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Building Interest in Learning Biology Through the Cooperative Learning Model in Students

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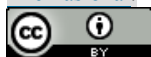
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ABSTRACT

The purpose of this study was to build interest in learning biology through the cooperative learning model among students . This study used quantitative research. The sample in this study consisted of 26 students from class X-A MA Aisyiyah Kota Binjai and 1 biology teacher. The research instruments were a questionnaire on interest in learning biology and interviews with the biology teacher. Based on the results of the research and data analysis, it was found that the highest percentage based on the indicators in the questionnaire was the attention score for biology, which was 30.1%. Thus, it can be concluded that interest in learning biology through the cooperative learning model among students is progressing well

INTRODUCTION

A learning model can be defined as a concept that reflects a series of systematic actions taken to organize learning experiences so that predetermined learning objectives can be achieved. Teachers and learning designers can use this idea to plan and carry out learning activities. In addition, a learning model can also be assumed to be a pattern used to design learning materials and direct learning activities that take place in the classroom or other locations where learning activities are carried out.

According to Joyce, a learning model refers to a description of the learning environment and teacher behavior in the learning process (Albina et al., 2022). Planning lessons and curricula, designing learning materials, and creating multimedia programs are just a few of the many uses of learning models. A learning model refers to a plan used as a guide in designing classroom learning or tutorial learning. The learning model includes approaches, objectives, stages, environment, and classroom management (Mawikere, 2022; Waruwu et al., 2025). It is a systematic guide to achieving learning objectives by using specific strategies, techniques, methods, materials, media, and tools. This model is effective in improving the quality of learning by encouraging active student involvement, the use of higher-order thinking skills, and cooperation and cohesiveness in teams or groups.

The *cooperative learning* method is based on learning strategies that support Vygotsky's Social Constructivism. The basic principle of Vygotsky's theory states that the formation of thought begins at birth as a social process. Children receive help from peers and adults who are more tech-savvy and skilled in their culture. Vygotsky believed that because children prefer to collaborate with others in the same zone (Zone of Proximal Development, ZPD), having children in the same group will help their development. Interest in learning is a combination of two words, namely "interest" and "learning," which have important meanings (Ardiansyah, 2022). Interest plays a role in

generating "immediate attraction, facilitating focus, and preventing external distractions" (Amanda et al., 2024).

Pratiwi et al (2021) state that interest is "a preference and attraction to certain things or activities without coercion. Interest is closely related to personality traits and encompasses three functions of the mind, namely cognition, emotion, and consciousness. In some cases, interest comes easily, while in other cases it requires effort. It is very likely to assume that interest is an internal tendency towards something that includes feelings of pleasure, consideration, honesty, and the existence of a thought process and target in achieving a goal. In the view of (Harahap et al., 2023), learning is described as "a relatively permanent change in behavior that occurs as a result of practice or experience."

Based on the above definitions, it can be concluded that learning is a process in which changes in behavior occur through deliberate activities. Interest in learning involves a person's enthusiasm, desire, and enjoyment in seeking knowledge and experience. The level of enthusiasm, participation, and active involvement of students reflects their level of interest in learning. This interest has a significant influence on student activity, because if the subject matter does not match their interests, their motivation and interest in learning may decline. Interest in learning, learning models, and learning outcomes are interrelated and influence each other. An interesting learning model can increase students' interest in learning. While a low level of interest in learning can have a negative impact on students' learning outcomes, a high level of interest in learning has the potential to produce better learning outcomes. Thus, there is a close relationship between learning models, interest in learning, and learning outcomes.

According to an interview with a biology teacher at MA Aisyiyah Kota Binjai, the teacher applies the Cooperative Learning model. In this model, students are divided into several discussion groups to study the learning material. Each group

will discuss the material, and the results of the discussion will be presented in front of the class. The discussion will then involve all students and teachers in discussing the material. This learning model was chosen by the teacher because it is considered to encourage active participation from all students in the class. In addition, this model also fosters reciprocal interaction between students and teachers when the learning material is explained in front of the class. However, sometimes this model can cause students to become lazy because there are members of the discussion group who are reluctant to participate and rely on friends who are considered smarter to complete the group assignments given by the teacher. This learning model requires a high level of interest in learning because the teacher only provides the material to each group, while students are expected to search for information about the material independently through books and the internet, and discuss it with group members before presenting it in front of the class and discussing it with the teacher and other students. Recognizing this problem, the researcher

was interested in examining the development of interest in learning biology through the cooperative learning model in students.

METHODS

Quantitative research was used in this type of research. The information obtained in this research came from observations of the research objects. The sources of information for this research consisted of primary data and secondary data. A questionnaire about the learning interests of students in class X-A MA Aisyiyah in Binjai City was used as the primary data source. Data that refers to information collected from existing sources as supporting data for primary data purposes is referred to as secondary data sources. Interviews and documentation data in the form of student learning outcomes from the biology teacher of class X-A MA Aisyiyah in Binjai City were used as secondary data sources for this study. The questionnaire in this study consisted of 20 items, arranged according to a learning interest grid that pointed to several indicators in Table 1.

Table 1. Questionnaire Indicators of Student Interest in Learning Biology

No	Indicator	Number of Subject
1.	Dislike for biology lessons	1,4,6,7,12,20
2.	Interest in biology lessons	2,3,7
3.	Enjoyment of biology lessons	8,9,11,13,14
4.	Attention to biology lessons	5,15,16,17,18,19

The Likert scale was used for each statement in this survey. Researchers used a Likert scale with four options: strongly disagree (SD) score 1, disagree (D) score 2, agree (A) score 3, and strongly agree (SA) score 4.

Because this study uses quantitative research, the percentage score based on each student's response to the questionnaire became the basis for data analysis. The following formula was used to determine the percentage of the score obtained.

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

Meaning of symbols in the formula:

N = number of data/samples

F = respondent frequency

P = percentage

The data processing results obtained in the form of percentages are then interpreted as shown in Table 2 below.

Table 2. Interpretation Of Students' Interest in Learning Biology

Score	Percentase	Category
1	0%-25%	Very unsuitable
2	36%-50%	Unsuitable
3	51%-75%	Suitable
4	76%-100%	Very suitable

Source : Fernandez (2021)

RESULTS AND DISCUSSION

a. Result

Based on observations made on the use of questionnaires as an instrument to measure the quality of students' interest in learning biology. The

questionnaire consisted of 20 statements designed based on four indicators compiled by the researcher as listed in Table 1.

The data obtained as samples in this study are as follows:

Table 3. Distribution of Questionnaire Results

No.	Indikator	Percentase (%)
1.	Reading books related to biology, I don't like it	30,8
2.	Reading books related to biology always makes me feel interested	30,8
3.	For me, learning new things in biology always interests me.	34,6
4.	In my opinion, listening to the teacher's explanation is not very important, because all the material is already in the textbook.	38,5
5.	When the biology lesson is delivered by the teacher, I am very focused and give my full attention.	34,6
6.	During free periods or breaks from biology class, I was very happy.	34,6
7.	Being a specialist in a field related to biology makes me feel interested.	34,6
8.	In my opinion, every biology lesson is very useful because it is definitely related to nature	42,3
9.	Since elementary school, I have always enjoyed natural science lessons	38,5
10.	My future aspirations are not supported by biology lessons	34,6
11.	Because I feel proficient in biology. So I feel that I can become anything I want to be in the future	50
12.	I really didn't like attending biology classes	42,3
13.	The biology lessons were presented in an interesting way, which made me enjoy biology	34,6
14.	When attending biology class, I feel very happy	26,9
15.	I have already done the questions before the teacher assigns them	34,6
16.	When the material is unclear, I ask the teacher	38,5
17.	When the teacher asks a question, I always try to answer it correctly	50
18.	If I have biology class tomorrow, I study the night before	38,5

19.	Outside of biology class, I take extra lessons	46,2
20.	When using my cell phone, I never like to search for material related to biology	46,2

From the results of the questionnaire distributed to students as respondents, the following percentages were obtained based on the questionnaire indicators:

1. Dislike for biology lessons

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

$$P = \frac{32}{156} \times 100\% = 20,5\%$$

2. Interest in biology lesson.

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

$$P = \frac{21}{78} \times 100\% = 26,9 \%$$

3. Enjoyment of biology lessons

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

$$P = \frac{35}{130} \times 100\% = 26,9\%$$

4. Attention to biology lessons

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

$$P = \frac{47}{156} \times 100\% = 30,1\%$$

Based on survey data on student interest in biology, the results show that 30.1% of students show a high level of interest in the subject. This percentage is higher than the percentage of students who dislike biology, which is 20.5%. Thus, it can be concluded that a large number of students are interested in biology.

b. Discussion

Based on the results of research on how interest in learning biology through the cooperative learning model among students, it appears that this interest is already quite strong. This is evidenced by the percentage of indicators of dislike for biology lessons at 20.5%, which is lower than the percentage of indicators of interest in biology lessons at 26.9% and the percentage of indicators of enjoyment of biology lessons at 26.9%, as well as the percentage of indicators of attention to biology lessons at 30.1%.

Based on the percentage obtained from the questionnaire for each indicator, the highest percentage was 30.1%, which was for the indicator of attention to biology. This is because during the interview, the researcher obtained information that the biology teacher applied the cooperative learning model in class X-A, and it turned out that the teacher encountered several obstacles in applying the cooperative learning model, namely the students' loss of concentration because their friends' gadgets were sometimes forgotten to be silenced. In the class, there were students who were "rebellious" in the sense that when the teacher was explaining, these students did not listen and were noisy. Instead of labeling the child as stubborn, he said that the child was too active to attract the teacher's attention, especially in class X, which is a transitional period between junior high school and high school (adolescence to adulthood) when puberty is so high and they are attracted to the opposite sex, so their stubbornness is not directed at the teacher. The way he handles students like that is by calling them out, advising them, and asking them what their problems are. He further said, "Usually, what happens is that these children are neglected by their parents at home, so they seek attention at school or in their environment where they feel comfortable. They find a comfortable place to seek attention in class because maybe at home they seek attention but their parents are busy working. Once, I called one of the children and asked him why. His parents were both busy working, one at the office and the other in the fields, so they had no time for him. No one even woke him up for school, so he was often late. So, each child has different problems, but what most influences a child is definitely their home environment, which carries over to school."

According to research conducted by (Montanesa & Karneli, 2021), there are three stages of adolescent development. At the age of 11-13

years, adolescents begin to enter the first stage, namely early adolescence. At the age of 14-16 years, adolescents enter the second stage, namely middle adolescence. At the age of 17-20 years, adolescents enter the final stage, namely late adolescence. In this context, 10th grade students are in the middle adolescence stage, aged between 14 and 16 years old. According to Sarwono in his 2006 study, middle adolescents are defined as individuals aged between 14 and 16 years old. During this period, adolescents have a great need for peers. They often face confusion in making choices, such as being sensitive or indifferent, socializing or isolating themselves, having an optimistic or pessimistic attitude, being idealistic or materialistic, and so on. Hafiza et al. (2024) noted the following as challenges that adolescents must overcome: developing more mature relationships with peers, approaching men and women, accepting and utilizing their physical condition effectively, anticipating responsible social behavior, preparing for marriage and family, and achieving emotional independence from parents.

Devita, Y. (2020) explains that a number of variables can cause mental and emotional health difficulties in adolescents. The influence of social media, peer environment, school environment, community environment, and family environment are some of the aspects discussed. In a journal written by Fawziya et al. (2024), it is explained that a person's mental and emotional health problems become more apparent when they begin to interact with others. When adolescents leave their family environment, their surrounding environment, such as peers, school, and community, becomes the main place for social interaction. These environments play an important role in shaping the personality, behavior, and emotional health of adolescents.

As a teacher, to address the problems of students experiencing mental and emotional health issues, as explained in the previous discussion, there are several ways that can be done. One of them is that teachers can collaborate with guidance

and counseling teachers (BK) and homeroom teachers to give special attention to these students. Teachers can also visit the students' homes and discuss with their parents to understand the problems faced by the students and find appropriate solutions. In addition, teachers can also provide support to these students so that they continue to attend school and remain enthusiastic about the learning process.

This study examines the use of cooperative learning as a learning method that involves the formation of small discussion groups. The researcher was interested in finding out whether students tend to choose close friends or smart friends when forming discussion groups. In an interview with a biology teacher, the researcher asked for his opinion on this matter. The teacher explained that he divided the discussion groups and ensured that the division was even. However, the teacher also considered the students' domicile, so that students who lived close to each other would be grouped together. This was done to reduce the burden on students and reduce the risk when they worked in groups at their friends' homes.

According to research published in a publication relevant to this study by Roziqin, M. K., & Robiah, S. A. (2022), the use of the cooperative learning model and the inside-outside circle strategy has been proven to improve student learning outcomes in Madrasah Ibtidaiyah. In addition, the application of the Student Teams Achievement Division (STAD) cooperative learning model has been proven effective in increasing student interest in learning, according to research conducted by Rachmawati et al. (2024). Both studies are in line with the findings of this study, which show the positive effect of cooperative learning on students' interest in learning biology.

Biology teachers have implemented the cooperative learning model appropriately, as the level of student interest in learning appears to be quite good based on the questionnaire results. However, during the learning process, teachers are faced with several students who experience problems. This can be attributed to the fact that 10th grade students are still in the transition phase from adolescence to adulthood, which generally requires attention from parents. The family environment is one of the factors that trigger mental and emotional problems in adolescents.

CONCLUSION

Based on the research and discussion conducted, it can be concluded that there is an interest in learning biology through the cooperative learning model among students. Thus, this study shows that the use of the cooperative learning model can have a positive impact on students' interest in learning biology. However, attention and support from parents are also very important in helping students overcome problems that may arise during their teenage years.

REFERENCES

- Afni, K., Sitepu, D. R., & Saputri, L. (2022).
- Albina, M., Safi'i, A., Gunawan, Mhd. A., Wibowo, M. T., Sitepu, N. A. S., & Ardiyanti, R. (2022). Model Pembelajaran Di Abad Ke 21. *Warta Dharmawangsa*, 16(4), 939. <https://doi.org/10.46576/wdw.v16i4.2446>
- Amanda, Sari, E. K., & Lasari, Y. L. (2024). Pengaruh Bimbingan Belajar dalam Meningkatkan Minat Belajar Anak-anak di Nagari Salimpaung. *SANISKALA Jurnal Pengabdian Masyarakat*, 2(2),32. <https://doi.org/10.31949/jsk.v2i2.12018>
- Ardiansyah, A. (2022). Pengaruh Minat Belajar Terhadap Kepuasan Belajar Peserta Didik dengan Media Pembelajaran Online Sebagai Variabel Moderating. *Jurnal Basicedu*, 6(1), 1169. <https://doi.org/10.31004/basicedu.v6i1.2080>
- Devita, Y. (2020). Hubungan Pola Asuh Orang Tua Dengan Masalah Mental Emosional Remaja. *Jurnal Ilmiah Universitas Batanghari Jambi*, 20(2), 503. <https://doi.org/10.33087/jjubj.v20i2.967>
- Fawziya, V. R., Adi, M. S., Wurjanto, Moh. A., & Yuliawati, S. (2024). Hubungan antara Peran Teman Sebaya dan Paparan Media Sosial dengan Tingkat Konsumsi Minuman Berpemanis pada Remaja. *Amerta Nutrition*, 8(3), 383. <https://doi.org/10.20473/amnt.v8i3.2024383-388>
- Fernandez, V., Tunnisa, L. F., Aulia, N. R., & Hidayati, N. (2021). Minat Belajar Siswa Terhadap Pembelajaran Biologi dengan Menggunakan Media Powerpoint. *Didaktika Biologi: Jurnal Penelitian Pendidikan Biologi*, 5(1), 17-22. <https://doi.org/10.32502/dikbio.v5i1.2993>
- Hafiza, H., Fitriani, W. R., & Mariyani, T. (2024). Peningkatan Kemampuan Kognitif Anak Usia Dini Melalui Berbagai Macam Media Pembelajaran. *Abata Jurnal Pendidikan Islam Anak Usia Dini*, 4(2), 154. <https://doi.org/10.32665/abata.v4i2.3391>
- Harahap, Z. N., Azmi, N., Wariono, W., & Nasution, F. (2023). Motivasi, Pengajaran dan Pembelajaran. *Journal on Education*, 5(3), 9258. <https://doi.org/10.31004/joe.v5i3.1732>
- Hubungan Motivasi Belajar Terhadap Hasil Belajar Mahasiswa STKIP Budidaya Binjai di Masa Pandemi Covid-19. *Jurnal Multidisiplin Madani*, 2(2), 727-736. <https://journal.formosapublisher.org/index.php/mudima/article/view/167>
- Mawikere, M. C. S. (2022). Model-Model Pembelajaran. *EDULEAD Journal of*

Christian Education and Leadership,
3(1),133.

<https://doi.org/10.47530/edulead.v3i1.9>

Montanesa, D., & Karneli, Y. (2021).
Pemahaman Remaja Tentang Internet
Sehat Di Era Globalisasi. Edukatif Jurnal
Ilmu Pendidikan, 3(3), 1059.
<https://doi.org/10.31004/edukatif.v3i3.50>

9

Pratiwi, W., Indriani, I., & Suriani, L. P. (2021).
Rekognisi, Minat, Dan Motivasi
Orangtua Terhadap Edukasi Pada Anak
Usia Dini: Studi Multisitus. Irfani, 17(1),
68. <https://doi.org/10.30603/ir.v17i1.2192>

Rachmawati, D., Iriawan, S. B., & Kurniawan, H.
(2024). The application of the STAD
cooperative learning model to improve
Math learning outcomes. Hipkin Journal
of Educational Research, 1(3), 251.
[https://doi.org/10.64014/hipkin-
jer.v1i3.25](https://doi.org/10.64014/hipkin-jer.v1i3.25)

Roziqin, M. K., & Robiah, S. A. (2022).
Pengembangan Rencana Pelaksanaan
Pembelajaran (RPP) Berbasis Model
Inside Outside (IOC) untuk
Meningkatkan Hasil Belajar Siswa.
EDUSCOPE Jurnal Pendidikan
Pembelajaran Dan Teknologi, 8(1).
[https://doi.org/10.32764/eduscope.v8i1.3
004](https://doi.org/10.32764/eduscope.v8i1.3004)

Waruwu, M., Pu`at, S. N., Utami, P. R., Yanti, E.,
& Rusydiana, M. (2025). Metode
Penelitian Kuantitatif: Konsep,
Jenis, Tahapan dan Kelebihan.
Jurnal Ilmiah Profesi Pendidikan,
10(1),917.
<https://doi.org/10.29303/jipp.v10i1.3057>