Analysis of Factors Causing Students Learning Difficulties in Learning Science

[1]Syarifatul Amaliyah, [2]Dinar Maftukh Fajar, [3]Aminulloh
[1,2]Prodi Tadris IPA, Fakultas Tarbiyah dan Ilmu Keguruan, Universitas Islam Negeri Kiai Haji Achmad Siddiq, Jember, Indonesia.
[3]Prodi Tadris Bahasa Inggris, Fakultas Tarbiyah dan Ilmu Keguruan, Universitas Islam Negeri Kiai Haji Achmad Siddiq, Jember, Indonesia.
Email Correspondence: syarifatulamaliyah@gmail.com

Article Info	Abstract
	This study employed a mixed method to analyze learning difficulties faced by students in seventh-grade science subjects and identify factors that cause them. This study was conducted on 96 students in the first semester. Data collection techniques were carried out using questionnaires, interviews, and documentation. The result of this study indicated that the form of a ranking of the science material in seventh grade in the first semester from the most difficult to the easiest; Heat and Its Transfers, Temperature and Its Changes, Matter Classification and Its Changes, Classification of Living Things, Energy in Living Systems, and Scientific Objects and their Observations. The factors that cause it are internal and external factors. Internal factors include psychological aspects such as talent, interest, and emotions; and physiological aspects like minor health problems. External factors cover the family conditions; the school environment, such as learning media and infrastructure; and the community, such as the use of social media.

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INTRODUCTION

Learning science makes an essential contribution to the sustainability of human life, especially to the development of science and technology. To contribute to the development of science and technology, students need to understand the basic concepts of a theory, not just memorize the theory presented in textbooks or other learning resources. (Palupi dkk., 2014). It is intended so that students can achieve predetermined learning indicators.

Learning difficulties are characterized by an obstacle or disturbance students face in the learning process that hinders the achievement of learning objectives. (Winarti, 2021). Identifying learning difficulties is very important, especially to find out and map the problems experienced by students and find out the factors that cause them. Thus, the solution of learning difficulties can be found and the teachers can minimize the occurrence of the same learning difficulties in the future.

Several studies by Akhmad (2019) and Waruwu (2020) have highlighted that students encounter significant challenges in learning science, influenced by various external and internal factors. External factors identified in these studies include inadequate teacher motivation, the scheduling of science classes during less optimal times of the day, and the lack of use of teaching aids during lessons. These factors contribute to a less engaging learning environment, potentially impacting students' motivation and comprehension of science concepts. Internal factors, such as students' lack of interest in the subject matter, their limited attention span during lessons, and their perceived need for increased effort in studying, also play crucial roles in hindering effective learning (Kallesta dkk., 2018)

Furthermore, research findings by Jannah & Sartika (2022) Emphasize that the causes of learning difficulties in science are multifaceted. They report that 80% of the challenges stem from students' lack of interest in the learning material, highlighting a crucial factor in student engagement and academic performance. Additionally, 74% of the challenges are attributed to the school environment, suggesting that factors within the school setting contribute significantly to students' learning experiences. Moreover, the effectiveness of teaching methods is identified as a critical factor in 70% of cases, underscoring the impact of instructional approaches on students' comprehension and retention of science concepts. Although cited as a contributing factor in 49% of cases, study habits indicate a less prominent role than other identified factors. These insights collectively underscore the complex interplay of external and internal factors that influence students' learning outcomes in science education.

Recent studies on science education in Indonesian junior high schools have highlighted various challenges and insights. Rahmawati et al. (2022) conducted a study emphasizing the need for innovative teaching methods to address the diverse learning difficulties students face. Their research indicated that traditional teaching methods were insufficient in engaging students and promoting a deep understanding of scientific concepts. Similarly, a study by Setiawan and Arifin (2023) found that integrating technology into science education significantly improved student engagement and understanding. The use of interactive simulations and digital resources helped bridge the gap between theoretical knowledge and practical application.

Another study by Prasetyo and Widodo (2022) examined the impact of the school environment on students' learning outcomes in science. Their findings suggested that a supportive and resource-rich environment, including well-equipped laboratories and access to learning materials, played a crucial role in enhancing students' scientific literacy. Furthermore, Yuliani and Kurniawan (2023) explored the effectiveness of collaborative learning strategies in science education. They reported that group activities and peer discussions fostered a better understanding of scientific concepts and improved problem-solving skills among students.

Despite State Junior High School 1 Ajung being equipped with various facilities aimed at enhancing the learning experience, several non-ideal conditions persist, hindering the effective learning of science among students. Observations and interviews with teachers and students revealed that many students struggle with basic scientific concepts, which are foundational for advanced learning. One major issue identified is the lack of student engagement and interest in science subjects. This is partly attributed to the traditional teaching methods employed, which fail to stimulate curiosity and active participation among students. Furthermore, the rural setting of the school means that students have limited exposure to modern scientific practices and technologies, which are essential for a comprehensive understanding of the subject.

Interviews with teachers highlighted another significant issue: the students' weak background in mathematics and literacy, which are crucial for understanding scientific concepts. Teachers reported that many students find it challenging to grasp scientific theories and solve problems due to their insufficient mathematical skills and low literacy levels. This problem is exacerbated by the fact that science lessons are scheduled during the day when students' attention and energy levels tend to wane, leading to decreased concentration and increased difficulty in absorbing the material. The teachers also pointed out that the lack of interactive teaching aids and resources makes it difficult to explain complex scientific concepts effectively.

Supporting data from student assessments and performance evaluations further underline these learning difficulties. The assessments indicate that a significant number of students perform poorly in science subjects compared to other subjects. This poor performance is consistent across various topics within the science curriculum, suggesting a broader issue with the way science is taught and learned at the school. Observations during science classes revealed that students often appear disengaged and struggle to follow along with the lessons. This disengagement is reflected in their low scores and the high number of students requiring remedial support in science.

Given the identified issues, there is an urgent need for a comprehensive analysis of the factors causing students' learning difficulties in science at State Junior High School 1 Ajung. This research aims to pinpoint both internal and external factors contributing to these difficulties. By conducting a thorough investigation, including interviews with teachers and students, classroom observations, and analysis of student performance data, the research seeks to provide a detailed understanding of the root

causes of these learning challenges. Understanding these factors is crucial for developing targeted interventions that can help improve science education at the school.

The ideal conditions to be achieved through this research include a significant improvement in student engagement and interest in science subjects. This can be achieved by adopting innovative and interactive teaching methods that make science lessons more engaging and relatable to the student's everyday lives. The use of modern teaching aids and technology can help bridge the gap between theoretical knowledge and practical application, making science more accessible and interesting. Additionally, addressing the students' foundational skills in mathematics and literacy through integrated teaching approaches can help them better understand scientific concepts and solve problems more effectively.

Another goal is to optimize the learning environment by ensuring that science lessons are scheduled at times when students are most attentive and capable of focusing. Providing continuous professional development for teachers on the latest teaching strategies and educational technologies can further enhance their ability to deliver effective science education. By creating a supportive and stimulating learning environment, students at State Junior High School 1 Ajung can be better prepared to understand and appreciate the significance of science in their lives and future careers. Ultimately, the research aims to establish a model for science education that can be replicated in other rural schools facing similar challenges. By identifying best practices and effective strategies for overcoming learning difficulties, this study can contribute to the broader goal of improving science education across rural Indonesia. Ensuring that all students, regardless of their background or location, have access to quality science education is essential for fostering a scientifically literate and innovative future generation.

According to some science teachers, in a lesson, a teacher will encounter problems and obstacles in students' understanding of the material, such as mathematical weaknesses and low literacy skills. This material will impact the continuity of the delivery of subject matter if learning difficulties are not detected from the start. When understanding the concept of material in seventh grade is not formed in students, it will increase the possibility of learning problems related to understanding the material in the next class or level. (Fardilah dkk., 2019). This research builds on the foundation laid by previous studies, such as those conducted by Akhmad (2019) and Waruwu (2020), which identified both external and internal factors contributing to students' learning difficulties in science. While earlier studies focused on general factors, this research aims to delve deeper into the specific causes and rank the difficulty levels of various science materials for seventh-grade students. By doing so, it seeks to provide a more detailed understanding of the challenges faced by students, thereby contributing to the existing body of knowledge on science education.

The urgency of this research is underscored by the findings of recent studies. For instance, Jannah and Sartika (2022) highlighted that interest in learning, the school environment, and teaching methods are significant determinants of students' learning outcomes. This research is timely and relevant as it addresses the need to identify specific learning difficulties and their causes in the context of Indonesian junior high schools. Given the rapid advancements in science and technology, it is imperative to equip students with a solid understanding of scientific concepts to prepare them for future challenges (Kallesta et al., 2018). In addition, research on the ranking of learning difficulties from several materials is also essential. It is intended that teachers can prepare their lessons according to the material's difficulty level. Tracing the ranking of the difficulty of primary physics material has been researched by Nurjannah et al. The results show that the Fluid Mechanics material is the most challenging compared to other materials. (Nurjannah dkk., 2020). However, the ranking of learning difficulties in junior high school science material has yet to be explored further. Based on these considerations, this study has a novelty in ranking the most difficult to the easiest material in odd semester science material for class VII and the factors that cause it.

Despite extensive research on the factors affecting science learning, there is a noticeable gap in studies that rank the difficulty levels of specific science materials. Previous research, such as that by Nurjannah et al. (2020), focused on ranking the difficulty of physics materials but did not extend this analysis to other areas of science. This research aims to fill this gap by providing a comprehensive ranking of science materials for seventh-grade students. This approach will enable educators to tailor their teaching strategies according to the difficulty level of the material, thereby enhancing students' learning experiences. Furthermore, while studies like those by Rahmawati et al. (2022) and Setiawan

and Arifin (2023) have explored innovative teaching methods and the impact of technology on learning, they did not specifically address the varying difficulty levels of science topics. This research will build on these findings by identifying the most challenging science materials and the factors contributing to these difficulties, providing a more nuanced understanding of how to support students in overcoming learning obstacles (Prasetyo & Widodo, 2022; Yuliani & Kurniawan, 2023).

The primary objective of this research is to rank the difficulty levels of science materials in the odd semester for seventh-grade students and identify the internal and external factors contributing to these difficulties. By doing so, it aims to provide valuable insights for educators to develop targeted interventions and improve science education in junior high schools. This study is novel in its approach to systematically ranking science materials, a gap that has not been adequately addressed in previous research. The scope of this study includes a comprehensive analysis of various science topics, considering factors such as student interest, teaching methods, school environment, and study habits. By focusing on a rural school setting, this research also aims to highlight the unique challenges faced by students in such environments. The findings are expected to contribute to the development of effective teaching strategies and policies that can be implemented in similar educational contexts across Indonesia.

METHODS

This study employs a mixed methods research design, integrating both quantitative and qualitative approaches to comprehensively investigate the difficulties faced by students in learning science materials. The quantitative method focuses on determining the ranking of difficulty of science topics in the first semester of class VII. This ranking is derived from students' responses in a structured questionnaire where they prioritize and justify the challenges encountered. Concurrently, the qualitative method explores the reasons behind these difficulties through unstructured interviews with selected students. This approach allows for a deeper understanding of the underlying factors contributing to learning challenges beyond numerical rankings.

The sampling strategy utilized in this study is purposive sampling, specifically targeting students from grades VII A, VII B, and VII D at State Junior High School 1 Ajung Jember who exhibit lower average scores compared to other classes. This targeted approach ensures that participants are representative of the population experiencing learning difficulties in science. The total sample size consists of 96 students, with each class contributing equally (32 students per class). Inclusion criteria include students enrolled in the specified classes during the study period, while exclusion criteria involve students who did not provide consent or did not participate fully in the data collection activities.

Table 1: Population and Research Sample

Class	Population	Sample size
VII A	32	32
VII B	32	32
VII D	32	32
Total	96	96

Data collection in this study incorporates multiple techniques to gather comprehensive insights into students' learning difficulties in science. Questionnaires are utilized to quantify and rank the perceived difficulty of science topics. Students are asked to prioritize six topics from most to least challenging and provide reasons for their rankings. Qualitative data are collected through unstructured interviews, where open-ended questions allow for in-depth exploration of students' experiences and perspectives on learning difficulties. Additionally, documentation techniques are employed to supplement data from questionnaires and interviews with relevant supporting materials. Quantitative data from the questionnaires are analyzed using descriptive statistics to determine the frequency and ranking of science topics perceived as most difficult by students. Qualitative data from the interviews are analyzed through thematic analysis, identifying recurring themes and patterns in students' explanations of their learning difficulties. This mixed methods approach enables a triangulated analysis, combining quantitative rankings with qualitative insights to provide a comprehensive understanding of the factors influencing students' challenges in learning science.

Triangulation in this study involves combining data from multiple sources (questionnaires, interviews, and documentation) to enhance the validity and reliability of the findings. By cross-verifying quantitative rankings with qualitative explanations, the study ensures a more robust interpretation of the data. Triangulation also extends to the comparison of findings across different classes (VII A, VII B, VII D), allowing for a nuanced analysis of variations in learning difficulties and experiences among students. This methodological triangulation strengthens the study's conclusions and supports the development of targeted interventions to improve science learning outcomes. The complete research instrument can be seen in Table 1 below.

Table 1. Research Instrument

No.	Variable	Aspect	Indicator	Technique
1.	Student Learning Difficulties	Difficulty understanding the material	Sort the material based on the level of difficulty and the reason.	Questionnaire Interview
2.	Internal factors a. Psychological (Suryani dkk., 2021)	Talent	Matching talent with learning	Questionnaire
		Interest	Student interest in learning	Questionnaire
		Motivation	Source of student learning motivation	Questionnaire
		Emotions (Tamba dkk., 2020)	Emotional stability of students when studying	Interview
3.	b. Physiological (Amaliyah dkk., 2021)	Unwell	Health conditions during learning	Questionnaire
		Pain	Long-term health conditions during the study	Questionnaire
		Body Disabilities	Conditions of students with physical disabilities	Questionnaire
4.	External Factors a. Family (Kallesta dkk., 2018)	Family harmony	Conditions of Family Harmony	Questionnaire
		Family Economy	Family economic condition	Questionnaire
5.	b. School environment	Teacher and student relationship Relations between students (Hidayat & Abbas, 2018)	The attitude and nature of the teacher to students when learning	Questionnaire Interview
			Attitudes and characteristics of classmates when learning	Questionnaire
		Learning media (Zamzami dkk., 2020)	The media used by the teacher when learning	Questionnaire Interview
		Building conditions	Feasibility conditions of learning buildings	Questionnaire Documentation
		Extracurricular and extracurricular activities	Student participation in extra/intra activities	Questionnaire
6.	c. Community	Social media	Social media use	Questionnaire
		Social Friends	Habits/conditions of friendship in society	Questionnaire
		Community Activities	Student activities in the community	Questionnaire

Research data analysis uses the John W. Creswell model. (Creswell, 2021). The stages of data analysis are grouping data, reading all data, coding data, describing data, connecting data, and interpreting data. Data coding in this study was carried out with the assistance software Nvivo 12 Plus,

where data can be grouped based on the desired code theme. The type of code used is the code obtained from research data.

Calculating the ranking of the difficulty of the first-semester science material for class VII uses the following formula:

$$\Sigma\ Score = Number\ of\ respondents \times Rating\ point$$

Name the ranking points: Rank 1 gets 6 points, rank 2 gets 5 points, rank 3 gets 4 points, rank 4 gets 3 points, rank 5 gets 2 points, and rank 6 gets 1 point. (Blog, 27 Juli).

In testing the validity of the data, researchers used a strategy of technical triangulation and source triangulation. The technique triangulation strategy tests the validity of the data using several different techniques. Researchers used questionnaire-filling techniques and documentation to collect data. In comparison, the source triangulation strategy referred to by the researcher is that the research data comes from different sources, namely seventh-grade students, seventh-grade science teachers, and the deputy principal at State Junior High School 1 Ajung Jember.

RESULTS AND DISCUSSION

The following results were obtained based on the results of filling in the questionnaire conducted by students in grades VII A, VII B, and VII D on December 15, 2022.

Science Material Difficulty Rating

The data obtained will multiply the number of respondents from each ranking by the value of each ranking order. The calculation results can be seen in Table 2 below.

Table 2. The results of the science material score rating difficulty calculation.

Material	Rank						Total Score	Ranking Results
	1	**2**	**3**	**4**	**5**	**6**		
Science Objects and Their Observations	12	35	4	81	46	36	214	6
Classification of Living Things	174	35	28	45	52	12	346	4
Classification of Material and Changes	60	70	156	69	16	2	373	3
Temperature and Its Changes	108	150	52	30	38	6	384	2
Heat and Its Transfers	198	115	48	12	26	11	410	1
Energy in Living Systems	24	75	96	51	14	29	289	5

From the table, it can be seen that the ranking order of learning difficulties in science material for seventh-grade first semester at State Junior High School 1 Ajung Jember for the 2022/2023 academic year is (1) Heat and Its Transfers, (2) Temperature and Its Changes, (3) Classification of Material and Changes, (4) Classification of Living Things, (5) Energy in Living Systems, and (6) Science Objects and Their Observations.

Reasons for Learning Difficulties Experienced by Students

The various reasons students experience learning difficulties from first-semester science material for seventh grade can be seen in Table 3 below.

Table 3. The reason students have difficulty learning science in each material

Rank	Material	Hard Reasons	Percentage	Easy Reason	Percentage
1.	Heat and Its Transfers	Many formulas	42,7%	Likes to count	16,66%
		It's hard to count	23,94%	Understandable	12,5%
		Do not understand	4,2%		
2.	Temperature and Its Changes	The calculations are difficult	65,6%	Understandable	12,5%
		Can only a little	2,08%	Likes to count	10,42%
				Can count	9,4%
3.		Difficult chemistry	31,25%	Understandable	7,29%
		Lots of material	17,7%	Love Chemistry	5,21%

Rank	Material	Hard Reasons	Percentage	Easy Reason	Percentage
	Classification of Material and Changes	Understand a little	15,61%	It's in everyday	4,2%
		Do not understand	13,54%		
		Don't like material	2,08%		
		Less interesting	1,04%		
		Lots of reading	2,08%		
4.	Classification of Living Things	Lots of material	31,25%	Understandable	28,12%
		Hard material	11,46%	Like material	8,33%
		Do not understand	5,21%	Easy to memorize	4,17%
		Lots of memorization	4,17%	Exciting and interesting	4,17%
		Material is similar	3,12%		
5.	Energy in Living Systems	Hard to understand	21,88%	Understandable	28,13%
		Hard material	20,84%	The material is in everyday life	14,58%
		Lots of memorization	4,17%	Like material	6,25%
		Lots of material	1,04%	Interested	3,12%
6.	Science Objects and Their Observations	Hard to understand	10,42%	Understandable	52,08%
		Less interesting	5,21%	Like material	26,05%
		Don't like material	2,08%		
		Not understand	2,08%		
		Lots of material	2,08%		

Based on Table 3, the results of the ranking of material difficulty rankings and the reasons are as follows.

First, Heat and Its Transfers. Students convey the reasons for the difficulty in learning this material, namely because of difficulties in understanding and remembering formulas and in arithmetic. Previous research showed the same results that students needed help in heat transfer material to understand the problems in the questions, errors in designing solutions, errors in solving problems, and errors when rechecking the answers. (Yuniarti dkk., 2019). Hayati, Istyadji, and Putri also revealed that students needed help understanding how to calculate heat because students only memorized the formula; besides that, students had difficulty differentiating the concept of heat transfer. (Hayati dkk., 2022). In addition, Widiani, Tandililing, and Hamdani also stated that seventh-grade students consider heat a complicated and challenging physics subject, causing students to be lazy and uninterested in learning it. (Widiani dkk., 2020).

Second, Temperature and Its Changes. Students reasoned that there is a lot of calculation material in this chapter. This is in line with Arinna and Nikmaturofidah who reported that students consider Temperature and Its Changes difficult because the material contains formulas, text, and images for calculations. (Arinna & Nikmaturofidah, 2022). Students tend to memorize formulas rather than understand the concept of the material, so mastery of the concept of temperature and heat is relatively low which can make it difficult for students to solve problems about temperature and heat. (Yuliana dkk., 2019).

Third, Matter Classification and Its Changes. The learning difficulty in this chapter is caused by the chemistry content in it, too much material scope, and low student interest in the material. Learning chemistry without the help of media makes it difficult for students to understand what they are learning, so it is necessary to apply learning with the help of media or teaching materials that can be used by students, even independently or without the help of a teacher (Marpaung & Pongkendek, 2021). Teachers need to present learning that is more interesting and varied to increase students' interest in Matter Classification and Its Changes, for example, with real examples of chemical processes presented during learning, so that students are more interested and able to understand the material in the chemistry chapter and its changes.

Fourth, the Classification of Living Things. Students find it difficult because the material in this chapter is very much and needs to be memorized. However, students feel helped by using learning

media in the form of the environment around the school, such as plants and animals. Utilization of the school environment can motivate learning in students; interacting directly with nature can increase the activity of students to explore learning materials found in the school environment as much as possible. (Mandaw, 2019). Students will also feel more enthusiastic in a different learning atmosphere and only sometimes in the classroom.

Fifth, Energy in Living Systems. The student reason is that this material is often found in everyday life, so students find it easier to understand the material because it has an accurate picture of the material. Science education integrated with local potential or life systems around students' homes has the advantage of learning relevant to real-life experiences, adds creativity to students, and can encourage collaboration between students and the community. (Yanti dkk., 2022). Therefore, students better understand when the material being studied relates to authentic experiences in everyday life.

Sixth, Science Objects and Their Observations. The reasons given by students include that the material can be understood and that students like the material. When a teacher can use an appropriate learning model, it will be easier to carry out learning in class, and students can take part in learning well to achieve learning objectives as expected. (Saadah & Susanti, 2020). The material in this chapter is still quite primary, both theory and calculations, so students have the potential to understand the material better than the material in other chapters.

Factors Causing Students to Have Learning Difficulties

Based on the data obtained, the researchers grouped them into two main factors: internal and external. The details are as follows.

Internal Factors Cause Students Experiencing Learning Difficulties

Table 4. Data findings of internal factors that cause students to experience learning difficulties

No.	Aspect	Findings	
		Description	**Percentage**
1.	Like material a. Talent	Heat and Its Transfers	37,50
		Temperature and Its Changes	38,54
		Matter Classification and Its Changes	21,87
		Classification of Living Things	45,86
		Energy in Living Systems	48,96
		Science Objects and Their Observations	77,08
2.	b. Interest	Heat and Its Transfers	31,25
		Temperature and Its Changes	33,33
		Matter Classification and Its Changes	23,96
		Classification of Living Things	67,71
		Energy in Living Systems	50,00
		Science Objects and Their Observations	66,60
3.	c. Emotions	The early period of seventh grade is a period of transition in the character of students from elementary to junior high, especially in the first semesters, so it is rather difficult to approach students emotionally when in class students are often difficult to condition and don't want to be managed, but this is gradually improving.	
4.	Physiological a. Unwell	44 out of 96 respondents had experienced mild health problems, including: Dizziness (Science and MTK lesson schedules are on the same day)	45,35
		Dizzy (a lot of material)	6,81
		Headache	6,81
		Stomach ache	13,51
		Tired	6,81
		Unwell (without specific information)	20,71

Internal factors are various factors that come from within the student. Internal factors that cause seventh-grade students at State Junior High School 1 Ajung Jember to experience difficulties in learning science are psychological factors and physiological factors. Psychological factors consist of talents,

interests, and emotions. At the same time, the physiological factors are in the form of mild health problems.

Most seventh-grade students at State Junior High School 1 Ajung Jember have talents that must follow the material being studied. Of the six science materials studied during the first semesters, only in the subject of natural science objects and their observations, the level of suitability of students' talents with the material was 77.08%. Whereas in other materials, the level of suitability of students' talents with the material is lower, especially in the Matter Classification and its Changes, which is only 21.87%. A high or low level of talent can affect a student's academic achievement, but talent is not the only factor for success because several other factors influence a person's success in the future. (Afniola dkk., 2020).

The level of suitability of seventh-grade students' interests in first-semester science material still needs to be higher. In the Matter Classification and its Changes, student interest was only 23.96%; in the Heat and Its Transfers material, the student interest was 31.25%; in the Temperature and Its Changes material, the student interest was 33.33%; in the Energy in Life material the student interest was 50 %, whereas, in the subject of Science Objects and Their Observations, the students' interest was 66.66%. The student's interest in the Classification of Living Things material was 67.71%. When students' learning interest in the material being studied is low, there will likely be an increase in learning difficulties experienced by students; conversely, when students' learning interest in the material being studied is high, there will likely be a decrease in learning difficulties experienced by students. (Wati & Muhsin, 2019).

Students' emotional stability when studying also plays a role as a cause of learning difficulties. Based on the results of interviews with the seventh-grade science teacher at State Junior High School 1 Ajung Jember, the early period of seventh grade is a period of transition in the character of students from elementary to junior high, especially in the first semester, so it is rather challenging to approach students emotionally, students often do not want to be managed and difficult conditioned in class. Suppose a student's emotional intelligence is low. In that case, students can experience emotional shocks that can damage students ability to pay attention to learning or do assignments given, resulting in a decrease in learning achievement. (Yulika, 2019).

Less than optimal student health conditions can affect the reception of information conveyed by the teacher (Utari dkk., 2019). As many as 44 students experienced mild health problems during the study; 45.45% of students felt dizzy because the science schedule was on the same day as MTK, based on the results of documentation conducted by researchers, in grades VII A, VII B, and VII D respectively there is one day where the Science and Mathematics schedules coincide on that day. Wicaksoso and Kartono suggest that several things must be avoided in the formation of lesson schedules; namely, there are schedules for teachers who teach one subject at the same time who are scheduled in different classes, teachers who teach more than one subject are scheduled in the same class at the same time. At the same time, teachers whose teaching schedules are lacking or who do not get them (Wicaksono & Kartono, 2020). However, scheduling more than one subject with a high difficulty level in one day still needs more attention.

External Factors Cause Students Experiencing Learning Difficulties

External factors are various factors that come from outside the student. External factors that cause seventh-grade students at State Junior High School 1 Ajung Jember to have difficulty learning science are family environmental factors such as family conditions, school environmental factors such as learning media and infrastructure, and community environmental factors such as the use of social media. More details can be seen in Table 5 below.

Table 5. External factors cause students to experience learning difficulties

No.	Aspect	Findings	
		Description	Percentage
1.	Family a. Family conditions	Support	35,83
		Busy Working	18,33
		Notice	16
		Less attention	10,83

No.	Aspect	Findings	
		Description	**Percentage**
		Provide facilities	8,33
		Free	5
		Pretty good	4,16
		motivating	1,66
		Less fortunate	0,83
2.	School environment a. Learning Media	Schoolyard	61,45
		Plant	20,48
		Book	13,25
		Animal	2,41
		Laboratory	1,20
		Stationery	1,20
3.	b. Building Conditions	Good	55
		Comfortable	26
		Hot class	16
		Adequate	3
4.	Community a. Social media	As many as 73 out of 96 respondents use social media with a duration of around 3-5 hours every day. The social media used include:	
		Google	52,05
		Youtube	17,50
		Facebook	13,81
		Instagram	6,85
		Brainly	4,11
		Ruang Guru	2,74
		Tiktok	1,47
		Pinterest	1,47

Family conditions are one of the factors causing students to experience learning difficulties. The condition of the students' families when studying was 18.33% of students' parents were busy working, 10.83% of students felt they were not cared for by their families, and 0.83% of students came from underprivileged families. Research previously conducted by Utomo et al. stated that not all parents or families could accompany and guide their children in learning because their level of education was lower. (Utomo dkk., 2021).

The use of learning media at State Junior High School 1 Ajung Jember is still quite limited; what stands out is the use of plants and animals in the school environment. Based on the results of previous research by Wahyuningtyas and Sulasmono, using media during the learning process can make it easier for students to understand the subject matter so that the learning outcomes obtained are satisfying. If the learning outcomes obtained are satisfactory, it means that the learning objectives have been achieved by the students (Wahyuningtyas & Sulasmono, 2020).

Facilities or infrastructure supporting learning is also one of the causes of students experiencing learning difficulties. Of the three classes that were the subject of the study, there was one classroom, namely seventh-grade D, which was not equipped with a fan, so students felt hot and uncomfortable during the learning process. When the facilities and infrastructure available at school are optimal, it will impact learning that is more conducive and can help students get better learning outcomes. (Kholil & Zulfiani, 2020). The hot class conditions during the learning process will undoubtedly affect the concentration and focus of students on the lesson.

Excessive use of social media can cause students to experience learning difficulties. Most seventh-grade students at SMP Negeri 1 Ajung use social media for 3-5 hours per day. The most used types of social media are Google, YouTube, Facebook, and Instagram. The use of social media can cause changes in student behavior; a student must be good at managing time to use social media and filter the information consumed so that it does not have a negative impact in the future (Suryaningsih, 2019).

CONCLUSION

Based on the results of the research previously described, it can be concluded that the ranking of the difficulty of the first-semester science material for seventh-grade at SMP Negeri 1 Ajung Jember sequentially from 1 to 6, namely Heat and Its Transfers, Temperature and Its Changes, Matter Classification and Its Changes, Classification of Living Things, Energy in Living Systems, as well as Science Objects and Their Observations. The majority of reasons mentioned by students included difficulty in calculating and working on formulas, difficulty memorizing, and difficulty understanding the material. While the causal factors are internal factors, including psychological; talent, interests, and emotions, as well as physiological; and mild health problems, external factors include the family environment; family conditions, school environment; learning media and infrastructure, and community environment; and use of social media.

SUGGESTION

This research only focuses on the factors that cause students to experience learning difficulties. Therefore, suggestions for further research could be to examine solutions to the factors that cause students to experience learning difficulties in science lessons.

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