



ANALYSIS OF FACTORS INFLUENCING STUDENTS' INTEREST IN LEARNING MATHEMATICS: A CASE STUDY IN PESANTREN-BASED SCHOOLS

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Abstract

This study aims to analyze various factors that affect students' interest in learning in pesantren-based boarding schools in mathematics subjects. The subjects of the study involved were 27 grade VII students at Madrasah Tsanawiyah Minat Kesugihan, Cilacap. This study uses a qualitative descriptive method with a case study approach. Data was obtained through observation, questionnaire distribution, and interviews with students who lived in Islamic boarding schools. Data analysis is carried out inductively to understand various factors that affect students' motivation to learn. The results of the study indicate that internal, external, and related factors related to mathematics content affect students' interest in learning mathematics subjects. The three factors have a positive role in increasing students' interest in learning mathematics. This research is expected to contribute to the development of learning strategies in schools, especially Islamic boarding schools to improve the quality of education.

Keywords: Learning Interests, Mathematics, Pesantren-Based Schools.

INTRODUCTION

The main pillar of the development of a nation is education. The role of education as a lifelong learning process is to shape the character, knowledge and skills of individuals or the students themselves (Pare & Sihotang, 2023). There are many demands that must be fulfilled by students, including mastery of materials, concepts, problem solving, communication skills, independence, creativity, cooperation, discipline and mastery of technology (Hariyadi et al., 2023). These demands can be achieved when students can process during learning activities optimally and well. A good process occurs if there is a high interest and enthusiasm for the desire to achieve learning goals. Interest is an important element that affects personal motivation and achievement, and can guide students in choosing activities and paths that suit their passion (Lestari, 2015).

One of the formal educational institutions is the madrasah. Madrasah linguistically comes from the Arabic language which means "place to learn" (Muna, 2021). Madrasah as a formal institution is under the auspices of the Ministry of Religion of the Republic of Indonesia. The madrasah level consists of Raudhatul Athfal (RA), Madrasah Ibtidaiyah (MI), Madrasah Tsanawiyah (MTs), and Madrasah Aliyah (MA). The function of a madrasah is also the same as a school, namely as an educational institution that provides teaching general science and religious science at the same time,

shaping the character of students and preparing students to face the future (Kusumawati, 2024). Madrasah is different from schools in terms of the content of religious knowledge, which is very complex and numerous. There are several madrasas that synergize with Islamic boarding schools because of the harmony in terms of studying religious knowledge.

Islamic boarding schools are educational institutions that emphasize Islamic religious learning, generally found in Indonesia (Syafe'i, 2017). Inside the Islamic boarding school, students learn various religious sciences, including tafsir, fiqh, creed, and Sufism, as well as practical skills and moral values. The characteristics of Islamic boarding schools are religion-based education, dormitory environment, traditional teaching, independence and discipline (Fitri & Ondeng, 2022). Students who are in Islamic boarding schools have the responsibility to learn the knowledge or lessons in the boarding school. They must also be smart in dividing their time between studying, studying, playing and resting. Not all students at Islamic boarding schools only focus on Islamic boarding school activities, there are some students who also attend education in formal institutions such as in elementary school, junior high school, high school, and college. Of course, students who also attend formal institutions have a responsibility as a student, namely learning to improve their knowledge related to muatam lessons at the school.

Mathematics learning encompasses a variety of concepts, skills, and abilities that evolve along with the student's education level. Mathematics studies numbers, algebra, measurement geometry, statistics and probability, problem solving and logic. Many mathematical concepts are abstract so that it is difficult for students to understand. These difficulties can be overcome when students in the learning process have a good interest in learning, motivation and enthusiasm. Learning interest involves a combination of intrinsic motivation, attention, and active involvement of students in the learning process which is influenced by various factors, both internal and external. According to Slameto (2010), it is explained that interest in learning is a tendency that causes students to voluntarily pay attention and take action to learn with pleasure and perseverance. This interest has a great influence on student success in the teaching and learning process, especially student learning achievement (Komariyah, 2018). The factors that affect learning interest consist of two, namely internal factors and external factors (Korompot et al., 2020). Factors from within include motivation, confidence, intelligence or ability, hobbies, learning skills and attitudes towards learning. External factors that affect learning interest are the family environment, socio-cultural environment, peer influence, learning facilities and resources, awards and recognition, and economic conditions.

To make this study easier to understand, references from previous studies are used. One of these references is the research by Korompot et al. (2020) entitled "Students' Perception of Factors Affecting Learning Interest". The results of the study show that in the perception of students, the causes of low interest in learning are the physical aspect 84%, the psychological aspect 78%, the family aspect 72%, the school aspect 69%, and the community aspect 75%. Based on these five indicators, the physical aspect obtained an average score of 84%. This shows that in students'

perception, the physical aspect is the dominant factor influencing learning interest. Based on the description of the background explanation, this study has the purpose of analyzing the factors of students' learning interest in mathematics subjects domiciled in the Islamic boarding school environment. This research can provide information on the identification of internal and external factors that affect students' interest in learning mathematics content from the perspective of the Islamic boarding school environment.

RESEARCH METHODS

This study uses cutivative research methods and case studies. Qualitative research to analyze the learning interest factors of students domiciled in Islamic boarding schools. The reasons for choosing a place in Islamic boarding schools include an in-depth approach, a specific context that can be explained, exploring immeasurable factors, flexibility in making research statements, and providing determination on the meaning of the experiences experienced by students. The case study approach is also very necessary because it allows to focus on one specific context or group, namely students who live in Islamic boarding schools with unique characteristics, explore complex phenomena and use various data sources. The subject of this study is students of MTs Interest in Sugihan, Cilacap with a total of 27 students. The school used is a pesantren-based school.

Data collection techniques are observation, in-depth interviews, questionnaires, and documentation (Jailani, 2023). To test the validity and reality of the data using the data triangulation technique. This technique was chosen because it helps validate research findings by comparing data obtained from various sources or methods, comparing data from various points of view, thereby reducing the influence of bias on research results and ensuring that research results can be replicated or verified by other researchers. After the data was obtained, it was then analyzed inductively by understanding several related factors in influencing students' interest in learning in the classroom and then the technique of giving the final conclusion was carried out.

RESULTS AND DISCUSSION

The data from this study was obtained through the dissemination of questionnaires based on indicators of factors that affect students' interest in learning with case studies of students domiciled in Islamic boarding schools divided into three categories, namely internal factors, external factors (external), and mathematical content factors. Table 1 explains the distribution of internal factors that affect the level of students' interest in learning mathematics.

Table 1. Distribution of Internal Factors to Interest in Learning Mathematics

No	Statements	Number of Students			
		SS	S	TS	STS

No	Statements	Number of Students			
		SS	S	TS	STS
1	Fatigue in learning	5	17	5	0
2	Your health is well maintained while at the Islamic boarding school	3	4	18	2
3	Feeling lazy while studying	0	4	22	1
4	Have a passion for learning	4	20	3	0
5	When studying at school, I often feel sleepy	11	13	1	2
6	Have a strong sense of competition to be the best among other students	4	14	9	0
	Number of Students	27	72	58	5

Information:

SS : Strongly Agree

S : Agree

TS : Disagree

STS : Strongly disagree

The data in table 1 shows that students feel tired in learning, many students choose answers that agree and strongly agree as many as 22 (81.48%), students' health is not well maintained in the boarding school, more students who choose to disagree or strongly disagree with 20 students (74.07%), students feel lazy during study, more students choose to disagree or strongly disagree with 23 students (85.19%), Students have a passion for learning, many of whom voted strongly agree or agree with a total of 24 students (88.89%), students feel sleepy while studying at school, many students who voted strongly agree or agree with a total of 24 students (88.89%), students have a strong sense of competition, many students choose to strongly agree or agree with a total of 18 students (66.67%). If the data is displayed in visual form, it will be visible visual data as shown in the following figure 1.

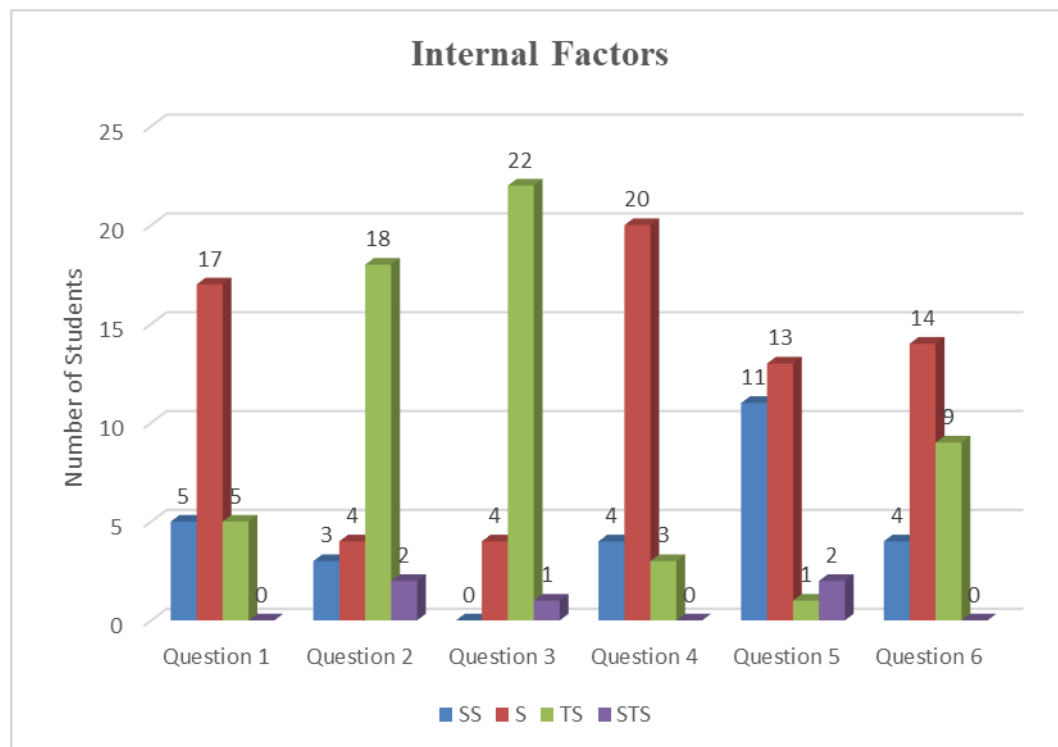


Figure 1. Visual Data Internal Factors

Based on figure 1, data was obtained that the number of students who answered strongly agreed and agreed was 27 and 72 students, respectively. The number of students who answered disagree and strongly disagree was 58 and 5 students respectively. These results show that the six questions given to students are a representation of internal factors that affect students' interest in learning mathematics. Figure 1 also proves that the third and fourth questions have the highest number of students who answered yes. It can be concluded that the factor of enthusiasm and perseverance in learning has a significant impact on increasing students' interest in learning in mathematics subjects. In line with the research, Putri et al. (2019) explained that students' interest in learning is influenced by internal factors, in this case the psychological factors of students. In addition, the results of the study are in line with a study conducted by Firdaus (2019) that the happy factor affects students' interest in learning mathematics. If a person has a feeling of pleasure, then the attitude of enthusiasm for learning and discipline will grow well. This will affect the smoothness of students in participating in mathematics learning in class. The research of Otoo et al. (2018) also explained that some students who have low levels of confidence also affect students' motivation and interest in learning in mathematics class.

The next results are related to external factors that affect the interest in learning mathematics. Extrenal factors are focused on several aspects including parental attention, finances, routine needs, density of activities outside the classroom, and interaction with others. Table 2 presents information on the distribution of these external factors.

Table 2. Distribution of External Factors to Mathematics Learning Interest

No	Statements	Number of Students			
		SS	S	TS	STS
1	Missing with parents at home	26	1	0	0
2	You're longing for home causes you to have difficulty in learning	6	13	8	0
3	Eat enough nutritious food	5	15	7	0
4	Your sleep time is enough	1	2	12	12
5	Fatigue in learning	5	17	5	0
6	Your allowance is enough	2	10	11	4
7	You're playing time is enough while at the Islamic boarding school	1	6	16	4
8	At the Islamic boarding school, the activities are dense	20	4	2	1
9	There are those who guide learning while in the cottage	4	14	9	0
	Number of Students	70	82	70	21

Information:

SS : Strongly Agree

S : Agree

TS : Disagree

STS : Strongly disagree

Based on table 2, the results were obtained that students felt longing for their parents while in the boarding school, all students voted strongly agree and agree (100%), students experienced difficulties in learning due to homesickness, many students voted strongly agree or agree with a total of 19 students (70.37%), students were satisfied with nutritious food, many students voted strongly agree or agree with a total of 20 students (74.07%), students have quite a lot of sleep time students vote disagree or strongly disagree with a total of 24 students (88.89%), students feel tired in learning many students vote strongly agree or agree a total of 22 students (81.48%), students have a considerable amount of pocket money students choose not to agree or strongly disagree a total of 15 students (55.56%), students have a lot of play time students choose to disagree and strongly disagree a total of 20 students (74.07%), Students have activities that in Islamic boarding schools many students

choose answers strongly agree or agree a total of 24 students (88.89%), students have someone to guide learning while in Islamic boarding schools many students choose answers strongly agree or agree a total of 18 students (66.67%). Furthermore, the quantitative data is presented in visual form as shown in figure 2.

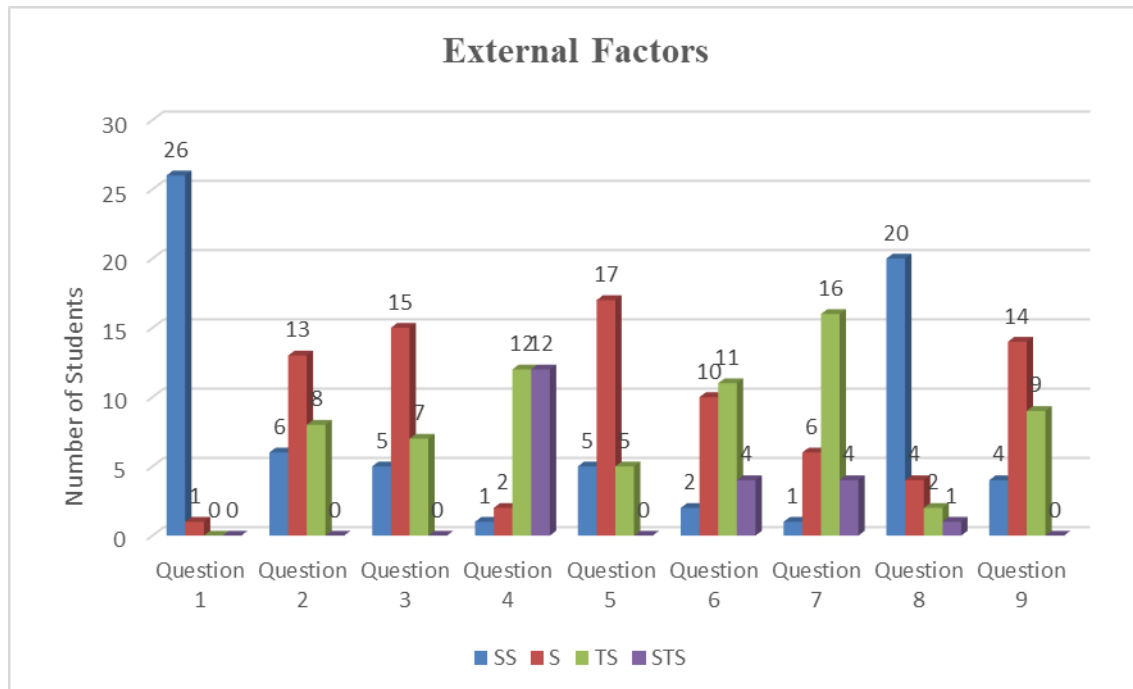


Figure 2. Visual Data External Factors

The number of students who accepted was 70 and 82 students, respectively. Students who wrote answers that did not agree and strongly disagree were 70 and 21 students, respectively. The factor of lack of parental attention and the level of density of activities at Islamic boarding schools are questions that are often answered by students. This condition causes students to be drained of energy and mind, causing students' interest in learning mathematics to decrease. In line with research conducted by Amaral et al. (2023) which explained that one of the factors for students' lack of interest in learning mathematics is related to the schedule of activities or the level of activity density while at school. This will result in a decrease in energy so that students are not enthusiastic about participating in learning activities in class. The following factors that affect students' interest in learning mathematics are categorized in factors related to mathematics content. Table 3 presents data on the distribution of mathematics content factors that affect mathematics learning interests.

Table 3. Distribution of Factors Related to Mathematics Content to Learning Interest

No	Statements	Number of Students			
		SS	S	TS	STS
1	You love math	0	6	18	3

No	Statements	Number of Students			
		SS	S	TS	STS
2	You master the basic operations on numbers (addition, subtraction, multiplication, and division)	0	6	20	1
3	You can understand the material by the time the teacher explains	1	19	7	0
4	You can do the questions after getting an explanation from the teacher on that day	3	14	9	1
5	After a few days of the teacher's explanation of the material you are learning, you can do the questions well	0	10	16	1
6	You can easily memorize formulas	0	2	18	7
7	You understand the formula well	1	5	17	4
8	You can understand the types of story problems in math	0	4	21	2
9	You can work on story problems in math	1	2	19	5
	Number of Students	6	68	145	24

Information:

SS : Strongly Agree

S : Agree

TS : Disagree

STS : Strongly disagree

Based on table 3, the results were obtained that the related questions liked the mathematics lesson, students voted to disagree or strongly disagree with a total of 21 students (77.78%), students mastered the basic operations on a large number of students voted to disagree or strongly disagree with a total of 21 students (77.78%), students can understand the material when the teacher explains many students strongly agree or agree with a total of 20 students (74.07%), students can work on the problem after hearing the teacher's explanation on the same day, many students choose 17 students (62.96%), students can work on the problem after a few days from the teacher's explanation, many students vote against or strongly disagree, a total of 17 students (62.96%), students are easy in memorizing formulas, many students choose not to agree or strongly disagree, a total of 25 students (92.59%), Students can understand the formula well A number of students voted to disagree or strongly disagree with a total of 21 students (77.78%), students can understand the types of story problems in mathematics Many students choose to disagree or strongly disagree with a total of 23

students (85.18%), students can work on story problems in mathematics. Many students choose to disagree or strongly disagree with a total of 24 students (88.89%).

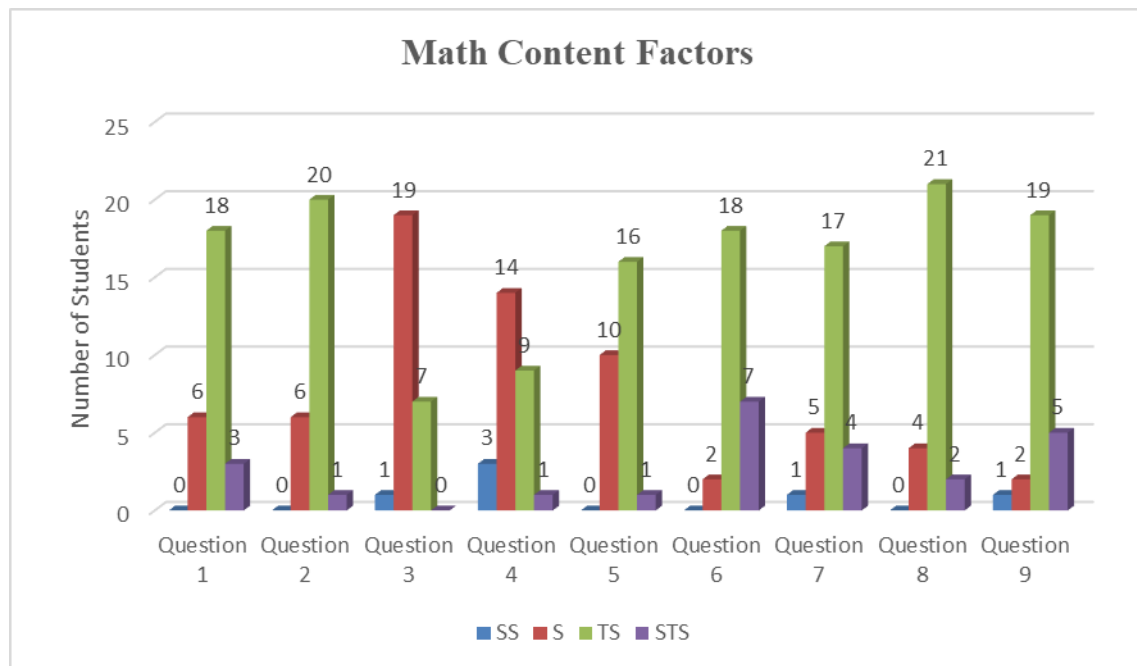


Figure 3. Visual Data Factors Associated with Math Content

From the results of the interview conducted to one of the administrators of the Islamic boarding school, it was stated that students who were in the Islamic boarding school participated in scheduled activities from waking up to going back to sleep. The school schedule has also been included in the boarding school schedule so that at that hour students must fulfill their obligations as a student. After students return from school, students take part in recitation and memorization activities that must be deposited. Furthermore, several students were also interviewed regarding activities and factors that affect students' interest in learning. The first student responded that the activities at the boarding school were very dense, there were many studies and had to make deposits that met the khatam target. So that the student is more focused on activities at the cottage than on school lessons because there is not enough time to review. Other students think almost the same. Drowsiness at school is caused by lack of sleep. In addition to lack of sleep because they also sleep too late because of night recitation activities, they also stated that when it is time to sleep, they enjoy chatting with friends. Often unhealthy health conditions are also a factor for students to be interested in learning. In terms of the content of abilities or mathematical materials, the student feels able to understand the teacher's explanation but when working on the problem is difficult because he does not memorize the formula or does not understand the problem. This result is in line with the research of Acharya et al. (2017) which explains that the mathematical concepts studied have an important role in fostering students' interest in learning. Good concept comprehension skills will make it easier for students to solve mathematical problems.

CONCLUSION

Based on the results of the research obtained for students who live in Islamic boarding schools, there are several factors that affect learning interest, both intrinsic and external factors, and factors related to the mathematical content being studied. The highest percentage of internal factors lies in terms of discipline and enthusiasm during learning at 88.89% and the highest external factor lies in terms of parental attention 100% and not having enough sleep at 88.89%. The factors related to the highest answer mathematics content lie in the fact that students have difficulty memorizing formulas (95.24%) and students are unable to work on story or contextual types of problems (88.89%). This is closely related to students' understanding of mathematical concepts. Thus, further research can explore information about students' ability to understand mathematical concepts. Starting from the stage of analyzing the profile of students' ability to understand mathematical concepts to the factors that affect the level of understanding of mathematical concepts.

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