalah mix methods metode asosiatif jenis korelasional. Prosedur penelitian ini dimulai dengan mengikuti prosedur secara bertahap. Pada tahap persiapan, dilakukan dengan merumuskan masalah dan variabelnya. Kemudian dilakukan peninjauan pustaka, mencari teori pendukung dan memperdalam bahasan masalah yang diteliti agar diperoleh gambaran penelitian yang akan dilakukan serta instrument yang dibutuhkan. Pada tahap pengambilan data kuesioner diberikan kepada 136 siswa di SMP Adhyaksa 1 Kota Jambi. Dari data tersebut kemudian dilakukan analisis data data yang layak dan analisis dari data tersebut. Teknik analisis data menggunakan uji korelasional untuk mengetahui apakah terdapat hubungan antara sikap dan tanggung jawab. Hasil dari penelitian ini menunjukkan adanya hubungan antara sikap dan tanggung jawab. Apabila siswa mempunyai sikap yang positif terhadap pembelajaran IPA maka siswa akan bertanggung jawab terhadap pembelajaran IPA hal ini diperkuat dengan nilai Pearson Correlation kurang dari 0.05 yang artinya terdapat hubungan antara sikap dan tanggung jawab di SMP Adhyaksa 1 Kota Jambi.

Kata Kunci: Sikap, tanggung jawab, IPA

Abstract. Education has a very important role in educating the life of the nation. Education should not only give birth to someone who is an expert in a particular field, but also includes how someone is able to bring themselves in a community, nation and state environment in accordance with applicable norms and rules. Therefore, the character of responsibility and attitude towards subjects is very important for every individual. However, education that is happening at this time still does not provide space for students to behave honestly because the learning process tends to teach moral education and character limited to the knowledge written in the text. Therefore this study was designed to see how the relationship between attitude and student responsibility towards science subjects especially junior high students. This study is a mix of correlational type associative method research. The procedure of this study began by following the procedure in stages. In the preparation stage, it is done by formulating the problem and its variables. Then a literature review is conducted, looking for supporting theories and deepening the discussion of the problem under study in order to obtain an overview of the research to be carried out as well as the instruments needed. At the stage of questionnaire data questionnaire data collection was given to 136 students in Adhyaksa 1 Junior High School.
High School, Jambi City. From the data, data analysis is then carried out, namely data coding, proper data collection and analysis of the data. The data analysis technique uses correlational tests to find out whether there is a relationship between attitude and responsibility. The results of the analysis for the indicators of attitudes towards science investigation are in the sufficient category (55.9%), the indicators of pleasure in learning science are in the bad category (44.9%), the indicators of interest in increasing science learning time are in the sufficient category (58.8%), indicators of responsibility in the classroom rules are in the good category (48.5%), the indicators of responsibility in learning are in the enough category (69.2%), and the indicators of responsibility in doing assignments are in the enough category (59.3%). If students have a positive attitude towards science learning, students will be responsible for learning science, this is reinforced by a Pearson Correlation value of 0.000 <0.05, which means that there is a relationship between attitude and responsibility at SMP Adhyaksa 1 Jambi City.

**Keywords:** Attitude, responsibility, Natural Science

**INTRODUCTION**

Education is a processing effort made by someone to get knowledge, skills, and habits in life (Asrial, et al., 2019). Education is a process of interaction that occurs between teachers and students to help students develop student potential (Mutia, et al., 2017). When this education in Indonesia sem akin to evolve, to increase the right quality and quantity of education a wide range of reforms to do, where to improve the quality and quantity of education required various breakthroughs, both in curriculum development, innovation learning ran and fulfillment facilities and infrastructure. To improve the quality of education in Indonesia, it must also be supported by the quality of its teaching staff (Asrial, et al., 2019). Teacher competence is an important factor in the teaching and learning process to determine teaching (Asrial, et al., 2019). Learning is not only interpreted as the process of transferring knowledge from teachers to students who are rigid but learning more towards how to optimize all five senses to be sensitive to the information obtained in class (Budiarti & Sadikin, 2015). The learning process is more defined as activities designed to help someone learn a new ability and or value (Abdurrahman, et al., 2015). The learning environment is part of the learning process, in a learning environment not separated from the existence of students and learning (Putri, et al., 2018).

In education there are several levels of education, namely Elementary Schools, First Middle School (SMP), High Schools (SMA), and levels of college education. Science is one of the subjects that are in the education level of junior high school (SMP). Science and technology have become important factors for sustainable development throughout the world, both of which have made enormous contributions to the material progress of countries (Akpan, 2010). Junior High School natural science subjects are a combination of three subjects namely biology, physics, and chemistry where most of the material is in the form of understanding concepts and memorizing seta formulas with foreign terms, so this is not an easy thing for teachers to make students able to memorize and understand it (Pransiska, et al., 2016). The essence of science is the process of how a person acquires natural knowledge so that they can understand scientific concepts in systematic stages so as to produce the desired findings (Tursinawati & Widodo, 2019). Natural Science is concerned with how to systematically find out about the universe (Fauzan, et al., 2017). Through science learning students are expected to develop reasoning ability in the thinking of inductive and deductive analysis using scientific concepts and principles to explain natural events and problem-solving both qualitatively and quantitatively (Yediari, et al., 2019). The development of science is not only marked by a collection of facts, but by the existence of scientific methods and scientific attitudes (Nursamsu, et al., 2020). Science is also a branch of science that has uniqueness and characteristics, the uniqueness of science lies in the existence of abstract concepts and requires idealization through mathematical
modeling, this makes science said as a difficult subject to learn or teach (Maison, et al., 2019). Science as a process of seeking an explanation of natural phenomena through scientific steps (Asmi, et al., 2017).

Several factors that influence learning outcomes. One factor that influences student learning outcomes is attitude. Attitudes can arise by themselves from students, attitudes can be shown by the attitude of like or dislike towards an object (Astalini, et al., 2019). Attitudes can be either positive or negative. In learning, attitude is very important. Learning attitudes are usually used to refer to students’ positive attitudes toward certain learning actions and student acceptance (Astalini, et al., 2018). A positive attitude is shown by students who tend to be more diligent in learning so they get satisfying results, while negative attitudes are marked by students who are not diligent in learning so they get less satisfying results (Maison, et al., 2019). Attitudes towards science imply positive or negative feelings about science whether someone likes or dislikes science (John & Ademola, 2014).

Positive and negative attitudes that owned the students in learning science are very diverse, positive attitude that arises when learning science, for example, spirit while following the teaching and learning activities, feel happy and curious to materials science. While negative attitudes that arise such as being less interested and less enthusiastic about learning activities, ignoring the teacher's explanation (Maison, et al., 2018). Student learning activities in science learning can be carried out through a scientific approach with systematic and targeted stages from the results of a person's thoughts (Jelita, et al., 2020).

Based on observations that have been made regarding student attitudes towards science subjects at the junior high school level. It can be seen that, in the learning process, science subject teachers still use the lecture method and also improper learning media. So that when the teacher explains the learning material in front of the class, many students are less focused and anxious, some students who sit on the back seat also don't pay attention to the explanation from the teacher and have a lot of chatting with their classmates.

In connection with the results of observations regarding student attitudes towards science lessons, researchers also made observations about student responsibility for science lessons. From the results of these observations, it can be seen that only a small proportion of students are active in participating in learning activities and want to ask questions in science learning, while other students seem indifferent and do not listen to what is said by the teacher, besides that when a question and answer is held, students who answer the question live. Certain students only. While the others just paid attention and when they were asked to do the questions they looked confused. In addition, some of the students did not do the assignments given by the teacher. Students who have a negative attitude towards science learning cause students to be less active in learning and do not complete their assignments on time, which means that students are not responsible for learning science.

One effort in the field of education is to be able to improve and print quality Human Resources (HR) (Fujika, et al., 2015). To improve the quality of human resources of each institution is expected to focus on developing the potential of learners concerning the character and oriented on aspects of behavior and attitudes affective (Sari, et al., 2016). Education-based the character of an education that applying the methodology and principles towards character formation of students through an integrated curriculum developed at the school (Dewi, et al., 2017). The character education in adolescence at secondary schools aimed at the development, therefore, the task of educators is to develop the student's character. one of the factors that influence student learning achievement is the character of responsibility, a sense of responsibility is very important to improve learning achievement, fostering and instilling a sense of responsibility must be done early so that the attitude of responsibility can arise in children (Rahayu & Dahlan, 2019).
According to Fadilah, et al. (2019), the character of responsibility is the attitude and behavior of a person to carry out his duties and obligations, which he should do, towards oneself, society, the environment (natural, social, and cultural), the State and The One Almighty God.

This research is intended as a guide for teachers to measure students' attitudes towards science subjects and also students' responsibilities. The purpose of this study was to determine the relationship between attitude and student responsibility in science subjects at Adhyaksa 1 Junior High School in Jambi City.

METHOD

This research is a mixed-method research using explanatory design. According to Creswell (2014), an explanatory design is a research design in a 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. In this study using the associative type of correlational method. Associative research is research that is used to find the relationship between one or more dependent variables with independent variables (Suryani & Hendrayadi, 2015).

This research was conducted at Adhyaksa I Junior High School, Jambi City. The population in this study were all students of class VII, VIII, and IX Adhyaksa I Junior High School in Jambi City. While the sample in this study amounted to 136 students.

Data collection techniques in this study used instruments in the form of questionnaires or questionnaires and interview sheets. In this study using the attitude questionnaire adopted from the study of Astalini & Kurniawan (2019), with 56 statements and Cronbach Alpha of 0.842 then the questionnaire is said to be reliable or feasible to use. Attitude questionnaire uses a Likert scale of five. For positive statements Strongly Disagree has a score of 1, Disagree has a score of 2, Neutral has a score of 3, Agree has a score of 4, and Strongly Agrees has a score of 5. Conversely, for negative statements Very Disagree has a score of 5, Disagree has a score of 4, Neutral has a score of 3, Agree possesses a score of 2, and Strongly Agree has a score of 1. This instrument uses 7 indicators adopted from Fraser's (1981) TOSRA, namely: social implications of natural science, normality of scientists, attitudes towards science investigation, adoption of attitudes scientific, pleasure in learning science, interest in increasing the time to study science, and interest in a career in the science field. The researcher also adopted the responsibility questionnaire from Anita & Setyowati's research (2015). Besides, this study also used an interview sheet. We conducted interviews in addition to using the instrument as a guide, can also use the tool to help others like tape recorders, pictures, brochures, and other materials that could interview to be smooth.

In this study before the Hypothesis test is done the normality test and linearity test. Normality test to determine whether the research data obtained are normally distributed or not. The tool used is the Kolmogorov-Smirnov One-Sample model. This aims to reduce the standard error rate and find out whether the data used is normally distributed or not. With decision-making criteria: if the Asymp Sig (2-tailed) value> 0.05 then the data is normally distributed. Linearity test to determine whether the research data obtained are linear or not, the decision making criteria if the value of Sig> 0.05 then the data is linear. Furthermore, hypothesis testing is performed to determine the relationship between the character of responsibility and students' attitudes towards science subjects. In this case, the researchers used the Parametric correlation test with the help of the SPSS 25 computer program with decision-making criteria if Sig> 0.05 then Ho was accepted and Ha was rejected and if Sig <0.05 then Ho was rejected and Ha was accepted.
RESULT AND DISCUSSION

Attitudes towards science investigations
The following are the results of the descriptive data analysis using the SPSS attitude questionnaire for attitude indicators towards the science investigation.

Table 1. Attitudes towards IPA investigations

| Variable                        | Interval     | Frequency | (%)  | Category | Mean | Median | Mode |
|---------------------------------|--------------|-----------|------|----------|------|--------|------|
| Attitudes towards science       | 7.00 - 12.6  | 2         | 1.5  | Very bad | 22.13|        |      |
| science investigations          | 12.7 - 18.2  | 14        | 10.3 | Not good | 22.0 | 10.0   |      |
|                                 | 18.3 - 23.8  | 76        | 55.9 | Enough   | 23.00|        |      |
|                                 | 23.9 - 29.4  | 42        | 30.9 | Good     | 24.05| 24.0   | 21.0 |
|                                 | 29.5 - 35    | 2         | 1.5  | Very good| 24.05|        |      |

Based on the data in Table 1, Adhyaksa 1 Junior High School students in Jambi were dominant in the sufficient category with the number of students (76 out of 136) a percentage of 55.9% with a maximum score of 31 and a minimum score of 8. This shows that students were still lacking in attitude towards the science inquiry which means students are still lacking in conducting experiments or experiments. For the category of not very good there are (2 of 136) students with a percentage of 1.5%. In the bad category there were (14 out of 136) students with a percentage of 10.3%. In the good category there are (42 out of 136) students with a percentage of 30.9% and in the very good category there are (2 of 136) students with a percentage of 1.5%. Then obtained an average value of 22.13, a median of 22.00, and a mode value of 23.00.

Fun in learning science
The following are the results of descriptive data analysis using the SPSS attitude questionnaire for indicators of pleasure in learning science.

Table 2. Fun in learning science

| Variable        | Interval     | Frequency | (%)  | Category | Mean | Median | Mode |
|-----------------|--------------|-----------|------|----------|------|--------|------|
| Fun in learning | 9.00 - 16.2  | 6         | 4.4  | Very bad | 24.05|        |      |
| science         | 16.3 - 23.4  | 61        | 44.9 | Not good | 24.00|        |      |
|                 | 23.5 - 30.6  | 59        | 43.4 | Enough   | 21.00|        |      |
|                 | 30.7 - 37.8  | 10        | 7.4  | Good     | 10.00|        |      |
|                 | 37.9 - 45    | 0         | 0.0  | Very good| 35.00|        |      |

Based on the data in Table 2, Adhyaksa 1 Junior High School students in Jambi are dominant in the bad category with the number of students (61 out of 136) a percentage of 44.9% with a maximum score of 35 and a minimum score of 10. This shows that students do not like science subjects because they consider science subjects difficult. For the very poor category there are (6 out of 136) students with a percentage of 4.4%. In the sufficient category there were (59 out of 136) students with a percentage of 43.4%. Furthermore, in the good category there were (10 out of 136) students with a percentage of 7.4% and in the very good category there were (0 out of 136) students with a percentage of 0%. Then obtained an average value of 24.05 a median of 24.00 and a mode value of 21.00.
Increased interest in learning science

The following are the results of descriptive data analysis using SPSS attitude questionnaire for indicators of interest in increasing science learning.

Table 3. Increased interest in learning science

| Variable               | Interval | Frequency | (%)  | Category       | Mean   |
|------------------------|----------|-----------|------|----------------|--------|
| Increased interest in  | 8.00 – 14.4 | 5         | 3.7  | Very bad       | 22.84  |
| learning science       | 14.5 – 20.8 | 29        | 21.3 | Not good       | 22.50  |
|                        | 20.9 – 27.2 | 80        | 58.8 | Enough         | 21.00  |
|                        | 27.3 – 33.6 | 21        | 15.4 | Good           | Minimum 10.00 |
|                        | 33.7 – 40    | 1         | 0.7  | Very good      | Maximum 35.00 |

Based on the data in Table 3, Adhyaksa 1 Junior High School students in Jambi were dominant in the sufficient category with the number of students (80 out of 136) a percentage of 58.8% with a maximum score of 35 and a minimum score of 10. This shows that students were less intrigued to increase the amount of natural science learning time. For the very poor category there were (5 out of 136) students with a percentage of 3.7%. In the bad category there were (29 out of 136) students with a percentage of 21.3%. Then in the good category there are (21 of 136) students with a percentage of 15.4% and in the very good category there are (1 of 136) students with a percentage of 0.7%. Then obtained an average value of 22.84 median 22.50 and mode value 21.00.

Responsibility for class rules

The following are the results of the descriptive data analysis if using the SPSS responsibility questionnaire for indicators of responsibility for class rules.

Table 4. Responsibilities for class rules

| Variable         | Interval | Frequency | (%)  | Category       | The mean |
|------------------|----------|-----------|------|----------------|----------|
| Responsibility   | 4 - 11   | 0         | 0    | Not good       | 25.18    |
| for class rules  | 12 - 19  | 7         | 5.1  | Enough         | Median   | 25.00    |
|                  | 20 - 25  | 66        | 48.5 | Good           | Mode     | 28.00    |
|                  | 26 - 32  | 63        | 46.3 | Very good      | Minimum  | 1.00     |
|                  |          |           |      |                | Maximum  | 32.00    |

Based on the data in Table 4, Adhyaksa 1 Junior High School students in Jambi are dominant in either category with the number of students (66 out of 136) a percentage of 48.5% with a maximum score of 32 and a minimum score of 13. This shows that students are already responsible for implementing classroom rules. For the bad category there are (0 out of 136) students with a percentage of 0%. In the sufficient category there are (7 out of 136) students with a percentage of 5.1%. Furthermore, in the excellent category, there were (63 out of 136) students with a percentage of 46.3%. Then obtained the average value 25.18, 25.00 median and mode values 28, 00.
Responsibility for learning

The following are the results of descriptive data analysis using the SPSS responsibility questionnaire for indicators of responsibility in learning.

Table 5. Responsibility for learning

| Variable                  | Interval | Frequency | (%) | Category    | Mean | Median | Modus | Minimum | Maximum |
|---------------------------|----------|-----------|-----|-------------|------|--------|-------|---------|---------|
| Responsibility for learning | 4 - 8    | 1         | 0.8 | Not good    | 17.70| 18.00  | 20.00 | 8.00    | 32.00   |
|                           | 9 - 12   | 90        | 69.2| Enough      |      |        |       |         |         |
|                           | 13 - 16  | 39        | 25.4| Good        |      |        |       |         |         |
|                           | 17 - 20  | 6         | 4.6 | Very good   |      |        |       |         |         |

Based on the data in Table 5, Adhyaksa 1 Junior High School students in Jambi are dominant in the sufficient category with the number of students (90 out of 136) a percentage of 69.2% with a maximum score of 32 and a minimum score of 8. This shows that students are less responsible for carrying out learning activities. For the category of not good there are (1 of 136) students with a percentage of 0.8%. In the excellent category there were (6 out of 136) students with a percentage of 4.6%. In the good category there are (39 of 136) students with a percentage of 25.4%. Then the median value of 17.70 is obtained 18.00 and the mode value is 20.00.

Responsibility for working on assignments

The following are the results of descriptive data analysis using the SPSS responsibility questionnaire for indicators of responsibility in carrying out the task.

Table 6. Responsibility for working on assignments

| Variable                  | Interval | Frequency | (%) | Category    | The mean | Median | Mode | Minimum | Maximum |
|---------------------------|----------|-----------|-----|-------------|----------|--------|------|---------|---------|
| The responsibility of doing the assignment | 4 - 10   | 4         | 3.0 | Not good    | 21.33    | 20.00  | 20.00|         |         |
|                           | 11 - 16  | 81        | 59.3| Enough      |          |        |      |         |         |
|                           | 17 - 22  | 4         | 3.0 | Good        |          |        |      |         |         |
|                           | 23 - 28  | 47        | 34.8| Very good   |          |        |      |         |         |

Based on Table 6, junior high school students Adhyaksa 1 City Jam bi dominant on category enough with the number of students (81 of 136) a percentage of 59.3 % with a maximum score of 32 and a score minimum is 8. This indicates that students are less responsible for the work assignment. For the category of not good there are (4 of 136) students with a percentage of 3.0 %. In the good category there are (4 of 136) students with a percentage of 3.0 %. In the excellent category there were (47 out of 136) students with a percentage of 34.8%. Then the average value is 17.70 median 18.00 and the mode value is 20.00.

Relationship between attitude and responsibility

This study uses a significance level of 5%. Based on the correlation or relationship data table, a value of 0.000 is obtained, which means this value <0.05. This value indicates that there is a relationship between attitude and learning responsibility in Natural Sciences in Adhyaksa 1 Junior High School, Jambi City.
The attitude of students in science learning is related to student responsibility. Students who are not responsible for learning, the results obtained are less than the maximum that causes students to not know the potential they have (Rahayu & Dahlan, 2019). The students who ranked sustainable values and attitudes higher were also more interested in studying environmental and human issues and motivated to act in responsible ways at school (Uitto & Saloranta, 2010). This factor includes a variety of issues extending from students' perceived ability in science, and tenacity for learning science, their perception of school science, and their view of the importance of learning (Said, et al., 2016). Irresponsible students will be more passive in learning. Less responsible students are inclined to difficulties in the interpersonal sphere, a lack of aspiration to leadership, a passive level of the world change (Yakovleva, et al., 2019).

The concept of learning science in its nature is widely applied in everyday life. According to Widiadnyana, et al., (2014), by studying science will provide provisions to solve the problems of daily life. In science, the focus might be mostly on providing capabilities for making everyday choices in matters related to environmental protection, the use of energy resources, and energy-saving (Uitto, et al., 2011). For students to be responsible for their learning activities, students also are allowed to explore questions they developed themselves (Houseal, et al., 2014). To arouse and influence students' attitudes towards science, students can learn through the environment that is associated with science lessons (Dijkstra & Goedhart, 2012). Science (Natural Sciences) requires proof and truth of natural law that can be proven by scientific methods (Asrial, et al., 2018).

Attitude toward scientific inquiry evaluates prediction towards inquiry in scientific investigations (eg, "it is better to ask the teacher the answer than to find it out by doing experiments") (Joyce & Farenga, 1999). Pleasure or pleasure in Science learning is students feel happy and enthusiastic when learning science. pleasure in learning science means liking students in science lessons followed by curiosity is high (Astalini, et al., 2018). Underway the Enjoyment of Science lessons scale measures the enjoyment of science learning experiences. This includes participating in science labs as well as attending science classes (Welch, 2010). in learning science students should have a happy attitude that science lessons easily accepted in our brain. other factors besides student attitude is how the learning method so that learning science becomes something fun, also a comfortable learning atmosphere so that it makes t students are more focused and enthusiastic in the science learning process. An interest in increasing science learning time is that students feel happy with science learning that makes them use free time to further explore science lessons. An interest in improving science learning will make students think logically and scientifically and make students have fun in learning science (Anggraini & Perdana, 2019). By increasing the learning time of Natural Sciences will make students have good learning outcomes and achievements.

The results of interviews that have been conducted for attitude indicators of attitudes toward science inquiry show that students tend not to like doing experiments while learning science. They tend to be more passive and prefer theories. For the indicator of pleasure in learning science, it is known that students do not like to study science because they consider science subjects to be difficult subjects. Furthermore, indicators of interest in learning science can be seen that students are less interested in increasing the amount of time they learn to use science to spend more time in learning science. Then for responsibility interviews with indicators of responsibility for classroom rules are still classified in either category where students have implemented the rules in the classroom such as carrying science books while studying science and coming on time while studying science. Then the researchers conducted interviews for indicators of responsibility in science learning activities, students at Adhyaksa 1 Junior High School in Jambi were quite good at participating in teaching and learning activities. Furthermore, to interview
responsibility indicators in doing tasks some students are already doing a good job but there are still some students who are still late in collecting duties. Correlation analysis shows that there is a significant relationship between attitude and responsibility (<0.05). The concept of personal responsibility for student performance and behavior may be extended to include responsibility for other aspects of school work and to attitude towards responsibility in general within the school context (Kay-Cheng, 2015). Responsibilities as a student can be in the form of completing assignments on time, responsibilities in science learning activities, and being responsible for classroom rules. Student Responsibility can be seen when a teacher assigns a student a project, the student can respond to complete the project (Fishman, 2014). According to Syafitri (2015), responsibility in learning is an obligation to complete a task that has been received completely through maximum effort and dare to bear all the consequences. Students who are not responsible can be seen when learning takes place students are more cooler to chat with their peers and do not pay attention to the teacher being explained (Jati, 2016). Students who are negative towards science learning cause students to be less active in learning and do not complete their assignments on time, which means students are not responsible for learning science.

CONCLUSION

Responsibility in learning is the obligation to complete tasks that have been received completely through maximum effort and dare to bear all the consequences. Responsibilities as a student can be in the form of completing assignments on time, responsibilities in science learning activities, and being responsible for classroom rules. Students who are positive about science learning cause students to be active in learning and can complete their assignments on time, which means students are responsible for learning science. Based on the results of the research that has been done, it can be concluded that there is a significant relationship between attitude and student responsibility in learning science at Adhyaksa 1 Junior High School in Jambi City after Pearson correlation hypothesis testing with a significance value of 0.000 <0.05, it can be stated that Ho is rejected.

REFERENCES

Abdurrahman, Gardjito, & Budiarti, R.S. 2015. Pengembangan lembar kegiatan siswa berbasis penemuan terbimbing pada materi struktur dan fungsi jaringan tumbuhan kelas XI SMA. Jurnal Biodik, 1(1):1-8.

Akpan, B.B. 2010. Innovation in science and technology education through science teacher associations. International Council of Associations for Science Education, 21(2):67-79.

Anggraini, L. & Perdana, R. 2019. Hubungan sikap dan percaya diri siswa pada mata pelajaran ipa di sekolah menengah pertama. SPEKTRA: Jurnal Kajian Pendidikan Sains, 5(2):188-199.

Asmi, S., Hasan, M., & Safitri, R. 2017. Penerapan model pembelajaran berbasis proyek pada materi suhu dan kalor untuk meningkatkan keterampilan proses. Jurnal Pendidikan sains Indonesia (Indonesian Journal of Science Education), 5(1):20-26.
Asrial, A., Syahrial, S., Kurniawan, D.A., Subandiyo, M., & Amalina, N. 2019. Exploring obstacles in language learning among prospective primary school teacher. *International Journal of Evaluation And Research In Education (IJERE)*, 8(2):249-254.

Asrial, Kurniawan, D.A., Chan, F., & Septianingsih, R. 2019. Multimedia innovation 4.0 in education: e-modul ethnocostructivism. *Universal Journal of Educational Research*, 7(10):2098-2107.

Asrial, Syahrial, Kurniawan, D.A., & Maretika, L.D. 2018. Analisis kompetensi pedagogik dan kompetensi IPA terhadap calon guru sekolah dasar PGSD FKIP Universitas Jambi. *Jurnal Didika: Wahana Ilmiah Pendidikan Dasar*, 4(2):41-49.

Astralini, Kurniawan, D.A., Perdana, R., & Kurniawan, W. 2019. Indentification attitudes of learners on physics subjects. *EST: Journal of Educational Science And Technology*, 5(1):39-48.

Astralini, Kurniawan, D.A. 2019. Pengembangan instrumen sikap siswa sekolah menengah pertama terhadap mata pelajaran IPA. *Jurnal Pendidikan Sains*, 7(1):1-7.

Astralini, D.A., Kurniawan, & Sumaryanti. 2018. Sikap siswa terhadap pelajaran fisika di SMAN Kabupaten Batanghari. *Jurnal Ilmu Pendidikan Fisika*, 3(2):39-64.

Budiarti, R. & Sadikin, A. 2015. Pengaruh kwartet animalia dengan model TGT terhadap pemahaman materi taksonomi hewan siswa SMAN 8 Kota Jambi. *Jurnal Biodik*, 1(1):1-8.

Creswell, J.W. 2014. *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. London: SAGE.

Dewi, I.G.A.C., Sujana, I.W., & Suniasih, N.W. 2019. Korelasi antara sikap tanggung jawab dalam menyelesaikan tuas-tugas dengan kompetensi pengetahuan IPS. *International Journal of Elementary Education*, 3(1):62-69.

Dewi, R., Budiarti, S., & Aina, M. 2017. Pengembangan lembar kegiatan peserta didik (LKPD) bermuatan pendidikan karakter dengan model pembelajaran guided inquiry pada materi bakteri bagi siswa kelas X Sekolah Menengah Atas. *Jurnal Biodik*, 3(1):17-26.

Dijkstra, E.M. & Goedhart, M.J. 2012. Development and validation of the acsi: measuring students’ science attitudes, pro-environmental behaviour, climate change attitudes and knowledge. *Environmental Education Research*, 18(6):733-749. [http://dx.doi.org/10.1080/13504622.2012.662213](http://dx.doi.org/10.1080/13504622.2012.662213)

Fauzan, M., Gani, A., & Syukri, M. 2017. Penerapan model based learning pada pembelajaran materi system tata surya untuk meningkatkan hasil belajar siswa. *Jurnal Pendidikan Sains Indonesia (Indonesian Journal of Science Education)*, 5(1):27-35.
Fishman, E.J. 2014. With great control comes great responsibility: the relationship between perceived academic control, student responsibility, and self-regulation. *British Journal Of Educational Psychology*, 84:685–702.

Fujika, A., Anggereini, E., & Budiarti, R.S. 2015. Analisis kemampuan berpikir kritis siswa SMA Negeri 5 Kota Jambi melalui pembelajaran berbasis masalah pada konsep pencemaran lingkungan. *Jurnal Biodik*, 1(1):1-9.

Houseal, A.K., Khalick, F.A.E., & Destefano, L. 2014. Impact of a student–teacher–scientist partnership on students’ and teachers’ content knowledge, attitudes toward science, and pedagogical practices. *Journal of Research In Science Teaching*, 51(1):84-115.

Jati, N.K. 2016. Meningkatkan tanggung jawab siswa menggunakan model pembelajaran kooperatif tipe Jigsaw ii pada mata pelajaran matematika Kelas IV SD. *Jurnal Pendidikan Guru Sekolah Dasar*, 34(5):3.196-3.210.

Jelita, Suzana, Y., & Nuraida. 2020. Peningkatan aktivitas belajar siswa dalam pembelajaran IPA melalui lesson study. *JIPI (Jurnal IPA dan Pembelajaran IPA)*, 4(1):81-91.

John, O.K. & Ademola, O.R. 2014. Scientific attitude, attitude to science and science achievement of senior secondary school student in Katsina State, Nigeria. *Journal of Educational And Social Research*, 4(1):445-452.

Joyce, B.A. & Farenga, S.J. 1999. Informal science experience, attitudes, future interest in science, and gender of high ability students: an exploratory study. *School Science & Mathematics*, 99(8):431-437.

Kay-cheng, S. 2015. Attitude towards responsibility and teacher locus of control: further evidence of their validities. *Singapore Journal Education*, 10(2):85-89.

Maison. 2019. Learning in nature science: social implications, normality of scientist, attitudes towards investigation of natural science, and interest adds to science learning time. *International Journal of Scientific & Technology Research*, 8(12):1478-1483.

Maison, Astalini, Kurniawan, D.A., & Sholihah, L.R. 2018. Deskripsi sikap siswa sma negeri pada mata pelajaran fisika. *EDUSAINS*, 10(1):160-167.

Maison, Syahrial, Syamsurizal, & Tanti. 2019. Learning, environment, students’ beliefs, and self-regulation in learning physics: structural equation modelling. *Journal of Baltic Science Education*, 18(3):389-403.

Mutia, R., Adlim, & Halim, A. 2017. Pengembangan video pembelajaran ipa pada materi pencemaran lingkungan dan kerusakan lingkungan. *Jurnal Pendidikan Sains Indonesia (Indonesian Journal of Science Education)*, 5(2):108-114.

Nursamsu, Mustika, D., Nafaida, R., & Manurung, N. 2020. Analisis kelayakan dan kepraktikan modul praktikum berbasis literasi sains untuk pembelajaran IPA. *JIPI (Jurnal IPA dan Pembelajaran IPA)*, 4(1):29-40.
Pransiska, S., Asyhar, R., & Asrial. 2016. Pengaruh penerapan model pembelajaran *group investigation* dan motivasi terhadap hasil belajar siswa Kelas VII di SMP dalam pembelajaran IPA terpadu pada materi asam, basa & garam. *EduSains*, 5(2):27-31.

Putri, A.L., Maison, & Darmaji. 2018. Kerjasama dan kekompakan siswa dalam pembelajaran fisika di Kelas XII MIPA SMAN 3 Kota Jambi. *Edu Fisika: Jurnal Pendidikan Fisika*, 3(2):32-40.

Rahayu, R.F. & Dahlan, D.N.A. 2019. Korelasi antara tanggung jawab belajar dengan prestasi belajar pada mata pelajaran PAI Siswa SMPN 1 Muara Pahu, Tarbiyah Wa Ta’lim: *Jurnal Penelitian Pendidikan & Pembelajaran*, 6(3):29-40.

Said, Z., Summers, R., Khalick, F.A.E., & Wang, S. 2016. Attitudes toward science among grades 3 through 12 Arab students in Qatar: findings from a cross-sectional national study. *International Journal of Science Education*, [http://dx.doi.org/10.1080/09500693.2016.1156184](http://dx.doi.org/10.1080/09500693.2016.1156184).

Sari, E., Syamsurizal, & Asrial. 2016. Pengembangan lembar kegiatan peserta didik (LKPD) berbasis karakter pada mata pelajaran kimia SMA. *EduSains*, 5(2):8-17.

Suryani & Hendryadi. 2015. *Metode Riset Kuantitatif: Teori dan Aplikasi Pada Penelitian Bidang Manajemen dan Ekonomi Islam*. Jakarta: Kencana.

Syafitri, R. 2017. Meningkatkan tanggung jawab belajar melalui strategi giving questions and getting answers pada siswa. *Jurnal Penelitian dan Pengembangan Pendidikan*, 1(2):57-63.

Syahrial, Asrial, Kurniawan, D.A., & Septiasari, R. 2019. Hubungan kompetensi pedagogik dengan kompetensi IPA mahasiswa pendidikan guru Sekolah Dasar. *Pedagogia: Jurnal Pendidikan*, 8(2):149-157.

Tursinawati & Widodo. A. 2019. Pemahaman nature of science (NoS) di era digital: perspektif dari mahasiswa PGSD. *JIPI (Jurnal IPA dan Pembelajaran IPA)*, 3(1):1-9.

Uitto, A. & Saloranta. S. 2010. The relationship between secondary school students’ environmental and human values, attitudes, interests and motivations. *Procedia Social And Behavioral Sciences*, 9:1866-1872.

Uitto, A., Juuti, K., Lavoen, J., Byman, R., & Meisalo, V. 2011. Secondary school students interests, attitudes school science related to envorenmtal issues in Finland. *Environmental Eduaction Research*, 17(2):167-186.

Welch, A.G. 2010. Using the tosra to assess high school students’ attitudes toward science after competing in the first robotics competition: an exploratory study. *Eurasia Journal of Mathematics, Science & Technology Education*, 6(3):187-197.

Widiadnyana, I.W., Sadia, I.W., & Suastra, I.W. 2014. Pengaruh model discovery learning terhadap pemahaman konsep IPA dan sikap ilmiah siswa SMP. *e-Journal Program Pascasarjana Universitas Pendidikan Ganesha*, 4(1):1-13.
Yakovleva, A., Savvina, I., & Popova, S. 2019. Students’ responsibility and parents’ attitude to them. *Advances in Social Science, Education and Humanities Research*, 396:44-49.

Yediarani, R.D., Maison, & Syarkowi, A. 2019. Scientific reasoning abilities profil of junior high school students in Jambi. *International Journal of Science and Education*, 3(1):21-25.