



Analysis of Students' Learning Interest in Physics Subjects at Madrasah Aliyah

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ABSTRACT

The purpose of this study was to assess the level of students' interest in subjects. Conducted Class XI science students at a Madrasah Aliyah in Garut Regency, the research employed a qualitative methodology with a case study approach. Data gathering involved administering questionnaires to students, with subsequent analysis utilizing quantitative methods. The questionnaire, comprising 12 statements (10 positive and 2 negative), was derived from a validated and reliable instrument. Analysis of interest indicators revealed an overall average interest score of 79.7% among the Class XI students, indicating a strong interest in physics subjects. These findings suggest a positive inclination towards physics among the students surveyed. The study suggests that future research should delve deeper into examining students' interest in learning physics at the secondary school level, potentially uncovering nuances not addressed in this investigation. This research sheds light on the favorable interest levels students have towards physics. It underscores the importance of further exploration in understanding the dynamics of student interest in physics education, encouraging future researchers to delve into unexplored facets of this subject within the secondary school context.

Keywords: case studies, interest in learning, madrasah aliyah, physics

Analisis Minat Belajar Siswa terhadap Mata Pelajaran Fisika di Madrasah Aliyah

ABSTRAK

Penelitian ini dilakukan untuk mengukur sejauh mana minat siswa terhadap pelajaran fisika. Subjek penelitian ini adalah siswa Kelas XI jurusan IPA di salah satu Madrasah Aliyah di Kabupaten Garut. Metode yang digunakan adalah metode kualitatif dengan jenis penelitian studi kasus. Pengumpulan data dilakukan dengan memberikan kuesioner kepada siswa dan pengolahan data menggunakan teknik analisis data kuantitatif. Instrumen yang digunakan adalah kuesioner yang berisi 12 pernyataan terdiri dari 10 pernyataan positif dan 2 pernyataan negatif. Kuesioner yang digunakan diadaptasi dari instrumen yang valid dan reliabel. Berdasarkan hasil analisis data dari indikator minat, ditemukan bahwa secara keseluruhan siswa kelas XI memiliki minat terhadap mata pelajaran fisika dengan skor rata-rata 79,7%. Berdasarkan hasil analisis ini, menunjukkan bahwa siswa memiliki minat yang baik terhadap mata pelajaran fisika. Disarankan agar penelitian yang terkait dengan menganalisis minat siswa dalam pembelajaran

mata pelajaran fisika di tingkat sekolah menengah dapat dilanjutkan oleh peneliti lain sehingga hal-hal yang belum terungkap dalam penelitian ini dapat terkuak.

Kata kunci: fisika, madrasah aliyah, minat belajar, studi kasus

INTRODUCTION

Physics is often a subject that is less popular in schools because it is considered to require a high level of understanding. Many students face difficulties in understanding physics formulas and applying them in real situations, which can cause frustration and confusion (Amalisholeh et al., 2023; Nurpatri et al., 2022; Syahdah & Irvani, 2023). Learning that tends to be monotonous and less interactive is also another contributing factor, where students feel trapped in a boring and less motivating learning atmosphere (Yanti, 2021). Lack of student involvement in active exploration and understanding of concepts can also make them lose interest in physics subjects (Banda & Nzabahimana, 2023). A study highlights students' perceptions of physics learning as boring, resulting in disinterest in learning and passive engagement. This is contrary to the expectation that students actively search for additional knowledge during the learning process.

Interest in learning has a significant impact on student learning outcomes (Yu et al., 2021). High interest in a subject tends to increase students' motivation to study more diligently and with dedication (Andreev et al., 2020). A strong interest in the subject matter makes students more likely to be actively involved in the learning process, seek deep understanding, and explore the concepts being taught (Lombardi et al., 2021). Research has shown that when students are genuinely interested in a topic, they are more likely to demonstrate higher levels of engagement, concentration, and persistence in their studies (Phung et al., 2021). This heightened level of engagement often leads to improved academic performance and a deeper retention of the material being taught.

Furthermore, student interest can also influence their overall attitude towards learning (Getie, 2020). When students are enthusiastic about a subject, they are more likely to exhibit a positive attitude, leading to a more enjoyable and fulfilling learning experience (Mee et al., 2021). This positive attitude can have a ripple effect, creating a supportive and encouraging classroom environment that benefits all students.

In addition to academic benefits, nurturing and capitalizing on student interest can also foster a lifelong love for learning and curiosity (Asy-Syila, 2024). Encouraging students to explore topics they are passionate about can lead to the development of critical thinking skills, creativity, and a sense of intellectual curiosity that extends beyond the classroom (Greenier et al., 2023).

Students who have a high interest in learning also tend to have a better level of concentration during learning, allowing them to more easily understand the lesson material and remember the information provided (Inganah et al., 2023). With high interest, students are also better able to overcome obstacles that arise during the learning process, such as difficulties in understanding complex concepts.

Conversely, when interest in learning is low, students tend to be less motivated to learn and can feel bored and frustrated during the learning process (Graciani Hidajat et al., 2020). This lack of

enthusiasm often results in minimal student involvement in lessons, which in turn can lead to shallow understanding of concepts and less than optimal learning outcomes (Cabrera et al., 2023). A lack of interest in learning can also hinder students from developing the critical and analytical skills needed to understand subject matter in depth. The impact is not only limited to academic achievement but can also affect students' overall self-confidence and learning motivation (Liu & Hou, 2021). Therefore, it is important for educators to identify and address factors that can influence students' interest in learning in order to improve the quality of their learning and academic achievement.

Madrasah students' interest in learning about general subjects is often influenced by various factors. Some students may show high interest because they see the relevance of the subject matter to their daily lives or future career goals (Hacıoğlu & Gülhan, 2021). Those who feel connected to general subject matter such as mathematics, English, or science tend to be more motivated to learn and show active involvement in the learning process.

In fact, based on the results of interviews with Madrasah Aliyah teachers in Garut Regency for the 2021/2022 academic year, it was found that there were also students who were less interested in general subjects because of the perception that the material was difficult to understand, less relevant to their personal interests or goals, or because of the teaching method. that does not suit their learning style. Students' interest in learning determines students' motivation to participate in learning well. Several studies also show a correlation between student interest and learning outcomes (Ramzan et al., 2023; Wigfield, 2023; Yu et al., 2021).

It is important for educators in madrasas to understand the factors that influence students' interest in learning general subjects and create a motivating and interesting learning environment for them (Amin et al., 2022). An approach that is creative, interactive and relevant to everyday life can help increase students' interest in learning and in turn optimize their learning outcomes (Eden et al., 2024). By paying attention to students' learning interests, teachers can help create more meaningful learning experiences and build intrinsic motivation in students to continue learning and developing.

Based on this background, researchers are interested in conducting a case study related to madrasah aliyah students' learning interest in physics subjects. This research was conducted to better understand the factors that influence students' interest in learning physics in the madrasa education environment. This case study aims to investigate the factors that impact students' interest in learning physics. It seeks to understand how aspects such as the perceived relevance of physics content to daily life, the effectiveness of teaching methodologies employed by educators, students' grasp of fundamental physics concepts, and their intrinsic and extrinsic motivation levels contribute to shaping their engagement with the subject. Through this examination, the study intends to provide insights into enhancing student interest and engagement in physics.

By conducting this case study, it is hoped that valuable insights can be found for madrasa educators in designing more effective and interesting learning strategies to increase students' interest in learning physics. It is hoped that the results of this study can provide concrete recommendations for increasing student involvement, strengthening learning motivation, and creating a supportive learning environment in facing the challenges of learning physics at the madrasah aliyah level.

METHOD

This research uses a qualitative approach with a case study type of research. A qualitative approach was chosen because it provides space for an in-depth understanding of experiences, perceptions and complex factors that influence students' interest in learning physics subjects at madrasah aliyah. With a qualitative approach and case study methods, researchers have the opportunity to explore deeper meaning from the perspectives of students, teachers and the learning environment. This will provide a comprehensive understanding of the dynamics of students' interest in learning physics in madrasah aliyah and assist in formulating relevant and sustainable recommendations to improve physics learning in the madrasah environment.

This research involved 28 class XI students from one of the madrasah aliyah in Garut Regency during the 2021/2022 academic year. It is hoped that the selected participants can provide sufficient representation to explore various views and experiences related to students' interest in learning physics subjects in the madrasah aliyah context.

Data was collected through questionnaires with processing using quantitative data analysis. The instrument in the form of a questionnaire consists of 12 statements (10 positive and 2 negative), which were adapted from previous instruments which have been proven valid and reliable. The purpose of using this tested instrument is to ensure accurate and consistent measurement of students' learning interest, so that the resulting data can provide a valid picture of students' learning interest in physics subjects at the madrasah aliyah.

The questionnaire was created using a 5 graded scale from strongly disagree to strongly agree. The statements used in the questionnaire can be seen in Table 1 below.

Table 1. Questionnaire Statement Items on Student Interest in Physics

No.	Statement	Nature of Statement
1	I am interested in physics lessons	Positive
2	I am enthusiastic when learning physics takes place	Positive
3	I participate when physics learning takes place	Positive
4	I focused when learning physics started	Positive
5	I focused on listening to every material presented	Positive
6	I have complete physics lesson notes	Positive
7	I always do the physics assignments given	Positive
8	I enjoy discussing physics lessons during group study	Positive
9	I often express opinions in groups or in class	Positive
10	I always try to get good grades on every practice question and test	Positive
11	I wasn't enthusiastic during physics class	Negative
12	I find studying physics boring	Negative

Data from questionnaire answers that have been answered by respondents will later be made into percentages using the Likert scale calculation formula. Negative statements will get a score that is opposite to positive statements.

Apart from the questionnaire results, this case study data was strengthened by data from observations and interviews with one physics teacher. Observations were made when students studied physics using Asaz Black material. No special observation sheet was used. Researchers observe the learning process in general and record important things found during learning.

RESULT AND DISCUSSION

The collected data is analyzed with the aim of drawing appropriate conclusions. Data processing involves tabulating and interpreting each piece of information from each respondent, which is then presented in the form of percentages. The percentage results for the questions posed to the respondents can be seen in Figure 1 below.

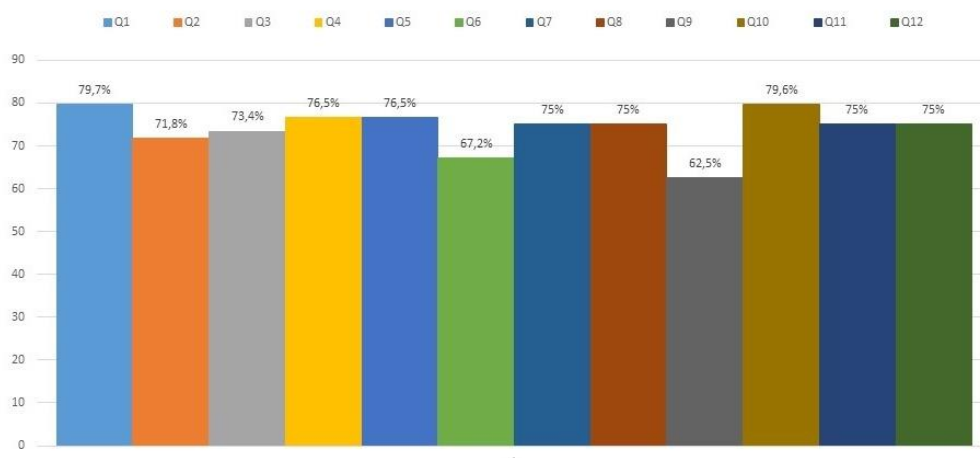


Figure 1. Graphic presentation of questionnaire results for each statement

Based on the survey distributed to students and then visualized in the graph above, a significant amount of data was obtained. 79.7% of the students in the class showed interest in the subject of Physics. This indicates a relatively high level of student interest in learning Physics, with a score of 39 for students who chose "Agree" and a score of 12 for students who chose "Strongly Agree". Physics education is well received by the 11th-grade students; they are enthusiastic, focused, and actively participate in each Physics lesson. Despite 75% of students finding Physics lessons boring, those who make an effort to complete assignments and take notes on the material help balance out the percentage of students who find Physics boring. This implies that not all students find Physics boring in every Physics class, possibly due to various internal and external factors during the learning process.

During the observation conducted to monitor the activities of teachers and students during the learning process, the following observations were made: Amid the ongoing Covid-19 pandemic, there have been changes in school learning. The school's policy dictates that face-to-face learning sessions are shortened due to the pandemic, lasting around 45 minutes each while still adhering to health protocols. In conducting this field study, observations were made throughout a Physics lesson from start to finish in a class of the 11th grade. As usual, the teacher greeted the students and took attendance. The teacher then commenced the lesson by briefly reviewing the material covered in the previous week to bridge the upcoming lesson, ensuring that students are aware of the topics to be covered.

However, the teacher did not provide motivation to the students. Giving motivation is a crucial step in the teaching and learning process. As expressed by Atkinson, a student's motivation for learning outcomes is influenced by past negative learning experiences, leading to feelings of dissatisfaction and fear of failure (Collini et al., 2023). The teacher proceeded directly to the lesson content without providing motivational input. Instead of delving deeply into the subject matter, the teacher explained the material very clearly, incorporating real-life applications. Students appeared enthusiastic when the teacher presented the material with relevant everyday examples. The teacher also actively engaged the students by encouraging them to participate in discussions and answer simple questions during the lesson. Teachers play an important role in providing motivation in learning (Filgona et al., 2020).

Not all students behaved in this manner; many students lost focus during the Physics lesson. Some were busy writing, chatting with classmates, daydreaming, adjusting their hair, and even using their phones during the lesson. Despite this, the teacher implemented a seating arrangement policy that organized students' seats into an L-shape, facilitating better supervision. This arrangement enabled the teacher to monitor students, address distractions, control their activities, and redirect those who had lost focus back to paying attention to the lesson effectively, ensuring they could engage with the material and complete the assigned tasks.

As a facilitator, a teacher needs to embody attitudes that include assisting and encouraging students to participate both individually and in groups, supporting their learning activities, providing necessary resources and tools, and nurturing students so that each individual can become a valuable source of knowledge for others. With this approach, a teacher serves not only as an instructor but also as a guide and mentor who plays a role in motivating students to actively engage in the learning process, providing support, and creating an environment that stimulates students' intellectual and social growth. These attitudes are crucial in fostering an inclusive learning environment, promoting collaboration among students, and empowering individuals to expand their knowledge and skills.

The teacher consistently asks students if there is anything they do not understand on every occasion. Encouragingly, the teacher motivates students to come forward and tackle the given problems. Even if a student is unwilling, the teacher does not force them. When a student answers a question correctly, the teacher provides reinforcement (praise, rewards). Additionally, the teacher refines answers that are not quite accurate. Furthermore, the teacher conducts evaluations in the form of tests at the end of the lesson and summarizes the material taught at that time.

Parental support is crucial in cultivating a student's interest in learning (Alam & Mohanty, 2023). To spark a child's interest in learning, parents need to pay attention to each child's schoolwork and assess their academic performance based on their abilities (Li & Chu, 2021). Parents should avoid excessively scolding their children for unsatisfactory grades but instead provide motivation and encouragement tailored to each child. Apart from self-motivation, educators and parents play significant roles in fostering students' interest in learning (Mestika et al., 2023). Additionally, peer influence can also stimulate a student's interest in learning. Peers, like parents and educators, provide motivation and positive encouragement to help their friends achieve their desired goals.

CONCLUSION

The research on analyzing students' interest in Physics aims to measure the extent of interest among Madrasah Aliyah students towards the subject. Based on the research findings and data analysis from the questionnaires, it can be concluded that 79.7% of 11th-grade Madrasah Aliyah students are interested in learning Physics, supported by several factors. One of these factors includes the manner in which teachers deliver the material, which should elicit a positive response from students. It is essential to pay attention to students who lack enthusiasm and find Physics boring, making it a focal point for every teacher.

The teachers at Madrasah Aliyah also play a crucial role in delivering the curriculum. These teachers are consistently seen making efforts to keep students focused and engaged in their learning. They make the subject intriguing by incorporating real-life examples of Physics concepts. The teachers receive positive responses from students when posing questions related to the taught material.

The approaches employed include contextual, deductive, process-oriented, and conceptual approaches. Methods utilized consist of lectures, discussions, and practical sessions. Media encompass charts, laboratory equipment and materials, and presentations (PowerPoint). Learning resources involve worksheets (LKS) and source books. Assessment techniques encompass cognitive, affective, and psychomotor aspects.

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REFERENCES

- Alam, A., & Mohanty, A. (2023). Cultural beliefs and equity in educational institutions: exploring the social and philosophical notions of ability groupings in teaching and learning of mathematics. *International Journal of Adolescence and Youth*, 28(1), 2270662.
- Amalishsholeh, N., Sutrio, S., Rokhmat, J., & Gunada, I. W. (2023). Analisis Kesulitan Belajar Peserta Didik pada Pembelajaran Fisika di SMAN 1 Kediri. *Empiricism Journal*, 4(2), 356–364.
- Amin, A., Syafal, Z., Wulandari, A., & Kurniawan, D. A. (2022). Motivation and Implementation of Islamic Concept in " Madrasah Ibtidaiyah" School: Urban and Rural. *International Journal of Evaluation and Research in Education*, 11(1), 345–352.
- Andreev, V. V, Gorbunov, V. I., Evdokimova, O. K., & Rimondi, G. (2020). Transdisciplinary approach to improving study motivation among university students of engineering specialties. *Education and Self Development*, 15(1), 21–37.
- Asy-Syila, A. (2024). Strategies for Enhancing Student Motivation and Achievement. *Mauve Journal De Leardu*, 1(1), 9–15.

- Banda, H. J., & Nzabahimana, J. (2023). The impact of physics education technology (PhET) interactive simulation-based learning on motivation and academic achievement among malawian physics students. *Journal of Science Education and Technology*, 32(1), 127–141.
- Cabrera, L., Bae, C. L., & DeBusk-Lane, M. (2023). A mixed methods study of middle students' science motivation and engagement profiles. *Learning and Individual Differences*, 103, 102281.
- Collini, M. A., Rocha, L. A., Ford, J. E., Weber, R., & Atkinson, M. B. (2023). Characterizing and identifying influences on undergraduates' attitudes towards organic chemistry. *Chemistry Education Research and Practice*, 24(2), 723–739.
- Eden, C. A., Chisom, O. N., & Adeniyi, I. S. (2024). Harnessing technology integration in education: Strategies for enhancing learning outcomes and equity. *World Journal of Advanced Engineering Technology and Sciences*, 11(2), 1–8.
- Filgona, J., Sakiyo, J., Gwany, D. M., & Okoronka, A. U. (2020). Motivation in learning. *Asian Journal of Education and Social Studies*, 10(4), 16–37.
- Getie, A. S. (2020). Factors affecting the attitudes of students towards learning English as a foreign language. *Cogent Education*, 7(1), 1738184.
- Graciani Hidajat, H., Hanurawan, F., Chusniyah, T., & Rahmawati, H. (2020). Why I'm Bored in Learning? Exploration of Students' Academic Motivation. *International Journal of Instruction*, 13(3), 119–136.
- Greenier, V., Fathi, J., & Behzadpoor, S.-F. (2023). Teaching for creativity in an EFL context: the predictive roles of school climate, teaching enthusiasm, and metacognition. *Thinking Skills and Creativity*, 50, 101419.
- Hacıoğlu, Y., & Gülhan, F. (2021). The effects of STEM education on the students' critical thinking skills and STEM perceptions. *Journal of Education in Science Environment and Health*, 7(2), 139–155.
- Inganah, S., Darmayanti, R., & Rizki, N. (2023). Problems, solutions, and expectations: 6C integration of 21 st century education into learning mathematics. *JEMS: Jurnal Edukasi Matematika Dan Sains*, 11(1), 220–238.
- Li, X., & Chu, S. K. W. (2021). Exploring the effects of gamification pedagogy on children's reading: A mixed-method study on academic performance, reading-related mentality and behaviors, and sustainability. *British Journal of Educational Technology*, 52(1), 160–178.
- Liu, Y.-M., & Hou, Y.-C. (2021). Effect of multi-disciplinary teaching on learning satisfaction, self-confidence level and learning performance in the nursing students. *Nurse Education in Practice*, 55, 103128.
- Lombardi, D., Shipley, T. F., & Astronomy Team Chemistry Team, Engineering Team, Geography Team, Geoscience Team, and Physics Team, B. T. (2021). The curious construct of active learning. *Psychological Science in the Public Interest*, 22(1), 8–43.
- Mee, R. W. M., Pek, L. S., Von, W. Y., Ghani, K. A., Shahdan, T. S. T., Ismail, M. R., & Rao, Y. S. (2021). A Conceptual Model of Analogue Gamification to Enhance Learners' Motivation and Attitude. *International Journal of Language Education*, 5(2), 40–50.

- Mestika, I., Nurikhsan, J., & Budiman, N. (2023). The Influence of Parents' Attention towards Student Learning Motivation. *3rd Borneo International Conference on Islamic Higher Education (BICIHE) 2023*, 1(1), 97–103.
- Nurpatri, Y., Maielfi, D., Zaturrahmi, Z., & Indrawati, E. S. (2022). Analisis Peningkatan Keterampilan Pemecahan Masalah Siswa SMP pada Pembelajaran Fisika. *Jurnal Pendidikan MIPA*, 12(3), 912–918.
- Phung, L., Nakamura, S., Reinders, H., Hiver, P., Mercer, S., & Al-Hoorie, A. H. (2021). The effect of choice on affective engagement: Implications for task design. *Student Engagement in the Language Classroom*, 163–181.
- Ramzan, M., Bibi, R., & Khunsa, N. (2023). Unraveling the Link between Social Media Usage and Academic Achievement among ESL Learners: A Quantitative Analysis. *Global Educational Studies Review*, VIII, 407–421.
- Syahdah, V. S., & Irvani, A. I. (2023). Kesulitan Menanamkan Jiwa Percaya Diri terhadap Kemampuan Mengerjakan Soal Fisika. *Jurnal Pendidikan Dan Ilmu Fisika*, 3(1), 163–171.
- Wigfield, A. (2023). The role of children's achievement values in the self-regulation of their learning outcomes. In *Self-regulation of learning and performance* (pp. 101–124). Routledge.
- Yanti, B. A. (2021). *Analisis Motivasi Belajar Siswa Pada Pembelajaran Fisika Melalui Teknik Self Instruction Di Kelas VII SMPS Darussa'adah Teupin Raya Kab. Pidie*. UIN AR-RANIRY.
- Yu, Z., Gao, M., & Wang, L. (2021). The effect of educational games on learning outcomes, student motivation, engagement and satisfaction. *Journal of Educational Computing Research*, 59(3), 522–546.