



The Impact of the Expository Method on Biology Learning Activities and Outcomes in Class XI

Risnawati¹, Firdaus Daud^{1*}, Halimah Husain¹, Muhiddin Palennari¹, Muhammad Arsyad¹

¹ Departement of Biology Education, Universitas Negeri Makassar, Indonesia

Received: April 17, 2026

Revised: June 01, 2026

Accepted: July 10, 2026

Published: July 15, 2026

Corresponding Author:

Firdaus Daud

firdaus.daud@unm.ac.id

DOI: [10.29303/jppipa.v12i6.15019](https://doi.org/10.29303/jppipa.v12i6.15019)

 Open Access

© 2026 The Authors. This article is distributed under a (CC-BY License)



Abstract: This study aims to examine the effect of a structured expository teaching method on students' learning activities and biology learning outcomes. A quasi-experimental design was employed involving two grade XI classes at SMA Negeri 1 Monta in the 2025/2026 academic year (N = 60 students). The experimental class received a systematically organized expository approach emphasizing clear explanation, guided practice, and feedback, while the control class was taught using routine teacher-centered instruction without structured stages. Data were collected through observation, pretest-posttest assessments, questionnaires, and documentation, and analyzed using descriptive statistics, MANOVA, and N-Gain analysis. The results showed that the experimental class achieved higher mean scores in learning activities (77.59) and learning outcomes (posttest = 88.63) compared to the control class. The N-Gain score of the experimental class ($g = 0.67$) indicated moderate effectiveness, higher than the control class ($g = 0.47$). MANOVA results confirmed a significant simultaneous effect on both dependent variables ($p < 0.05$). These findings suggest that the structured expository method contributes positively and moderately to improving student engagement and academic achievement when implemented systematically.

Keywords: Expository Method; Learning Activities; Learning Outcomes

Introduction

The development of modern society, education faces increasingly complex challenges, both in terms of global demands, technological advancements, and changes in students' characteristics (Hasanah, 2019). The evolution of human thinking in formulating the definition and meaning of education over time indicates that education is a dynamic and continuously developing concept. These developments are inseparable from various new discoveries and field dynamics, along with the increasing elements within the educational system that require continuous adaptation and innovation (Rahman et al., 2022).

In the context of national development, education plays a highly strategic role. It serves as the primary foundation for creating high-quality human resources who are competitive and capable of facing the challenges of the times. Without strong support from the education

sector, national development cannot be carried out optimally (Ismi et al., 2025). More than just a process of knowledge transfer, education is a conscious and planned effort aimed at humanizing individuals, shaping character, and instilling spiritual and moral values. Through education, individuals are expected to understand their role as khalifah on earth, enabling them to develop into individuals who are faithful, pious, knowledgeable, and capable of practicing goodness in their daily lives (Wahyuni et al., 2025).

Conceptually, education is a process of developing individual potential comprehensively, including cognitive, affective, and psychomotor aspects, in order to create individuals who are not only intellectually competent but also possess mature personalities and contribute positively to society, the nation, and the state (Mayada et al., 2024). Therefore, the implementation of education must be carefully planned and systematically executed to achieve optimal outcomes. One of the main

How to Cite:

Risnawati, Daud, F., Husain, H., Palennari, M., & Arsyad, M. (2026). The Impact of the Expository Method on Biology Learning Activities and Outcomes in Class XI. *Jurnal Penelitian Pendidikan IPA*, 12(6), 810-818. <https://doi.org/10.29303/jppipa.v12i6.15019>

objectives of education is to provide students with knowledge, skills, and fundamental perspectives that align with their developmental stages and are relevant to real-life needs.

This is in line with the National Education System Law Number 20 of 2003, which defines education as a conscious and planned effort to create a learning environment and learning process that enables students to actively develop their potential, so that they possess spiritual strength, self-control, personality, intelligence, noble character, and the skills needed for themselves, society, the nation, and the state (Indonesia et al., 1991). Thus, education is not only oriented toward academic achievement but also toward the development of character and holistic competencies. However, the reality in the field shows that the quality of student learning outcomes in Indonesia remains relatively low. This is reflected in the Programme for International Student Assessment (PISA) 2018 report, which ranked Indonesia 74th out of 79 countries in basic literacy skills, including reading, mathematics, and science (Hewi & Shaleh, 2020). Although there was a slight improvement in the PISA 2022 report, with average scores of 379 in mathematics, 398 in science, and 371 in reading literacy, these results still indicate that the quality of education in Indonesia needs significant improvement.

The success of education is closely related to the effectiveness of the learning process in the classroom. One of the key factors influencing this success is the teaching method used by the teacher. The selection of appropriate methods greatly determines the achievement of learning objectives, as methods serve as tools to effectively transfer knowledge to students (Azizi et al., 2023). Therefore, various learning techniques, including methods, approaches, and strategies, continue to be developed to improve the quality of the teaching and learning process (Ariska & Napratilora, 2021).

In the learning process, interaction occurs between teachers and students through two-way communication. This requires teachers to be able to select and develop appropriate learning strategies that match students' conditions and characteristics, so that learning objectives can be achieved optimally (Nababan & Sari, 2023). In addition, student learning outcomes are influenced by various factors, including internal factors such as physical and psychological conditions, as well as external factors such as social and non-social environments (Kurniawati & Rizal, 2023). These factors can either support or hinder the learning process (Hodriyah, 2022).

To facilitate students' understanding of learning materials, teachers must possess strong pedagogical skills, particularly in delivering content effectively and engagingly. The selection of appropriate learning

approaches is crucial to ensure that students can easily comprehend the material (Sucahyono, 2023). Furthermore, the teaching methods used must be able to accommodate differences in student characteristics, including those with high, moderate, and low motivation levels (Alam, 2023).

One of the teaching methods that is still widely used in educational practice is the expository method. This method is implemented through several stages, namely preparation, material delivery, linking with prior knowledge, drawing conclusions, and application (Agus et al., 2025). In this method, the teacher plays a dominant role in delivering material in a systematic and structured manner, enabling students to understand concepts more easily (Istiqomah & Nurulhaq, 2021).

The expository method was introduced by Roy Killen (1998) as part of direct instruction strategies, which emphasize explicit delivery of material by the teacher (Sari & Nucifera, 2023). This method is considered a classical approach that remains relevant, especially in delivering basic concepts that require structured explanation. Its main characteristic lies in the direct presentation of learning material by the teacher, allowing students to receive systematically organized information without the need to independently discover concepts (Ilham, 2021).

However, the use of the expository method also has limitations, particularly when applied monotonously without variation. One of the main issues in conventional learning is the assumption that knowledge can be fully transferred from teacher to student. This approach tends to produce students who are proficient in theory but lack the ability to apply knowledge in real-life situations (Rahayu & Fikri, 2023). Therefore, innovation in the implementation of the expository method is necessary to maintain its relevance and effectiveness in improving student learning outcomes.

Improving the quality of learning also requires teachers' commitment to continuously develop their professionalism, including adapting to innovative teaching methods (Nurhayati, 2021). The selection of teaching methods must be carried out carefully and aligned with the intended learning objectives, which generally encompass multiple aspects comprehensively (Yusneti, 2022).

The novelty of this research lies in several key aspects that distinguish it from previous studies. First, this study attempts to reposition the expository method within the context of modern Biology learning, not merely as a conventional teacher-centered approach, but as a structured instructional strategy that can still contribute significantly to improving students' learning outcomes when implemented effectively.

Based on observations and information obtained from the Biology teacher of grade XI at SMA Negeri 1 Monta, it is known that students' learning outcomes are still relatively low. This is evident from their daily test scores in the last two subtopics, which have not met the expected minimum mastery criteria. This condition indicates that the current learning process has not been optimal, thus requiring improvement through the implementation of more effective teaching methods that are aligned with students' characteristics.

Method

This study is a quantitative research employing a quasi-experimental research design. It aims to determine the effect of the implementation of the expository method on students' learning activities and biology learning outcomes of grade XI students at SMA Negeri 1 Monta. In its implementation, this study involves two groups, namely an experimental class that is treated using the expository method and a control class that uses a conventional teaching method as a comparison.

This research was conducted in the odd/even semester of the 2025/2026 academic year at SMA Negeri 1 Monta. The research design involves one independent variable (X), namely the expository method, and two dependent variables, namely learning activities (Y_1) and learning outcomes (Y_2).

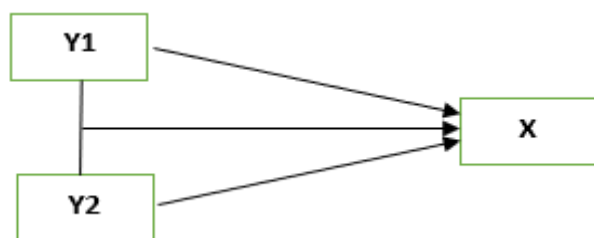


Figure 1. Research Design

The population of this study consists of all grade XI students at SMA Negeri 1 Monta in the 2025/2026 academic year. The sample was selected from two classes, one serving as the experimental class using the expository method and the other as the control class using the conventional method.

Research variables are attributes, characteristics, or values of individuals, objects, or activities that vary and are determined by the researcher to be studied and concluded (Sugiyono, 2021). In this study, there are two types of variables: independent and dependent variables. The independent variable is the variable that influences or causes changes in the dependent variable (Sugiyono, 2021). The independent variable in this study is the expository method. Meanwhile, the dependent variable is the variable that is affected or becomes the

result of the independent variable (Sugiyono, 2021), namely students' learning activities and learning outcomes.

Operationally, the expository method is measured through several indicators, including the clarity of the teacher's explanation, the provision of examples and illustrations, apperception and motivation, student involvement, the assignment of exercises or tasks, and the evaluation of understanding. Learning activities are measured through various aspects such as visual, mental, auditory, oral, visual-spatial, writing, physical, and socio-emotional aspects. Meanwhile, learning outcomes are measured through three domains: cognitive, affective, and psychomotor.

The measurement scale used in this study is the Likert scale. The Likert scale was first introduced by Rensis Likert in 1932 as an instrument to measure attitudes (Simamora, 2022). This scale is used to convert qualitative data into quantitative data (Sugiyono, 2021). According to Aling et al. (2025), the Likert scale is used to measure variables that are then broken down into measurable indicators through questionnaire statements. Each respondent's answer is scored based on categories such as always, often, sometimes, and never. The research instrument is designed in the form of checklists or multiple-choice questions to capture variations in students' responses.

Data collection techniques are an essential part of research methodology as they function to obtain relevant data to answer the research problems (Maesaroh et al., 2025). According to Sugiyono (2021), data collection is the most important stage in research because the main objective is to obtain valid and reliable data. In this study, data were collected using three methods: questionnaires, interviews, and documentation. Questionnaires were used to collect data related to students' attitudes, beliefs, and behaviors. Interviews were conducted to obtain information directly through question-and-answer interactions between the researcher and respondents. Documentation was used to collect data from records or documents relevant to the research.

The data collection instruments in this study include tests, questionnaires, and interview guides. Research instruments are tools used to measure the phenomena under study. A good instrument must meet the criteria of validity and reliability. Validity indicates the extent to which an instrument measures what it is intended to measure, while reliability indicates the consistency of the measurement results (Pujiharti & Isnaini, 2025). Without meeting these two criteria, research findings cannot be considered trustworthy or used as a basis for scientific conclusions.

Data analysis techniques in this study were carried out using SPSS version 24. The analysis was conducted in several stages. First, descriptive statistical analysis was used to provide a general overview of the research data, including minimum, maximum, mean, and standard deviation values of learning activities as well as pre-test and post-test results.

Next, prerequisite tests were conducted, including normality and homogeneity tests. The normality test aims to determine whether the data are normally distributed using the Kolmogorov-Smirnov test at a significance level of 5% ($\alpha = 0.05$). The data are considered normally distributed if the significance value is greater than 0.05. The homogeneity test was conducted using Levene's test to determine whether the variances between the experimental and control groups are equal, using the same criteria.

Hypothesis testing was conducted using the Independent Sample t-Test to determine the differences in mean scores between the experimental and control classes in terms of learning activities and learning outcomes. The decision criterion is that if the Sig. (2-tailed) value is less than 0.05, there is a significant effect. In addition, multivariate analysis (MANOVA) was used to determine the simultaneous effect of the expository method on both dependent variables, with a significance value of less than 0.05 indicating a significant effect.

Finally, N-Gain analysis was conducted to determine the level of improvement in students' learning outcomes from pre-test to post-test and to measure the effectiveness of the expository method. The effectiveness categories of N-Gain refer to Sundayana (2014), namely < 40% (ineffective), 40%-55% (less effective), 56%-75% (moderately effective), and > 75% (highly effective). Thus, the entire analysis is expected to provide a comprehensive understanding of the effect of the expository method on students' learning activities and learning outcomes

Result and Discussion

The results of this study indicate that students' learning activities were obtained through observation sheets conducted systematically during the Biology learning process in both the experimental and control classes. These observations were not carried out only once but were repeated at each meeting to ensure the consistency and reliability of the data collected. The observed indicators covered various important aspects of the learning process, including students' attention to the teacher's explanations, activeness in taking notes, ability to ask and answer questions, and seriousness in completing assigned tasks. By employing these comprehensive indicators, students' learning activities

can be thoroughly described from cognitive, affective, and behavioral perspectives throughout the learning process.

Based on the results of descriptive statistical analysis, the learning activities of students in the experimental class, consisting of 27 students, showed a minimum score of 61 and a maximum score of 96. The mean score obtained was 77.59 with a standard deviation of 11.51. This relatively high mean indicates that, in general, students in the experimental class demonstrated good to very good levels of engagement during the learning process. Although there was considerable variation in scores as reflected by the standard deviation, this variation indicates the dynamic nature of students' learning activities while still remaining within a high category. This finding suggests that the expository method is capable of encouraging most students to actively participate in learning activities.

In contrast, the control class, which also consisted of 27 students, had a minimum score of 43 and a maximum score of 71, with a mean of 58.00 and a standard deviation of 7.47. This mean score indicates that students' learning activities in the control class fall into the moderate category. The smaller variation in scores compared to the experimental class suggests that students' activity levels were relatively more homogeneous but tended to be at a lower level of engagement. When directly compared, there is a mean difference of 19.59 points between the experimental and control classes. This difference is quite substantial and provides strong descriptive evidence that the implementation of the expository method is more effective in improving students' learning activities compared to conventional teaching methods.

Table 1. Summary of Students' Learning Activities

Class	N	Min	Max	Mean	SD
Experiment	27	61	96	77.59	11.51
Control	27	43	71	58.00	7.47

These findings are further supported by the tabulation results of students' learning activities, which indicate that the majority of students fall into the active category across almost all observed indicators. The highest percentage is found in the indicator of students' seriousness in completing tasks, reaching 88.88%, which reflects a high level of responsibility and commitment toward learning assignments. Furthermore, the indicator of students' attention to the teacher's explanation reaches 85.81%, indicating that most students are able to maintain focus during the learning process. The indicator of learning interest and enthusiasm also shows a high percentage of 81.48%,

suggesting that students possess strong intrinsic motivation.

However, there is one indicator that is relatively lower compared to the others, namely students' activeness in discussions and in answering questions, with a percentage of 74.07%. Although this still falls within a fairly good category, it indicates that not all students are confident or capable of actively participating in classroom discussions. Therefore, this aspect requires more attention in future learning processes to ensure more evenly distributed student participation. Overall, it can be concluded that students' learning activities are categorized as good to very good, with a dominance of active participation in each indicator, although there is still room for improvement, particularly in verbal interaction.

Furthermore, students' learning outcomes were analyzed based on pretest and posttest scores administered before and after the learning process. The pretest was intended to measure students' initial abilities, while the posttest aimed to assess improvements in learning outcomes after the treatment. In the experimental class, the average pretest score of 64.19 indicates that students' initial abilities were at a moderate level. After the implementation of the expository method, the average posttest score increased significantly to 88.63. This improvement demonstrates that the expository method not only enhances students' understanding but also helps them achieve more optimal learning outcomes.

Meanwhile, in the control class, the average pretest score of 65.00, which is relatively similar to that of the experimental class, indicates that the initial abilities of both groups were comparable. After the learning process, the average posttest score in the control class increased to 84.19. Although there was an improvement, the magnitude of the increase was still lower than that of the experimental class. This indicates that conventional teaching methods can also improve learning outcomes, but they are not as effective as the expository method.

Table 2. Summary of Students' Learning Outcomes

Class	Pretest	Posttest
Experiment	64.19	88.63
Control	65.00	84.19

To strengthen these findings, an N-Gain analysis was conducted to determine the effectiveness of the improvement in students' learning outcomes. The results show that the experimental class obtained an N-Gain score of 67%, which falls into the moderately effective category, while the control class obtained a score of 47%, categorized as less effective. This indicates that the improvement in learning outcomes in the experimental class is higher and more effective

compared to the control class. In addition, the analysis of students' responses to each test item reveals that the percentage of correct answers exceeds 70% for all questions, indicating that students' level of understanding of the learning material is in the good category.

In the inferential analysis stage, prerequisite tests were first conducted, namely normality and homogeneity tests. The results show that all data have significance values greater than 0.05, indicating that the data are normally distributed and have homogeneous variances. Since these assumptions are fulfilled, the analysis can be continued using parametric statistical tests.

The results of the Independent Sample t-Test indicate that for the learning activity variable, the significance value is 0.000 (< 0.05), which means that there is a significant difference between the experimental and control classes. This suggests that the expository method has a significant effect on improving students' learning activities. For the learning outcomes variable, the significance value is 0.011 (< 0.05), which also indicates a significant difference between the two classes. Thus, it can be concluded that the expository method has a significant effect on students' learning outcomes.

Furthermore, the results of multivariate analysis (MANOVA) show that the expository method has a simultaneous effect on both students' learning activities and learning outcomes. This is indicated by the significance values for each variable, which are less than 0.05. Additionally, the R Square value of 0.514 for the learning activity variable indicates that 51.4% of the variance in learning activities is influenced by the expository method, while the remaining percentage is affected by other factors outside the study. For the learning outcomes variable, the R Square value of 0.119 indicates that 11.9% of the variance in learning outcomes is influenced by the expository method.

Overall, the results of this study provide strong evidence that the implementation of the expository method not only significantly improves students' learning activities but also has a positive impact on the biology learning outcomes of grade XI students at SMA Negeri 1 Monta, both partially and simultaneously.

Discussion

Implementation of the Expository Method in Learning

The implementation of the expository method in this study was carried out based on the predetermined learning outcomes. These learning outcomes served as the foundation for designing instructional activities, ensuring that the learning process was directed and aligned with the intended objectives. The expected learning outcomes in this study were that students

would be able to understand and apply the concepts taught in their daily lives, as well as demonstrate improvements in both learning activities and learning outcomes after the instructional process.

In practice, the expository method was implemented through several structured stages, including the presentation of learning objectives, direct delivery of material by the teacher, provision of examples, and practice exercises. At the initial stage, the teacher clearly communicated the learning objectives to provide students with a clear understanding of the goals to be achieved. The material was then delivered in a systematic and structured manner, accompanied by relevant examples to facilitate students' comprehension.

After the material presentation, students were given opportunities to ask questions and complete exercises to assess their level of understanding. This stage aimed to evaluate how well the learning process had been internalized. Subsequently, the teacher provided feedback and reinforcement of key concepts. Through the application of the expository method aligned with learning outcomes, students were expected to better understand the material, thereby improving both their learning activities and learning outcomes in accordance with the research objectives.

The Effect of the Expository Method on Students' Learning Activities

Based on the statistical analysis, the significance value (Sig.) was found to be less than $\alpha = 0.05$, leading to the rejection of H_0 and acceptance of H_1 . This indicates that the application of the expository method has a significant effect on students' learning activities. Furthermore, the average score of learning activities in the experimental class showed improvement compared to both the initial condition and the control class. This increase was reflected in indicators such as attention, participation in question-and-answer sessions, and involvement in note-taking and task completion.

The improvement in learning activities is not merely quantitative but also reflects qualitative changes in students' learning behavior. Students became more focused when the teacher delivered the material, demonstrated more active responses to questions, showed greater involvement in note-taking and conceptual understanding, and contributed to a more structured and conducive classroom environment. These findings indicate that the expository method facilitates a structured learning process that encourages active student engagement.

The expository method emphasizes direct, structured, and systematic delivery of material by the teacher. In this approach, the teacher organizes content sequentially, enabling students to develop clear

conceptual understanding. This systematic structure helps students process information more effectively and enhances behavioral engagement. Theoretically, this method aligns with the concept of direct instruction, where teaching is teacher-controlled and follows clear instructional stages.

Previous studies support these findings. Research has shown that direct instruction increases student engagement when teachers establish structured interactions. Similarly, structured teaching styles positively influence student participation. Other studies have also demonstrated that the expository method is effective in helping students understand conceptual material due to its systematic delivery, although its effectiveness depends on the teacher's ability to manage classroom interaction.

Several factors explain why the expository method enhances learning activities: (1) material is delivered in a structured manner, making it easier for students to follow; (2) teachers can maintain better classroom control; (3) systematic explanation improves conceptual clarity; (4) question-and-answer sessions encourage participation; and (5) clear structure reduces confusion, increasing student attention and responsiveness. However, the method also has limitations, such as being teacher-centered, limiting student interaction, and potentially reducing opportunities for higher-order thinking if not combined with interactive strategies.

Learning activities are also influenced by internal factors such as student motivation, interest, prior knowledge, and physical and psychological conditions, as well as external factors including teacher competence, instructional media, classroom environment, and learning facilities. Therefore, the effectiveness of the expository method is highly dependent on how well it is implemented.

The Effect of the Expository Method on Students' Learning Outcomes

The results of hypothesis testing showed that the significance value (Sig.) was less than $\alpha = 0.05$, indicating a significant effect of the expository method on students' learning outcomes. Statistically, the difference between pretest and posttest scores demonstrated a meaningful improvement after the application of the expository method. This confirms that the expository approach significantly enhances students' cognitive achievement compared to both their initial condition and the control class.

The N-Gain analysis further indicated that the improvement in learning outcomes fell within the moderate to high category, reflecting the effectiveness of the treatment. This suggests that the expository method not only improves final scores but also increases the

proportion of conceptual understanding from the initial to the final stage.

The improvement in learning outcomes also reflects enhanced conceptual understanding, as evidenced by students' ability to explain material in their own words, answer concept-based questions more accurately, show improvement in comprehension and application levels, and reduce the number of students performing below the minimum competency standard.

Theoretically, the expository method is grounded in direct instruction and information processing theory. Structured and systematic presentation of material facilitates better understanding and long-term memory retention. When teachers present material sequentially, provide concrete examples, and emphasize key concepts, students can more effectively integrate new information with prior knowledge.

Previous studies have consistently shown that direct instruction significantly improves learning outcomes across educational levels. The expository method is particularly effective for conceptual and theoretical material, as it allows students to understand content more easily compared to discovery-based approaches. However, to develop higher-order thinking skills, it should be combined with more interactive learning strategies.

The Simultaneous Effect of the Expository Method on Learning Activities and Outcomes

The findings of this study indicate that students with higher levels of learning activity tend to achieve better learning outcomes. Observational data revealed that students who actively paid attention, took notes, and responded to questions during expository instruction achieved higher posttest scores compared to less active students. If supported by a positive and significant correlation coefficient ($\text{Sig.} < 0.05$), this suggests a strong relationship between learning activities and learning outcomes.

The F-test results further confirmed that the expository method has a simultaneous effect on both learning activities and learning outcomes. This means that the method not only enhances student engagement during the learning process but also contributes to improved academic achievement.

The structured nature of the expository method allows for systematic delivery of material, making it easier for students to understand biological concepts. Instructional stages such as presentation, correlation, and application help students connect new knowledge with prior understanding.

These findings are consistent with previous research indicating that student engagement has a significant positive correlation with academic

achievement. Theoretically, this relationship can be explained through cognitive theory and student engagement theory. From a cognitive perspective, learning involves internal information processing, and activities such as paying attention, note-taking, and answering questions facilitate encoding and long-term memory storage. Higher levels of cognitive activity lead to stronger knowledge structures and improved learning outcomes.

Other studies have also demonstrated that student engagement plays a mediating role in academic achievement, indicating that active participation is a key factor linking the learning process to outcomes. Additionally, research has shown a strong positive relationship between learning activities and achievement, as well as the combined influence of learning activities and motivation on learning outcomes.

Based on these findings, several pedagogical implications can be drawn. Learning activities should be positioned as a primary focus in instructional planning, as they play a crucial role in shaping students' engagement and understanding. The expository method needs to be implemented in a more interactive manner through the use of questioning techniques, continuous feedback, and relevant contextual examples to support meaningful learning. In addition, assessment practices should not only emphasize learning outcomes but also consider the learning process to provide a more comprehensive evaluation of student development. Furthermore, fostering strong teacher-student interaction is essential to enhance classroom engagement and, in turn, improve students' learning outcomes. Overall, this study provides strong evidence that the expository method significantly improves both students' learning activities and learning outcomes, both individually and simultaneously.

Conclusion

Based on the results of this study, it can be concluded that the implementation of the expository method has a statistically significant positive effect on students' learning activities and learning outcomes in Biology for grade XI students at SMA Negeri 1 Monta. Students who were taught using this method demonstrated higher levels of engagement, as reflected in improved attention, active participation, note-taking, and timely task completion during the learning process, along with higher posttest scores compared to those in the control class. In addition, the findings indicate that the expository method is moderately effective in improving students' learning outcomes, highlighting its contribution to enhancing overall academic achievement. These results suggest that a well-

structured and interactive application of the expository method can support more effective classroom learning. Therefore, within the context of this study, the expository method can be considered a relevant instructional strategy for biology learning at the high school level.

Acknowledgments

Acknowledgments are expressed by the researchers, to the team so that researchers can complete research in the form of journal publications.

Author Contributions

All authors have contribution together for each stage of research read and approved the published version of the manuscript.

Funding

No external funding.

Conflicts of Interest

No conflict interest.

References

- Agus, F., Julhadi, J., & Wahyuni, S. (2025). Implementasi metode ekspositori untuk meningkatkan belajar siswa kelas X di MAN 1 Solok Plus keterampilan pada mata pelajaran Al-Quran Hadits. *At-Thullab: Jurnal Mahasiswa Studi Islam*, 7(2), 255–270. <https://doi.org/10.20885/tullab.vol7.iss2.art3>
- Alam, S. (2023). Pengaruh Metode Penemuan Terbimbing dengan Metode Ekspositori dalam Pembelajaran Matematika pada Siswa Kelas X SMA Negeri 1 Wotu. *Jurnal Penalaran Dan Riset Matematika*, 2(1), 71–80. <https://doi.org/10.62388/prisma.v2i1.311>
- Aling, D., Aling, D. R. R., Rantung, S. V., & Jeannette, F. (2025). Persepsi anak nelayan terhadap pekerjaan orang tua di Desa Jiko Port Kecamatan Motongkad Kabupaten Bolaang Mongondow Timur. *AKULTURASI: Jurnal Ilmiah Agrobisnis Perikanan*, 13(1), 30–38. <https://doi.org/10.35800/akulturasi.v13i1.60855>
- Ariska, Y., & Napratilora, M. (2021). Perbandingan Penguasaan Materi Menggunakan Metode Pembelajaran PAIKEM dan Metode Ekspositori. *Mitra PGMI: Jurnal Kependidikan MI*, 7(2), 87–93. <https://doi.org/10.46963/mpgmi.v7i2.370>
- Azizi, A. H., Ritonga, A. A., & Dahlan, Z. D. (2023). Pengaruh metode amtsal dan gaya belajar terhadap hasil belajar akidah akhlak di MTs Negeri Binjai. *Didaktika: Jurnal Kependidikan*, 12(4), 667–680. <https://doi.org/10.58230/27454312.295>
- Hasanah, S. U. (2019). *Pengaruh penerapan strategi pembelajaran REACT terhadap kemampuan berpikir kreatif biologi siswa SMA PGRI 4 Jakarta Timur*. Retrieved from <https://shorturl.asia/ulcmK>
- Hewi, L., & Shaleh, M. (2020). Refleksi hasil PISA: Upaya perbaikan bertumpu pada pendidikan anak usia dini. *Jurnal Golden Age*, 4(1), 30–41. <https://doi.org/10.29408/jga.v4i01.2018>
- Hodriyah, H. (2022). Peningkatan motivasi belajar bahasa Indonesia melalui metode ekspositori. *J-KIP*, 3(1). <https://doi.org/10.25157/j-kip.v3i1.7160>
- Ilham, A. (2021). Meningkatkan hasil belajar siswa melalui metode ekspositori. *Action Research Journal Indonesia*, 3(2), 121–127. <https://doi.org/10.61227/arji.v3i2.39>
- Ismi, M. D. Al, Zuhendri, & Astuti. (2025). Penerapan pendekatan metode ekspositori untuk meningkatkan pemahaman konsep matematis siswa kelas VIII (Vol. 8, Number 1, pp. 13–28). <https://doi.org/10.36765/jp3m.v8i1.753>
- Istiqomah, Q., & Nurulhaq, C. (2021). Perbandingan kemampuan koneksi matematis siswa. *Plusminus*, 1(1), 135–144. <https://doi.org/10.31980/plusminus.v1i1.1032>
- Kurniawati, M., & Rizal, F. (2023). Penerapan metode ekspositori dengan guided note taking. *Jurnal Ilmiah Kanderang Tingang*, 14(1), 206–211. <https://doi.org/10.37304/jikt.v14i1.215>
- Maesaroh, I., Miladia, U. A., Fithriyani, M., & Nulhakin, L. (2025). Teknik pengumpulan data dalam penelitian. *Pendas*, 10, 315–325. <https://doi.org/10.13025>
- Mayada, F. D., Faizah, F., & Nisa'i, K. (2024). Efektivitas model pembelajaran ekspositori terhadap hasil belajar peserta didik. *Pendar Cahaya: Jurnal Pendidikan Dan Pembelajaran*, 3(3), 336–342. Retrieved from <https://shorturl.asia/ulcmK>
- Nababan, D., & Sari, M. P. (2023). Pengaruh model pembelajaran ekspositori terhadap hasil belajar peserta didik. *Jurnal Pendidikan Sosial Dan Humaniora*, 2(2), 792–800. Retrieved from <https://publisherqu.com/index.php/pediaqu/article/view/186>
- Nurhayati, N. (2021). Penerapan metode ekspositori dalam meningkatkan prestasi belajar IPA. *Cakrawala Indonesia*, 6(1), 29–35. <https://doi.org/10.55678/jci.v6i1.435>
- Pujiharti, E. S., & Isnaini, U. (2025). Instrumen dan pengumpulan data dalam meningkatkan kualitas data pada penelitian pendidikan. *An Nahdliyyah*, 4(1). Retrieved from <https://ejournal.stainu-malang.ac.id/index.php/annahdliyah/article/view/81/79>
- Rahayu, I. N., & Fikri, M. A. (2023). Pengembangan Perangkat Pembelajaran Berbasis Model

- Ekspositori Media Power Point pada Sub Materi Protista Mirip Jamur di MA/SMA. *Al Jahiz: Journal of Biology Education Research*, 4(1), 59–69. <https://doi.org/10.32332/al-jahiz.v4i1.6247>
- Rahman, A., Munandar, S. A., Fitriani, A., Karlina, Y., & Yumriani. (2022). Pengertian Pendidikan, Ilmu Pendidikan dan Unsur-Unsur Pendidikan. *Al Urwatul Wutsqa: Kajian Pendidikan Islam*, 2(1), 1–8. Retrieved from <https://shorturl.asia/RKNtV>
- Sari, M., & Nucifera, P. (2023). Efektivitas penggunaan metode pembelajaran ekspositori dan inkuiri dalam meningkatkan hasil belajar siswa dalam teks cerita. *Hortatori: Jurnal Pendidikan Bahasa Dan Sastra Indonesia*, 7(1), 70–78. <https://doi.org/10.30998/jh.v7i1.1221>
- Simamora, B. (2022). Skala Likert: Bias penggunaan dan jalan keluarnya. *Jurnal Manajemen*, 12(1), 84–93. <https://doi.org/10.46806/jman.v12i1.978>
- Sucahyono, K. (2023). Penggunaan metode ekspositori dalam meningkatkan hasil belajar. *Kariwari Smart*, 3(2), 23–48. <https://doi.org/10.53491/kariwarismart.v3i2.474>
- Sugiyono. (2021). *Metode penelitian kuantitatif, kualitatif, dan R&D (Cetakan Ke-3)*. Bandung: Alfabeta.
- Sundayana, R. (2014). *Statistika penelitian pendidikan*. Bandung: Alfabeta.
- Wahyuni, S., Marjuni, & Muzakkir. (2025). Pengaruh Penerapan Bahan Ajar Pai Berbasis Strategi Ekspositori Terhadap Hasil Belajar Peserta Didik Kelas V SD Negeri Parangloe Lata Kabupaten Gowa. *Primer Edukasia Journal*, 4(01), 30–42. <https://doi.org/10.56406/jpe.v4i01.462>
- Yusneti, Y. (2022). Implementasi Pembelajaran Ekapositori Guna Meningkatkan Pemahaman Teori Evolusi Mata Pelajaran Biologi Kelas XII MAN Tembilahan Tahun Pelajaran 2018/2019. *Innovative: Journal Of Social Science Research*, 2(1), 597–600. Retrieved from <http://j-innovative.org/index.php/Innovative/article/view/231>