

Factors causing students' learning difficulties in Biology subject

Sopian Azhari¹, Dedi Riyan Rizaldi^{2*}, Muhammad Fahrurrozi³, Nilwan², Nurul Ahyani²

¹Science Tadris Study Program in Biology, UIN Mataram, Mataram, Indonesia

²Madrasah Aliyah Plus Nurul Islam Sekarbela, Mataram, Indonesia

³Islamic Education Study Program, UIN Mataram, Mataram, Indonesia

*Corresponding e-mail: dedi0313@gmail.com

Abstract

This study aims to determine the factors that cause learning difficulties for class X MIPA students at Madrasah Aliyah Plus Nurul Islam Sekarbela. This research is a qualitative research. The subjects of this study were students of class X MIPA at MA Plus Nurul Islam Sekarbela. The sampling technique used random sampling with a sample of 22 students. The research data collection method uses an observation sheet in the form of a questionnaire. The data analysis technique uses descriptive qualitative with percentage categories. The results showed that in general the factors causing learning difficulties in class X MIPA students at MA Plus Nurul Islam Sekarbela consisted of internal factors including and physiology by 43% and psychology by 61%. While external factors include aspects of the family environment by 46%, school environment by 57%, and community environment by 66%.

Keywords: learning achievement, learning biology, learning difficulty factors

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INTRODUCTION

Biology is the study of life and living things, which includes morphology, physiology, anatomy, behavior, and distribution. In its development, biology does not only study living things and life processes, but also examines living things and the lives of living things that have become extinct (Syafi'i, 2006). Biology generally has abstract concepts (Maryanti & Trie, 2018). There are many pictures and diagrams to explain a concept, so analysis, prediction skills, and the ability to draw conclusions are needed to understand it.

The educational process takes place in an activity called learning. According to Syah (2010), learning is an activity that is processed and becomes a fundamental element of the ongoing educational process. This means that the achievement of an educational goal depends on the learning process experienced by each student (Rizaldi et al., 2021). However, learning difficulties often occur during the learning process. Learning difficulty is a symptom that appears in students characterized by low learning achievement or under predetermined conditions (Suryani, 2010; Andayani et al., 2014). The learning achievement of students who experience learning difficulties is usually lower when compared to the learning achievements of their friends, or they experience a decrease in learning achievement from previous learning achievements.

In the entire education system, educational goals are an important component of education because they will provide direction for a process of

educational activity (Sujana, 2019; Rizaldi et al., 2022). All learning activities are directed toward achieving educational goals (Rizaldi et al., 2021b). But in learning activities, teachers face a number of diverse student characteristics. There are students who can carry out their learning activities smoothly, but on the other hand, there are not a few students who actually experience various difficulties in learning (Tasrim, 2010; Widayanti, 2013). From the results of observations made by the researchers, it was stated that the average daily test scores for Biology grade 10 students at MA Plus Nurul Islam Sekarbela for the 2022-2023 academic year could be categorized as having not reached the KKM (Minimum Completeness Criteria) set by the school.

Low learning outcomes in biology subjects indicate difficulties in learning biology. This can be influenced by several factors, which can be grouped into two categories: internal factors and external factors. According to Saputra et al. (2018), internal learning factors include learning attitudes, learning concentration, learning motivation, exploring learning outcomes, student self-confidence, intelligence, study habits, student aspirations, and others. Meanwhile, external learning factors include teachers, learning facilities and infrastructure, assessment policies, the social environment of students in schools and communities, and the school curriculum (Rizqi & Sumantri, 2019; Lukita & Sudibjo, 2021).

Based on the description above, the researcher analyzed various factors that could affect the learning outcomes of class X students at MA Plus Nurul Islam Sekarbela so that they could be taken into consideration by biology teachers when designing learning strategies in class, and as a concern for parents to always provide support regarding children's learning needs.

RESEARCH METHOD

Types of research

This research is descriptive research, i.e., a research method that shows the characteristics of the population or phenomenon being studied. So that this study focuses on explaining the object of research and answering the events that occurred.

Time and place

The research was carried out in the odd semester of the 2022–2023 school year during October 2022 at MA Plus Nurul Islam Sekarbela.

Population and sample

The population of this study was all students of class X MIPA MA Plus Nurul Islam, totaling 30 students. The number of samples used was 22, which were taken using the random sampling method.

Research instruments

The instrument in this study was a closed questionnaire. Closed questionnaires are questions that expect the respondent to give a brief answer or choose one of the available alternative answers for each question (Sugiyono, 2008). The learning difficulty factor questionnaire used in this study is a questionnaire that has been validated and used in research on student learning difficulties (adapted from Nurhikmah & Maryani, 2018). In this questionnaire, each item statement contains four alternative responses, each of which is given weight between 1 to 4. The grids used in the closed questionnaire are as follows (See Table 1).

Table 1. Learning difficulty factors questionnaire grid

No	Aspect	Indicator	No Item		Total
			Unfavorable	Favorable	
1.	Internal	Physiology	1	2, 3, 4	4
		Psychology	5,8, 9,10,12 14, 16, 17,	6,7, 11, 13	9
2.	External	Family environment	18, 19, 20, 21	15	8
		School environment	22, 23, 25, 27,28	24, 26	7
		Community Environment	29,30	31	1
Total					31

Data analysis

The data from this study were analyzed using a qualitative descriptive analysis in the form of a percentage. Data analysis is done by using the percentage (%) of student answers using the equation, namely:

$$P = \frac{n}{N} \times 100\%$$

with

P = Percentage number

n = Gain score

N = Maximum score

The description of the research results scores is grouped based on the percentage value obtained from the management of the criteria scale as follows (Wati, 2012).

76% - 100% : very difficult to learn

51% - 75% : cause learning difficulties

26% - 50% : less likely to cause learning difficulties

0% - 25% : does not cause learning difficulties

RESULTS AND DISCUSSION

This study uses one variable, namely the difficulty factor of students' biology learning. Data analysis in the study used descriptive statistics, namely looking at the results of the respondents' acquisition of internal factors, which included aspects of physiology and psychology, as well as external factors, which included the family, school, and community environments.

Factors of student biology learning difficulties in terms of physiological aspects

The results of the factor analysis of students' biology learning difficulties in the physiological aspect are as follows (See Table 2). Based on Table 2, it can be seen that the difficulty factor for students' learning of biology in the physiological aspect shows a total percentage of 43%. This illustrates that the factor of students' biology learning difficulties in the physiological aspect is included in the less serious category of factors causing learning difficulties. The results of research on students' learning difficulties in biology from the physiological aspect found that most of the students' physical conditions were in good condition. This can be seen from the condition of most students, who are quite healthy, and it is rare to find students who are experiencing health

problems or physical disabilities. Besides that, it can be seen from the condition of the students, who are agile when they are in class and outside of class.

Table 2. Research data on internal factors in physiological aspects

No Item	Respondent Value	Percentage
1	42	47%
2	40	45%
3	35	39%
4	37	42%
Total	154	43%

Most students have a healthy body condition, so it is easy to concentrate while studying. This is indicated by the percentage obtained, namely 47%. In terms of student endurance in learning, students do not experience problems feeling tired easily when studying. This is indicated by the percentage obtained, which is equal to 45%. In terms of vision, students do not experience problems in vision, this is indicated by the percentage obtained, namely 39% in the less category. In terms of hearing, students also do not experience problems, this is indicated by the percentage obtained, which is 42% in the less category. When viewed from body defects or lack of functioning of organs, the percentage obtained is 40%. Thus, it can be concluded that physiological factors do not cause learning difficulties.

Physiological factors are factors that are physical or related to physical conditions, such as body health, body defects, or the lack of functioning of body organs (Pangestika, 2016). This is because someone who is sick will experience physical weakness, which can cause things such as fatigue, drowsiness, dizziness, a lack of enthusiasm, difficulty concentrating, and disturbed thoughts. Such conditions will lead to reduced acceptance and response to lessons.

Based on the research, it was found that internal factors in the physical aspect did not cause learning difficulties for students. This is because the physical condition of class X MIPA MA Plus Nurul Islam Sekarbela is in pretty good shape. Thus, internal factors in the physical aspect were declared not to be dominant, causing difficulties in learning biology for class X MIPA students at MA Plus Nurul Islam Sekarbela.

Factors of student biology learning difficulties in psychological aspects

The results of the factor analysis of students' biology learning difficulties on the psychological aspect are as follows (See Table 3).

Table 3. Research data on internal factors in psychological aspects

No Item	Respondent Value	Percentage
5	57	64%
6	48	54%
7	62	70%
8	56	63%
9	53	60%
10	53	60%
11	56	61%
12	54	61%
13	55	60%
Total	494	61%

Based on the results of research on students' learning difficulties in biology that had been carried out on class X MIPA MA Plus Nurul Islam Sekarbela students, it was found that students found it difficult to understand what was conveyed by the teacher, as indicated by the percentage obtained, which was 64%. In addition, students also find it difficult to recall the subject matter that has been studied before. This can be seen from the percentage gain of 70%. Some students find it quite difficult to learn biology. This is indicated by the percentage obtained, which is equal to 63%.

Besides that, there are also students who find it quite difficult to learn languages or materials that emphasize more linguistic aspects such as reading and understanding sentences. This is indicated by the percentage obtained, which is equal to 60%. Thus, when viewed from the perspective of the talent of the students, the percentage obtained is 60%. In terms of student interest in learning, it shows that most students feel less interested in learning, both at home and at school. Shown by the percentage obtained, which is equal to 61%. This is reinforced by the presence of students who pay less attention when the lesson is in progress. Thus, it can be concluded that psychological factors can cause learning difficulties; this is indicated by the total percentage of 61%.

According to Gustina & Rahayu (2020), psychological factors are factors that are psychological in nature, such as intelligence, interests, talents, and motivation. Intelligence plays an important role in learning success. Learning difficulties are not only experienced by students with low intelligence (Amaliyah et al., 2021). Based on the research, the results show that internal psychological factors cause learning difficulties. This is because the psychological condition of class X MIPA students at MA Plus Nurul Islam Sekarbela is in an unfavorable state. Thus, internal factors in the psychological aspect are declared dominant and are causing students' difficulties in learning biology.

Factors of student biology learning difficulties aspects of the family environment

The results of the factor analysis of students' biology learning difficulties on aspects of the family environment are as follows (See Table 4).

Table 4. Data from external factors research on family environment aspects

No Item	Respondent Value	Percentage
14	36	40%
15	44	50%
16	37	42%
17	38	43%
18	38	46%
19	39	46%
20	45	51%
21	43	48%
Total	320	46%

Based on the results of research conducted on MIPA MA Plus Nurul Islam Sekarbela, it is known that most of the relationships between family members are quite good. This is indicated by the percentage obtained, which is equal to 40%. Although there are still students who often fight with their siblings at home, This can be seen from the percentage obtained, namely 50%. Thus, when viewed from the perspective of the relationship between family members, the

percentage obtained is 43%. Meanwhile, in terms of economic conditions, most of them are quite good. This can be seen in the fulfillment of student needs related to school supplies. This is indicated by the percentage obtained, which is equal to 46%.

Based on the results of the above research on external factors, the dominant aspect of the family environment causes learning difficulties, namely the management of study time at home, which is still not implemented by parents. The family environment is also an external factor that can cause learning difficulties for students (Saputro & Talan, 2017). This includes situations and conditions in the family environment that affect student learning activities, such as a) the relationship between family members and b) the economic conditions of the family. parents' attention and support for their children's education, c) complete learning facilities, d) management of study time at home, and e) a comfortable atmosphere at home (Baiti & Munadi, 2014; Sari, 2018; Rizaldi et al., 2021c).

Based on the explanation above, it is known that family and environmental factors can cause learning difficulties in students. This can be seen from the relationship between family members, family economic conditions, parents' attention and support for their children's education, the completeness of learning facilities, the management of study time at home, and comfort at home. Based on the research, it was found that external factors in aspects of the family environment did not cause learning difficulties. This is because the condition of the family environment in class X MIPA MA Plus Nurul Islam Sekarbela is in fairly good condition, as shown by a total percentage of 46%. Thus, external factors on aspects of the family environment were declared not dominant causing difficulties in learning biology for class X MIPA MA Plus Nurul Islam Sekarbela.

Factors of student biology learning difficulties on external factors in school environmental aspects

The results of the analysis of students' biology learning difficulties factors on aspects of the school environment are as follows (See Table 5).

Table 5. Data on research results on external factors aspects of the school environment

No Item	Respondent Value	Percentage
22	37	42%
23	49	55%
24	61	69%
25	51	57%
26	49	55%
27	63	71%
28	44	50%
Total	354	57%

Based on the results of the research that was conducted on class X MIPA MA Plus Nurul Islam Sekarbela, it was found that the teacher's way of teaching was good. When learning in class, the teacher can explain the subject matter clearly. This can be seen from the percentage obtained, namely 42%. However, some students still feel bored with the teacher's way of teaching. This can be seen from the percentage obtained, which is equal to 55%. Meanwhile, in terms of student interaction with the teacher, there are still quite a number of students

who feel reluctant to ask about material that is felt to be unclear. This can be seen from the percentage obtained, namely 69%. Even some students still feel afraid to talk to the teacher. This can be seen from the percentage obtained, which is equal to 57%.

The interaction between students and other students is not good. This can be seen from one student to another, who is less willing to help explain if there is material that is felt to be unclear. This can be seen from the percentage obtained, which is equal to 55%. In terms of school infrastructure, it is considered complete and adequate for the learning process. The school building that is occupied is appropriate and comfortable to be a place for student learning. This can be seen from the percentage obtained, namely 71%. When viewed from school infrastructure facilities, the percentage obtained is 50%. Thus, it can be concluded that school infrastructure does not cause learning difficulties with a percentage of 50%. However, external factors are the dominant aspects of the school environment causing learning difficulties, namely the way the teacher teaches and the interaction between the teacher and students, so that students still feel afraid and awkward to speak or ask questions to the teacher.

School environmental factors that can cause learning difficulties for students include a) teacher teaching methods, b) teacher-student interaction relationships, c) student interaction relationships with other students, and d) school facilities and infrastructure. This opinion is reinforced by Machfudz (2020) that school is an environment that is deliberately formed to educate and guide students towards certain goals, especially to equip students with knowledge and skills. Thus, the school environment is an environment that is actively used for the learning process. Therefore, matters related to the school environment can also cause learning difficulties for students.

School environmental factors can cause learning difficulties in students. This can be seen from the teacher's way of teaching, the teacher's interaction with students, the interaction between students and other students, and school infrastructure. Based on the research, it was found that external factors in aspects of the school environment caused learning difficulties. This is shown by the total percentage of 57% in the category of causing learning difficulties.

Factors of student biology learning difficulties on external factors aspects of the community environment

The results of the factor analysis of students' biology learning difficulties in relation to aspects of the community environment are as follows (See Table 6).

Table 6. Data on research results on external factors aspects of the community environment

No Item	Respondent Value	Percentage
29	69	68%
30	70	79%
31	45	51%
Total	184	66%

Based on Table 6, it is known that the environmental conditions of the community in the area where they live do not support the student learning process. This can be seen from the lack of compliance with the community study hours that are enforced. Thus, the student's study time at home becomes disrupted and less effective. This can be seen from the percentage obtained,

namely 68%. When viewed in terms of the existence of playmates, the presence of playmates also has a significant role. It can be seen from the activities carried out by students with their playmates in the environment around the house. However, when viewed from the standpoint of the existence of joint learning activities, it is still lacking. This can be seen from the percentage obtained, namely 79%. Strengthened by the presence of students whose friends in their neighborhood only invite them to play continuously. This can be seen from the percentage obtained, which is equal to 51%. Thus, it can be concluded that community environmental factors are sufficient to cause learning difficulties, with a total percentage of 66%. Based on the results of the research above, external factors are dominant aspects of the community environment that cause learning difficulties, namely the existence of playmates who tend to invite them to play continuously, so that activities that support the learning process, such as learning together, are rarely carried out.

Based on the description above, it is known that community environmental factors can cause learning difficulties in students. This can be seen from the condition of the living environment and the presence of playmates. Based on the research, the results show that external factors in the environmental aspects of society cause learning difficulties. This is due to the condition of the community environment in class X MIPA MA Plus Nurul Islam Sekarbela, in unfavorable conditions. Thus, external factors on aspects of the community environment were declared dominant causing learning difficulties for class X MIPA MA Plus Nurul Islam Sekarbela as shown by a total percentage result of 66%.

CONCLUSION

Based on the results of the study, it can be concluded that in general the dominant factors causing difficulties in learning biology for class X MIPA MA Plus Nurul Islam Sekarbela are internal factors on psychological aspects and external factors covering aspects of the school environment and the community environment. Meanwhile, the internal factors, physiological aspects and external factors, aspects of the family environment are in the less category causing difficulties in learning biology for students.

REFERENCES

- Amaliyah, M., Suardana, I. N., & Selamat, K. (2021). Analisis Kesulitan Belajar Dan Faktor-Faktor Penyebab Kesulitan Belajar IPA Siswa SMP Negeri 4 Singaraja. *Jurnal Pendidikan Dan Pembelajaran Sains Indonesia (JPPSI)*, 4(1), 90-101.
- Andayani, N. P. S. N., Sulastri, M., & Sedanayasa, G. (2014). Penerapan layanan bimbingan belajar untuk meningkatkan prestasi belajar bagi siswa yang mengalami kesulitan belajar pada kelas X4 SMA Negeri 1 Sukasada tahun pelajaran 2013/2014. *Jurnal Ilmiah Bimbingan Konseling Undiksha*, 2(1).
- Baiti, A. A., & Munadi, S. (2014). Pengaruh pengalaman praktik, prestasi belajar dasar kejuruan dan dukungan orang tua terhadap kesiapan kerja siswa SMK. *Jurnal Pendidikan Vokasi*, 4(2).
- Gustina, I., & Rahayu, W. D. (2020). Faktor-Faktor yang Mempengaruhi Prestasi Belajar Mahasiswa Jurusan Akuntansi Fakultas Ekonomi dan Bisnis Universitas Riau. *Jurnal Akuntansi dan Keuangan*, 9(2), 1-11.
- Lukita, D., & Sudibjo, N. (2021). Faktor-faktor yang mempengaruhi motivasi belajar siswa di era pandemi covid-19. *AKADEMIKA: Jurnal Teknologi Pendidikan*, 10(1).

- Machfudz, M. (2020). Penguatan Pendidikan Melalui Lingkungan Pembelajaran Dalam Meningkatkan Kualitas Belajar Siswa Di Madrasah. *FALASIFA: Jurnal Studi Keislaman*, 11(2), 136-152.
- Maryanti, S., & Trie Kurniawan, D. (2018). Pengembangan Media Pembelajaran Video Animasi Stop Motion Untuk Pembelajaran Biologi Dengan Aplikasi Picpac. *Jurnal BIOEDUIN: Program Studi Pendidikan Biologi*, 8(1), 26-33.
- Nurhikmah, N., & Maryani, I. (2018). Identifikasi Kesulitan Belajar Siswa Pada Mata Pelajaran IPA Kelas V di SD Muhammadiyah Semingin. *Jurnal Fundadikdas (Fundamental Pendidikan Dasar)*, 1(3), 208-215.
- Pangestika, N. S. (2016). Faktor-Faktor Kesulitan Belajar Siswa Berprestasi Rendah Di Kelas IV SD Negeri Se-Kecamatan Ngemplak. *BASIC EDUCATION*, 5(8), 813-826.
- Rizaldi, D. R., Andayani, Y., Doyan, A., Makhrus, M., Fatimah, Z., & Nurhayati, E. (2021). The use of Betel leaf in Nyirih tradition: Analyzing an ethnosience-based learning material. *International Journal on Education Insight*, 2(1), 29-36.
- Rizaldi, D. R., Zaenudin, M., Fakhurrozi, F., & Fatimah, Z. (2021b). PKM penanaman nilai karakter melalui masa taaruf Siswa madrasah dalam kondisi normal baru COVID-19 di MA PLUS NURUL islam sekarbela. *Jubaedah: Jurnal Pengabdian Dan Edukasi Sekolah (Indonesian Journal of Community Services and School Education)*, 1(2), 195-201.
- Rizaldi, D. R., Nurhayati, E., Fatimah, Z., & Amni, Z. (2021c). The Importance of Parental Assistance in Supervising the Use of Technology for Children During the Home Learning Program. *International Journal of Engineering, Science and Information Technology*, 1(3), 7-10.
- Rizaldi, D. R., Zaenudin, M., Fatimah, Z., & Umami, B. E. (2022). Increase Student's Interest and Confidence in Continuing Study in Higher Education. *Innovare Journal of Education*, 10(3), 13-17.
- Rizqi, A. T., & Sumantri, M. (2019). Hubungan Antara Motivasi Belajar Dan Pola Asuh Orang Tua Terhadap Hasil Belajar IPA. *Jurnal Imiah Pendidikan Dan Pembelajaran*, 3(2), 145-154.
- Saputra, H. D., Ismet, F., & Andrizal, A. (2018). Pengaruh motivasi terhadap hasil belajar siswa SMK. *Invotek: Jurnal Inovasi Vokasional dan Teknologi*, 18(1), 25-30.
- Saputro, H., & Talan, Y. O. (2017). Pengaruh lingkungan keluarga terhadap perkembangan psikososial pada anak prasekolah. *Journal Of Nursing Practice*, 1(1), 1-8.
- Sari, S. P. (2018). Hubungan Antara Persepsi Siswa Tentang Kompetensi Profesional Guru dan Dukungan Orang Tua Dengan Motivasi Belajar Siswa. *Psikoborneo: Jurnal Ilmiah Psikologi*, 6(1).
- Sujana, I. W. C. (2019). Fungsi dan tujuan pendidikan Indonesia. *Adi Widya: Jurnal Pendidikan Dasar*, 4(1), 29-39.
- Sugiyono. (2008). *Metode Penelitian Kuantitatif Kualitatif dan R&D*. Bandung: Alfabeta.
- Suryani, Y. E. (2010). Kesulitan belajar. *Magistra*, 22(73), 33.
- Syafi'i, A. (2006). Kritik Islam Atas Teori Evolusi Darwin (Suatu Kajian Tentang Asal-Usul Kehidupan Manusia). *HUNAFa: Jurnal Studia Islamika*, 3(3), 263-274.
- Syah, M. (2010). Psikologi Pendidikan dengan Pendekatan Baru Bandung, PT Remaja Rosdakarya, 2002. 29 Ramayulis. *Ilmu Pendidikan Islam*.

- Tasrim, N. W. (2010). *Model Kerjasama Orangtua dan Guru dalam Mengatasi Kesulitan Belajar Pendidikan Agama Islam pada SMA Negeri 1 Lipunoto* (Doctoral dissertation, Universitas Islam Negeri Alauddin Makassar).
- Wati, R. Y. (2012). *Usaha Guru Mengatasi Kesulitan Belajar Matematika Siswa Kelas Iv Sekolah Dasar Negeri 010 Kuantan Sako Kecamatan Logas Tanah Darat Kabupaten Kuantan Singingi* (Doctoral dissertation, Universitas Islam Negeri Sultan Syarif Kasim Riau).
- Widayanti, F. D. (2013). Pentingnya mengetahui gaya belajar siswa dalam kegiatan pembelajaran di kelas. *Erudio Journal of Educational Innovation*, 2(1).