

Analyzing junior high school students' interest in mathematics learning based on their gender

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Abstract

This study aims to analyze and describe the learning interests of grade VII J students of SMP Negeri 1 Bantul for the 2021/2022 School Year in Bantul Regency. This type of research is qualitative research. The subjects of this study were students of class VII J consisting of 32 students. Data collection techniques use questionnaires. The results showed that the average percentage of answers as a whole was 58%. It can be concluded that most of the students of class VII J have an interest in learning mathematics. When based on gender, grade VII J students of SMP Negeri 1 Bantul who are male earned an average percentage of overall answers of 55% and students who were female obtained an average percentage of overall answers of 62%. It can be concluded that most male and female students have an interest in learning mathematics. When compared between the average percentage of learning interest of female students is greater than that of male students (62% > 55%) so it can be concluded that the interest in learning female students is better than the interest in learning male students in mathematics learning in class VII J of SMP Negeri 1 Bantul.

Keywords: gender difference, interest in learning, mathematics learning

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INTRODUCTION

The quality of education in Indonesia is still relatively low. Indonesia is an archipelagic country, making it difficult to equalize development. Uneven development makes the quality of education in each region in Indonesia different. Developed areas located near the city center have a better quality of education while areas on the edge, inland, or border usually have a low quality of education.

From the observations obtained the results that there are still many regions that are lacking in terms of the quality of education. For example, when viewed from the competence of teachers, there are still many teachers who teach not by their fields. Many mathematics teachers in schools are not from the mathematics education department. When viewed from the facilities and infrastructure, many schools are in areas or on the border. When viewed in terms of students, many students are more concerned with playing than going to school, so students often skip class.

There are still many problems in learning, of course, making students' interest in learning low. Even though Sukada et al (2013) argue that interest is an aspect of personality related to learning achievement. In line with this opinion, Komariyah et al (2018) mentioned the fact that student achievement will be better if they have a great interest in the lessons taught. If education faces the problem of low interest in learning students, this condition will hinder the achievement of learning goals, namely to achieve cognitive, affective, and psychomotor changes in themselves. Because interest is related to learning achievement, teachers should pay more attention to student's interest in learning.

Interest according to Slameto (2010) is a sense of preference and a sense of attachment to something or activity, without anyone telling. Correspondingly, interest means a high tendency

and excitement or a great desire for something (Siagian, 2015). According to Nisa et al (2017), interest is the main motivational tool that can arouse students' enthusiasm for learning within a certain period. Interest refers to the liking or pleasure gained from self-activity (Woolfolk 1993, Sukada et al, 2013).

Meanwhile, the interest in learning according to Guilford (Lestari and Yudhanegara, 2017) is the impulses from within the student psychically in learning something with full awareness, calmness, and discipline to cause the individual to actively and happily do it. According to Hidayat and Widjajanti (2018), a student's interest in learning can be interpreted as a student situation that can foster liking and can arouse self-enthusiasm in carrying out an activity that can be measured through liking, interest, having attention, and involvement in following the learning process. Then Sari and Harini (2015) stated that student interest in learning is a student's interest in learning where the student wants to explore or do so that there is a change in the student.

Interest in learning is an important trait for students to have. Hurlock (in Sukada et al, 2013) says that 1) interest affects the form and intensity of ideals, for example, people who are interested in mathematics will aspire to become mathematicians, who are great, or become people who are experts in mathematics, 2) interest can serve as a strong impetus, students who are interested in mathematics will be encouraged to carry out activities related to mathematics, 3) achievement is always influenced by the type and intensity of one's interest, students who are interested in mathematics will try to get good grades in mathematics, 4) interest gives rise to satisfaction, students tend to repeat activities related to their interests.

The interest in learning does not grow by itself let alone exist from birth. According to Djaali (2014), interest is a high tendency of the heart towards something. Interest does not arise alone, there is an element of need. Meanwhile, according to Slameto (2010) if students realize that learning is a tool to achieve some goals that they consider important, and if students see that the results of their learning experience will bring progress to them, they will most likely be interested in learning them. From this opinion, it can be concluded that for students to have an interest in learning, give awareness to students that learning brings progress to themselves. Then according to singers (in Darmadi, 2017) factors that influence the emergence of interest in learning are 1) the lesson will attract students if there is a connection between the lesson and real life, 2) the assistance provided by the teacher to his students in achieving certain goals, 3) the opportunity given by the teacher to students to play an active role in the teaching and learning process, 4) the attitude shown by the teacher to increase student interest, the attitude of a teacher who is not liked by certain students will reduce the student's interest and attention to the subjects taught by the teacher concerned.

Furthermore, according to Lestari and Yudhanegara (2017), indicators of interest in learning are 1) feelings of pleasure, 2) interest in learning, 3) showing attention while studying, and 4) involvement in learning. While the indicator of interest in learning according to Darmadi (2017) is 1) there is a concentration of attention, feelings, and thoughts from the subject towards learning due to interest, 2) there is a feeling of pleasure in learning, 3) there is a willingness and tendency in the subject to appear active in learning and to get the best good results. From some of these indicators, it can be concluded that the indicators of interest in learning are 1) the feeling of pleasure in learning, 2) the concentration of attention and thoughts towards learning, 3) there is a willingness to learn, 4) there is a willingness from within to be active in learning, 5) there is an effort made to realize the desire to learn.

Therefore, an analysis will be carried out to see how students' interest in learning mathematics in class VII J of SMP Negeri 1 Bantul will be carried out classically and based on gender. It is hoped that by analyzing students' learning interests, it can be known to what extent the level of interest in learning students have both classically as well as based on gender, especially in mathematics learning so that it can be an evaluation and a solution is obtained to further increase students' interest in learning.

RESEARCH METHOD

This type of research is qualitative research. The sampling technique is saturated sampling. According to Sugiyono (2010), saturated sampling is a sample determination technique when all members of the population are used as samples. Therefore, the subjects in this study were class VII J students at SMP Negeri 1 Bantul in the 2021/2022 school year. Class VII J is 32 students, with a total of 14 male students and 18 female students. In this study, the method used for data collection was a non-test method in the form of a questionnaire/questionnaire. According to Sugiyono (2010), a questionnaire/questionnaire is a data collection technique carried out by giving a set of questions or written statements to respondents for them to answer. The questionnaire used consists of 30 questions that are adjusted to the indicator of interest in learning to obtain data on students' interest in learning mathematics.

The data analysis used in this study is: To calculate the average percentage of student answers per statement item determined by the formula:

$$\bar{P}_i = \frac{\sum f_i P_i}{n} \times 100\%$$

Information:

\bar{P}_i = average percentage of the student's answer to the statement item to – i

f_i = frequency of the student's answer choices for the statement item to – i

P_i = percentage of student answer choices for the 1st statement item – i

n = number of students

Calculate the average percentage of student answers per indicator and as a whole is determined by the formula:

$$\bar{P}_T = \frac{\sum \bar{P}_i}{k} \times 100\%$$

Information:

\bar{P}_T = average percentage of student answers per indicator or overall

\bar{P}_i = average percentage of students' answers to the statement item to – i

k = the abundance of question items

While the criteria of interpretation is presented in Table 1.

Table 1. Criteria for interpretation of the percentage of questionnaire answers

Criterion	Interpretation
P = 0 %	Nobody
0% < P < 25%	A small part
25% ≤ P ≤ 50%	Almost half
P = 50 %	Half
50% < P < 75%	Most
75% ≤ P ≤ 100%	Almost entirely
P = 100 %	Entirely

Lestari and Yudhanegara (2017)

RESULTS AND DISCUSSION

Classical results

Classically, from the questionnaire data consisting of 30 points of statements given to class VII J students of SMP Negeri 1 Bantul consisting of 32 students, the average percentage of overall answers was obtained at 58% it can be concluded that most students have an interest in learning

mathematics. But the percentage obtained is still low so it can be concluded that the interest in learning class VII J students of SMP Negeri 1 Bantul in mathematics learning is still low.

To see the results of the percentage of interest in learning based on indicators can be done by analyzing the student's answers to each of the indicators of interest in learning. Interest in learning mathematics is measured using a questionnaire based on 5 indicators. The results of the percentage analysis per each indicator can be seen in Table 2.

Table 2. Results of percentage indicators of student learning interest

No.	Indicators	Average percentage	Interpretation
1.	There is a feeling of pleasure in learning	54%	Most
2.	There is a concentration of attention and thoughts toward learning	67%	Most
3.	The existence of a willingness to learn	50%	Half
4.	The existence of a willingness from within to actively learn	61%	Most
5.	There are efforts made to realize the desire to learn	55%	Most

Based on the student's answers to the first indicator, namely the feeling of pleasure in learning, an average percentage of 54% can be concluded that most students feel happy with learning mathematics. For the second indicator, namely the concentration of attention and thoughts towards learning, an average of 67% was obtained. It can be concluded that most students can focus their attention and thoughts on learning. For the third indicator, namely the willingness to learn, an average of 50% is obtained. It can be concluded that half of all students have a desire to learn. For the fourth indicator, namely the willingness from within to actively learn, an average percentage of 61% was obtained. It can be concluded that most students have the willingness to actively learn during mathematics learning. For the last indicator, namely the effort made from within to realize the desire to learn, an average of 55% is obtained. It can be concluded that most students have the efforts they make to realize the desire to learn.

From the above results, it can be seen that the percentage yield of each indicator is still low. Of the five indicators, the lowest percentage is the third indicator, namely the willingness to learn, it can be concluded that students do not have a great willingness to learn. But students are still willing to try to think and pay attention during learning, it can be seen from the highest percentage is in the second indicator, namely the concentration of attention and thoughts to learn. Overall, when viewed from each indicator, it can be concluded that only half of the students are willing to learn, students are still unhappy in learning, and students are not willing to be active and strive in learning.

Analysis based on gender

When based on gender, from the questionnaire data given to class VII J students of SMP Negeri 1 Bantul with a male gender consisting of 14 students, the average percentage of overall answers was obtained at 55% it can be concluded that most male students have an interest in learning mathematics. But the percentage obtained is still low so it can be concluded that the interest in learning class VII J students of SMP Negeri 1 Bantul who are male in mathematics learning is low.

For female students of 18 students, the average percentage of answers as a whole was 62%. It can be concluded that most female students have an interest in learning mathematics.

But the percentage obtained is also low so it can be concluded that the interest in learning class VII J students of SMP Negeri 1 Bantul who are female in mathematics learning is low. When compared between the average percentage of learning interest of female students is greater than that of male students (62% > 55%) so it can be concluded that the interest in learning female students is slightly better than the interest in learning male students in mathematics learning in class VII J SMP Negeri 1 Bantul. The average percentage of male student answers per each indicator can be seen in Table 3.

Table 3. Results of percentage indicators of learning interest of male students

No.	Indicators	Average percentage	Interpretation
1.	There is a feeling of pleasure in learning	51%	Most
2.	There is a concentration of attention and thoughts toward learning	64%	Most
3.	The existence of a willingness to learn	48%	Almost half
4.	The existence of a willingness from within to actively learn	60%	Most
5.	There are efforts made to realize the desire to learn	53%	Most

Based on the answers of male students in the first indicator, namely the presence of feelings of pleasure in learning, an average percentage of 51% was obtained. It can be concluded that most male students feel good about learning mathematics. For the second indicator, namely the concentration of attention and thoughts on learning, an average of 64% was obtained. It can be concluded that most male students can concentrate their attention and thoughts on learning. For the third indicator, namely the willingness to learn, an average of 48% was obtained. It can be concluded that almost half of all male students have a desire to learn. For the fourth indicator, namely the willingness from within to actively learn, an average percentage of 60% is obtained. It can be concluded that most male students have the willingness to actively learn during mathematics learning. For the last indicator, namely the effort made from within to realize the desire to learn, an average of 53% was obtained. It can be concluded that most male students have the efforts they make to realize the desire to learn.

From the above results, it can be seen that the percentage yield of each indicator is still low. Of the five indicators, the lowest percentage is the third indicator, namely the willingness to learn. It can be concluded that male students do not yet have a great willingness to learn. Meanwhile, the indicator with the highest percentage is the second indicator, namely the concentration of attention and thoughts to learn. Overall when viewed from each of the indicators it can be concluded that almost half of the total number of male students who are willing to learn, Male students are still not happy to learn and have not made maximum efforts to pay attention and be active at the time of learning. The average percentage of female students' answers per each indicator, can be seen in Table 4.

Based on the answers of female students in the first indicator, namely the feeling of pleasure in learning, an average percentage of 62% was obtained. It can be concluded that most female students feel happy with learning mathematics. For the second indicator, namely the concentration of attention and thoughts towards learning, an average of 72%. It can be concluded

that most female students can focus their attention and mind on learning. For the third indicator, namely the willingness to learn, an average of 55% is obtained. It can be concluded that most of the overall female students have a desire to learn. For the fourth indicator, namely the willingness from within to actively learn, an average percentage of 63% was obtained. It can be concluded that most female students have the willingness to actively learn during mathematics learning. For the last indicator, namely the effort made from within to realize the desire to learn, an average of 59%. It can be concluded that most female students have the efforts they make to realize the desire to learn.

Table 4. Results of percentage indicators of learning interest of female students

No.	Indicators	Average percentage	Interpretation
1.	There is a feeling of pleasure in learning	62%	Most
2.	There is a concentration of attention and thoughts toward learning	72%	Most
3.	The existence of a willingness to learn	55%	Most
4.	The existence of a willingness from within to actively learn	63%	Most
5.	There are efforts made to realize the desire to learn	59%	Most

From the above results, it can be seen that the percentage yield of each indicator is still low. Of the five indicators, the lowest percentage is the third indicator, namely the willingness to learn. It can be concluded that female students do not yet have a great willingness to learn. Meanwhile, the indicator with the highest percentage is the second indicator, namely the concentration of attention and thoughts to learn. Overall, when viewed from each indicator, it can be concluded that most female students have a feeling of excitement and willingness to learn and strive to be active and attentive during mathematics learning.

For a comparison of the average percentage of answers of male and female students per each indicator can be seen in Table 5.

Table 5. Comparison of the results of learning interest indicators of male and female students

No.	Indicators	Average percentage	
		Male	Female
1.	There is a feeling of pleasure in learning	51%	62%
2.	There is a concentration of attention and thoughts toward learning	64%	72%
3.	The existence of a willingness to learn	48%	55%
4.	The existence of a willingness from within to actively learn	60%	63%
5.	There are efforts made to realize the desire to learn	53%	59%

In the first indicator, namely the feeling of pleasure towards learning, male students obtained an average percentage of 51% while female students gained an average percentage of 62%. It can be concluded that most female students have more feelings of enjoyment in

mathematics learning than most male students. For the second indicator, namely the concentration of attention and thoughts towards learning, male students obtained an average of 64% while female students gained an average of 72%. It can be concluded that most female students are more able to focus their attention and mind on mathematics learning than most male students. For the third indicator, namely the willingness to learn, male students gained an average of 48% while female students gained an average of 55%. It can be concluded that most female students have more willingness to learn than almost half of the male students. For the fourth indicator, namely the willingness from within to actively learn, male students obtained an average percentage of 60% while female students gained an average percentage of 63%. It can be concluded that most female students have more willingness to actively learn during mathematics learning than most male students. For the last indicator, namely the effort made from within to realize the desire to learn, male students gained an average of 53% while female students gained an average of 59%. It can be concluded that most female students have more effort to realize the desire to learn mathematics than most male students. Overall on each of the indicators of interest in learning, female students gained a higher percentage than male students, so it can be concluded that the interest in learning mathematics for female students is better than that of male students in class VII J of SMP Negeri 1 Bantul. This result is possible because according to the research of Amir (2013) female students are superior in mathematical communication skills, more motivated, and organized in learning. Therefore, female students have a better interest in learning mathematics than male students. This result is contrary to the research of Rojabiyah and Setiawan (2018) which obtained the results of male students' interest in learning mathematics better than female students.

CONCLUSIONS

Classically, from the questionnaire data given to class VII J students of SMP Negeri 1 Bantul, the average percentage of overall answers of 58% can be concluded that most of the class VII J students have an interest in learning mathematics. When viewed from each of the indicators it can be concluded that only half of the students are willing to learn, most students are happy to learn, most students are focused on learning, and most students are willing to be active and strive in learning.

When based on gender, from the questionnaire data given to class VII J students of SMP Negeri 1 Bantul of the male sex, the average percentage of answers as a whole of 55% can be concluded that most male students have an interest in learning mathematics. For female students, the average percentage of answers as a whole was obtained at 62%. It can be concluded that most female students have an interest in learning mathematics. When compared between the average percentage of learning interest of female students is greater than that of male students ($62\% > 55\%$) so it can be concluded that the interest in learning female students is better than the interest in learning male students in mathematics learning in class VII J of SMP Negeri 1 Bantul. When viewed based on each indicator, it also obtained results that the average percentage of answers of female students was higher than that of male students in class VII J of SMP Negeri 1 Bantul. This shows that female students have more pleasure in learning, are more able to focus on learning, and are more active in learning than male students in mathematics learning in class VII J of SMP Negeri 1 Bantul.

Teachers should pay more attention to student's interest in learning during learning, especially in mathematics learning which is usually a subject that students don't like so students are less interested in learning mathematics. We recommend that mathematics learning be more connections between the material and real life so that it can make students more interested in learning. In addition, teachers should use learning methods that can make students interested in

learning namely learning methods that are more varied or more fun such as learning by using games or role-playing and others so that students become more interested in learning mathematics and are interested in carrying out mathematics learning.

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