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TEACHING POLYHEDRA TO EIGHTH-GRADE JUNIOR HIGH SCHOOL STUDENTS USING THE HYPNOTEACHING METHOD ASSISTED BY AUDIO-VISUAL MEDIA

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Abstract

This study explores the challenges faced by teachers in implementing online learning, the instructional process and learning scenarios, as well as teacher and student responses, and the learning difficulties experienced by eighth-grade students in understanding polyhedra three-dimensional geometric figures with flat surfaces through the hypnoteaching method assisted by audiovisual media. The participants consisted of 23 eighth-grade students from SMP Mahardika Batujajar, West Bandung Regency. Using a qualitative descriptive design, data were collected through written tests, closed-ended questionnaires, student interviews, and teacher interview guidelines. The written test consisted of six essay questions, while the questionnaire included 24 statements, and interviews and observations were conducted to obtain deeper insights. The findings indicated that teachers encountered several obstacles, mainly limited digital learning facilities, inadequate infrastructure, and unstable internet connectivity. Learning activities were delivered through platforms such as WhatsApp, Google Classroom, Zoom, and Google Forms, supported by lesson plans adapted to the hypnoteaching method. Teacher responses toward the implementation were highly positive, with an average score of 85.69%, while student responses revealed 61.32% positive and 38.68% negative statements, categorized as moderately favorable. Students experienced the greatest difficulty in question six, which required higher-order thinking and the application of formulas related to polyhedra. The average student score was 68.8%, classified as moderately good.

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INTRODUCTION

Education is an essential aspect of human life that cannot be separated from daily existence. It is a process aimed at improving, developing, and transforming knowledge, skills, attitudes, and behavior through guidance, teaching, and training activities. Since education involves conscious and deliberate actions, its goal is to achieve expected changes in attitudes and behavior, ultimately creating intelligent, skilled, independent, disciplined, and virtuous individuals (Maunah, 2009). In accordance with the preamble of the 1945 Constitution of Indonesia, which emphasizes the goal of educating the nation, the government regulates the education system under Law No. 20 of 2003. Article 1 of the law defines education as a conscious and planned effort to create a learning environment that enables students to actively develop their potential, thus strengthening spiritual values, self-control, and intellectual ability.

The importance of education has positioned it as an inseparable element of human life. However, in 2019, the world was struck by the COVID-19 pandemic, which triggered a global crisis, including in Indonesia. To mitigate the spread of the virus, the government restricted or suspended public activities in various sectors, including education. As a result, face-to-face teaching was temporarily halted, and learning shifted to digital formats. According to Harnani (2020), digital learning is an instructional system conducted without direct interaction between teachers and students, but rather through the use of internet networks and smart devices. This condition required teachers to adopt creative strategies to ensure that students could still understand the material being taught, particularly in mathematics.

Mathematics, as an exact science, requires continuous understanding and practice. It communicates ideas through mathematical models, such as statements, equations, diagrams, graphs, or tables. Since the objects studied in mathematics are abstract, such as numbers and symbols, logical thinking is essential. Wittgenstein, as cited in Suriasumantri (Flora Siagian, 2015), emphasized that "mathematics is a method of logical thinking," meaning that it serves as a technique for reasoning based on logic rather than empirical reality. Beyond being a language and a tool for reasoning, mathematics develops through deductive reasoning, moving from general principles to specific conclusions (Flora Siagian, 2015).

The development of mathematics aligns with societal demands, fostering creativity in its application as a fundamental science. In mathematics education, instilling concepts in learners is crucial, as they will contribute to the advancement and application of mathematics in everyday life. The Indonesian Ministry of National Education, through Regulation No. 22 (Depdiknas, 2006, cited in Susilo, Agustin, & Ifariyanti, 2015), outlines the fifth objective of mathematics instruction: to help students "appreciate the usefulness of mathematics in life by fostering curiosity, attention, and interest in learning mathematics." This objective underscores the importance of guiding students to value mathematics in order to enhance their learning outcomes.

To achieve this goal, teachers are expected to be active and creative in facilitating the learning process, capturing students' attention to strengthen interaction, and encouraging active participation, comprehension, and confidence in communication. One approach that can support this goal is the hypnoteaching method. According to Bakir and Suryanto in Hypnoteaching for Success Learning, hypnosis is a sleep-like phenomenon,

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though not actual sleep. Hypnoteaching is defined as a teaching process that employs suggestion techniques to influence students (Hamka, Sappaile, & Ihsan, 2017).

This method involves several steps, including establishing motivation, pacing (aligning position, gestures, language, and brain waves with students), leading (guiding students), using positive language, providing reinforcement, and modeling. Through this approach, students are expected to find mathematics more accessible, as it is often perceived as difficult. Conventional teaching frequently poses challenges for students in learning mathematics, particularly in the topic of polyhedra (three-dimensional shapes with flat surfaces). Many students perceive this topic as irrelevant to real life, which diminishes their interest.

Polyhedra are one of the key topics in the eighth-grade mathematics curriculum with practical applications in daily life, such as building construction, furniture making, and even food production. For this reason, the material must be taught in a way that is engaging and easy to understand. Teachers can utilize applications, software, audiovisuals, and other media to support instruction while considering students' access to learning facilities. Audiovisual media, which combine sound and visuals, are particularly effective in helping students absorb mathematics content. Based on this rationale, the present study investigates the topic "Teaching Polyhedra to Eighth-Grade Students Using the Hypnoteaching Method Assisted by Audiovisual Media".

METHOD

This study employed a descriptive research design aimed at portraying the teacher's efforts to improve the quality of digital instruction on polyhedra for eighth-grade junior high school students through the hypnoteaching method assisted by audiovisual media. The purpose of descriptive research is to provide a systematic, factual, and accurate description of the facts, characteristics, and relationships among the investigated phenomena. Beyond merely describing situations or events, descriptive research also seeks to explain relationships, test hypotheses, make predictions, and identify the meanings and implications of the issues under study.

Data were collected using interviews, guided by prepared written questions and an interview guide. The instruments of this study consisted of: (1) a written test to assess students' knowledge of polyhedra, (2) a questionnaire/attitude scale to measure student responses, and (3) teacher and student observation sheets. All collected data were processed using Microsoft Excel. The results of teacher observations and student responses on the Likert scale were analyzed using the formula proposed by Wahyuningsih (2019).

Student performance was assessed using a scoring guideline adapted from Badraeni et al. (2020). The percentage score was calculated using the formula:

$$Score\ Percentage = \frac{Obtained\ Score}{Total\ Score} \times 100\%$$

This formula was applied to determine the level of student achievement on each test item as well as the overall test results. The use of this scoring guideline ensured that the

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assessment process was systematic, consistent, and aligned with established research standards

Tabel 1. Pedoman Penseskoran

Skore (%)	**Kategori**
86-100	Verry Good
76-85	Good
60-75	Fairly Good
55-59	Poor
≤54	Very Poor

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RESULTS AND DISCUSSION

The The teacher strived to create a conducive learning atmosphere and implement the lesson in accordance with the plan, despite the fact that instruction was conducted digitally. The teacher's responses during the learning process were identified through classroom observations. The results of the teacher observation sheet during the learning process are presented in Table 2:

Table 2. Teacher Observation Results

Meeting	Obtained Score	Percentage	Interpretation
1	3.63	90.79%	Very Good
2	3.05	76.32%	Good
3	3.16	78.95%	Good
4	3.37	84.21%	Good
5	3.47	86.84%	Very Good
6	3.58	89.47%	Very Good
7	3.58	89.47%	Very Good
8	3.58	89.47%	Very Good
Average	3.43	85.69%	Good

Each From Table 2, it can be seen that the teacher's responses during the implementation of the study were carried out well and in accordance with the lesson plan. In the first meeting, the teacher's response was categorized as *very good*. The second to the fourth meetings were in the *good* category, while the fifth to the eighth meetings showed improvement to the *very good* category. Overall, the average score obtained was 3.43 with a percentage of 85.69%, which indicates that in each subsequent meeting, the teacher's performance improved.

After implementing the learning process using the *hypnoteaching* method assisted by audio-visual media, the teacher stated that this approach was quite effective, encouraged students to be more active, and created an enjoyable learning atmosphere. This finding is in line with Kusuma (2019), who reported that *hypnoteaching* enables students to more

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easily accept suggestions, thereby increasing their motivation to learn and helping them master the material more effectively. Similarly, Kasmaja (2016) explained that the effectiveness of *hypnoteaching* can be seen from two indicators, namely student motivation and learning outcomes. Furthermore, Dimyati (2020) emphasized that *hypnoteaching* trains students to actively participate, motivate themselves, support one another, and share what they have learned in a joyful atmosphere, making them more confident that they can achieve their learning goals.

In addition, the teacher also expressed that the use of audio-visual media, such as instructional videos, was very engaging, effective, and easy to understand, especially during distance learning. This is supported by the study of Rahmatullah, Inanna, and Ampa (2020), which showed that audio-visual media play a crucial role in supporting the learning process, both in face-to-face and distance learning contexts. Their trial results also indicated that the developed media were highly feasible to be used in learning. Similarly, the research conducted by Lestari (2018) demonstrated that the implementation of the cooperative learning model type NHT assisted by audio-visual media was able to create an enjoyable learning environment and foster students' enthusiasm for learning.

At the next stage, the researcher conducted interviews using Google Forms to investigate students' responses toward the learning of three-dimensional geometry (polyhedra) using the *hypnoteaching* method assisted by audio-visual media. Students expressed their opinions regarding mathematics learning, particularly related to the learning process that had been carried out over eight meetings. The percentage results from the student attitude scale questionnaire are presented in Table 3.

Table 3. Results of Student Responses

No	Indicator	Percentage of Student Responses	
		Positive	**Negative**
1	Self-confidence	54.95%	45.05%
2	Flexibility in investigating mathematical ideas and exploring alternative methods	61.52%	38.48%
3	Perseverance in completing mathematics tasks	64.69%	35.31%
4	Demonstrating interest, curiosity, and discovery ability	62.00%	38.00%
5	Monitoring and reflecting on one's own performance and reasoning	63.48%	36.52%

From the table above, it can be seen that students' responses toward learning interest in mathematics, particularly in the topic of three-dimensional shapes, are categorized as fairly good. For the indicator of self-confidence, 54.95% of students gave positive responses and 45.05% gave negative responses, indicating that the majority of students demonstrated good self-confidence in learning mathematics. For the indicator of flexibility in investigating mathematical ideas and exploring alternative methods, 61.52% of students responded positively while 38.48% responded negatively, which implies that students were able to solve mathematical problems using alternative methods they

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understood. For the indicator of perseverance in completing mathematics tasks, 64.69% of students gave positive responses and 35.31% gave negative responses, suggesting that most students showed discipline in completing mathematics assignments. Regarding the indicator of demonstrating interest, curiosity, and discovery ability, 62% of students responded positively and 38% responded negatively, showing that students' curiosity was relatively high and that they were enthusiastic about new topics. Finally, for the indicator of monitoring and reflecting on their own performance and reasoning, 63.48% of students gave positive responses and 36.52% gave negative responses, indicating that the majority of students were able to monitor, reflect, and evaluate their own mathematical reasoning and performance.

Overall, students' responses toward mathematics learning in the topic of three-dimensional shapes were quite positive. Students expressed enjoyment in learning mathematics, as reflected in their enthusiasm and active participation during lessons. Their enthusiasm for learning was relatively high, which in turn positively influenced their learning interest. This positive reception is critical, as research indicates that enjoyment in learning mathematics significantly enhances students' motivation and engagement, leading to deeper understanding and retention of concepts (Du et al., 2025).. As educators seek to improve learning outcomes, it becomes essential to integrate varied instructional methods that cater to different learning styles, thus ensuring that all students can experience the same level of enthusiasm and active participation (Subban & Round, 2015). Ultimately, the goal is to create a classroom atmosphere where students not only learn mathematical concepts but also develop a lifelong appreciation for the subject.

This learning interest contributes significantly to students' success in studying mathematics. This finding is in line with Fadillah (2016), who stated that learning interest is a preference, activity, or engagement that supports the fluency of the learning process. Similarly, Lestari (2015) emphasized that learning interest represents an internal drive that grows within students to improve their study habits.

CONCLUSION

Based on the results of the study, as well as the data processing and analysis, it can be concluded that teachers' responses toward learning using the hypnoteaching method assisted by audiovisual media were positive, with reciprocal interaction established between both parties. Furthermore, the results of students' responses to mathematics learning on the topic of three-dimensional shapes indicated that they felt happy and enthusiastic about learning mathematics, which had a positive impact on increasing their learning interest. Future research may further investigate the effectiveness of the hypnoteaching approach in enhancing students' mathematical skills.

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