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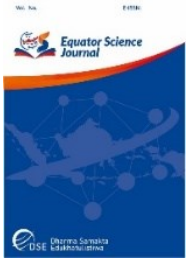

The School Environment as a Contextual Learning Strategy: Its Impact on Junior High School Students' Interest in Learning Biology

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ABSTRACT
This study aims to examine the significant impact of utilizing the school environment as a learning resource on students' interest in learning Biology among seventh-grade students at SMPN 10 Sigi. The research applied a quasi-experimental design involving 55 students, divided into an experimental class and a control class. Data collection techniques included observation of students' learning interest, interviews with the science teacher, and a post-test to assess academic understanding. Instruments used in this study comprised observation sheets, structured interview guides, and post-test items. Both descriptive and inferential statistical methods were used to analyze the data. The findings revealed a substantial difference between the two groups. The experimental class, which engaged in outdoor and environment-based learning activities, achieved an average interest score of 92.5% (categorized as Very Good), while the control class, which received conventional classroom instruction, scored 76.2% (categorized as Good). Students in the experimental group showed increased enthusiasm, curiosity, and active participation, particularly during explorative activities related to biodiversity around the school grounds. These results confirm that integrating the school environment into the learning process not only enhances student engagement but also fosters a deeper understanding of scientific concepts. The study concludes that effective use of the school environment can significantly increase students' interest and motivation in learning science, especially in rural or under-resourced educational settings.

INTRODUCTION

Low interest in learning Biology among middle school students is often caused by theoretical teaching methods that lack real-world context. Students tend to perceive Biology as irrelevant, which decreases their motivation and engagement. In contrast, contextual learning—linking content to everyday life—can enhance both interest and understanding (Sari & Harahap, 2024). Additionally, teacher quality and supportive learning environments play a critical role in fostering interest (Iskandaria et al., 2023). Interdisciplinary methods like project-based learning also help make Biology more relatable (Ding, 2024).

Learning interest is a key factor in students' success, especially in science subjects like Biology (Achru, 2019). It refers to internal motivation that drives students to actively seek knowledge and skills (Achru, 2019). In science learning, this interest helps increase engagement and improve outcomes (Riadin & Estimurti, 2022). Students with high interest usually participate actively, show enthusiasm, and learn independently (Adnyana & Yudaparmita, 2023). Meanwhile, those with low interest tend to be passive and less motivated (Adnyana & Yudaparmita, 2023). A supportive environment and relevant teaching can strengthen interest (Riadin & Estimurti, 2022). Some students may also benefit from structured guidance, showing that both intrinsic and extrinsic factors are important (Riadin & Estimurti, 2022).

Emotional and affective involvement in learning plays a fundamental role in fostering student interest and engagement. According to Natalini (2024), emotions such as enjoyment and pride can enhance learners' motivation, engagement, and retention of information. Conversely, while often perceived as negative, emotions like anxiety may also contribute to critical reflection and deeper learning when appropriately managed. Emotional involvement is therefore not a peripheral aspect of education but a central component that shapes how students internalize content and interact within the learning environment. In science education—particularly in subjects like Biology—emotional engagement helps bridge the gap between abstract concepts and students' lived experiences.

The environment, both physical and emotional, influences the depth of emotional engagement students experience. Pihkala (2024) emphasizes the importance of emotions such as care, empathy, and place attachment in motivating students to meaningfully engage with environmental and sustainability education. These emotions not only promote understanding but also inspire behavioral change and responsibility. Educational strategies that nurture such affective dimensions—such as outdoor learning, reflection-based activities, and contextual exploration—can create emotionally rich learning experiences that are highly effective in increasing students' interest and participation in science subjects. As such, integrating emotional and environmental aspects into learning can produce more holistic and impactful educational outcomes.

Enhancing students' interest in learning Biology requires the implementation of innovative and meaningful teaching strategies (Hamid et al., 2024). One effective approach is contextual learning, which connects biological concepts to students' daily lives, thereby making the material more relevant and easier to comprehend (Maulina et al., 2024). This method encourages active student participation and facilitates deeper understanding through real-world experiences (Hamid et al., 2024). By aligning instructional content with students' interests and everyday contexts, contextual learning has been shown to increase motivation and engagement in science education (Maulina et al., 2024).

The school environment functions as a concrete and accessible learning resource that can enhance students' understanding of Biology through direct interaction and observation (Rusnawati, 2022). It encompasses the physical and social surroundings within the school, including natural elements such as gardens, parks, and mini ecosystems that serve pedagogical purposes (Rusnawati, 2022). These components offer practical opportunities for contextual learning by allowing students to explore biological concepts in real settings, thereby reinforcing theoretical knowledge through real-life experiences (Rusnawati, 2022). When properly integrated into the curriculum, the school environment supports student engagement, facilitates hands-on learning, and contributes to improved academic outcomes in science education (Hamid et al., 2024).

Despite its proven benefits, environment-based learning has not been optimally implemented in many schools. Teaching practices still tend to be classroom-centered, with limited use of outdoor or environmental resources (Abdullah, 2024). A significant number of teachers have yet to integrate local

learning resources, such as school gardens or nearby ecosystems, into the curriculum (Muizah & Nuruddin, 2022). This gap between pedagogical potential and actual classroom practice highlights the need for better teacher training and more strategic support in utilizing the school environment as a meaningful learning context (Zahrah et al., 2024).

Preliminary observations at SMPN 10 Sigi revealed that students' interest in learning Biology was generally low. Instruction in the classroom was largely theoretical, relying heavily on textbook explanations and lectures. As a result, students often appeared disengaged and unmotivated. Although the school environment offered potential learning resources—such as green spaces and natural surroundings—these were not yet optimally utilized in the learning process. This underutilization highlighted a missed opportunity to enhance students' engagement by connecting lesson content to real-life experiences.

Despite the recognized value of environment-based education, there remains a lack of experimental studies that quantitatively assess its impact on students' learning interest—particularly in rural or semi-rural regions like Sigi. Most existing studies focus on cognitive outcomes or are descriptive in nature. This study aims to address that gap by investigating how the structured use of the school environment as a contextual learning resource can influence students' interest in Biology. By focusing on a public junior high school in Sigi, this research also seeks to contribute region-specific evidence that may be applicable to similar educational settings.

This study contributes to the advancement of contextual science education by providing empirical evidence on the use of the school environment to enhance student interest in Biology. It aims to support teachers in developing more engaging, hands-on learning strategies grounded in local contexts. The findings are expected to offer practical recommendations for improving student motivation and participation in science classes, particularly at the junior high school level. Moreover, this research enriches the growing body of literature on contextual and environmental learning, especially within underrepresented rural school settings like Sigi.

METHOD

This study is a quasi-experimental research, which is an experiment involving treatment, impact measurement, and experimental units but does not use random assignment to create comparisons aimed at concluding changes caused by the treatment. The research design applied was the posttest nonequivalent control group design. The study was conducted at SMPN 10 Sigi during the even semester, from May to June 2024.

Population is defined as the entire number of objects or subjects possessing certain characteristics and qualities determined by the researcher to be studied and from which conclusions are drawn (Amin et al., 2023). In this study, the population consisted of all seventh-grade students at SMPN 10 Sigi, totaling 77 students. According to Firmansyah (2022), a sample is a portion of the population or a smaller group that is observed. Therefore, the sample in this study was 55 students. The research variables include the school environment as a learning resource (independent variable) and the increase in students' interest in learning (dependent variable). Operational definitions were given for the school environment, learning resources, and learning interest. The types and sources of data collected were qualitative and quantitative. Data collection techniques included observation sheets on student learning interest, interviews, and tests. Data analysis employed descriptive and inferential statistical methods.

RESULTS AND DISCUSSIONS

The results of this study on the influence of the school environment as a learning resource on students' interest in learning Biology among seventh-grade students at SMPN 10 Sigi include observations made throughout the learning process. The teaching was conducted using two different approaches: utilizing the school environment as a learning resource in the experimental class and applying conventional classroom instruction in the control class, specifically on the topic of biodiversity in science (IPA) subjects.

Based on the analysis of the data, students' learning interest was measured through observation over four meetings in both the experimental and control classes. After the intervention, the average learning interest score in the experimental class reached 92.5%, categorized as Very High, while the control class scored an average of 76.2%, categorized as High (see Table 1).

Table 1. Learning Interest Scores by Class Group

Class	Average Learning Interest Score (%)	Category
Experimental	92.5	Very Good
Control	76.2	Good

The implementation of learning activities using the school environment as a learning resource in the experimental class showed a noticeable improvement in students' interest in learning Biology compared to the control class, which used conventional classroom instruction. Learning activities were observed over four sessions in both classes, using observation sheets to assess key aspects of student interest.

In the experimental class, students engaged with worksheets on biodiversity while exploring the school's natural surroundings. This hands-on experience allowed them to directly observe various plants and organisms, leading to a clearer and more engaging understanding of biological concepts. Their enthusiasm and curiosity grew as they connected classroom topics to real-world examples, making learning more enjoyable.

The science teacher at SMP Negeri 10 Sigi observed that this outdoor approach significantly increased student engagement. When learners interact with tangible examples—such as identifying different plant species—they show greater involvement and are more likely to retain the material. These findings support previous research on the benefits of contextual and environment-based learning strategies in improving student interest (Handayani & Bahri, 2024).

Moreover, students who learned in this way exhibited improved skills in observation, cooperation, and problem-solving—core elements of scientific inquiry. This aligns with Abdullah (2024), who notes that outdoor learning not only deepens understanding but also enhances essential learning skills. These cognitive benefits are closely tied to the learning process becoming more active and student-centered.

Beyond academic outcomes, outdoor learning also contributes positively to the emotional and social development of students. It fosters a more relaxed classroom atmosphere, reduces disruptive behavior, and strengthens student relationships through collaborative activities (Firman & Sandiarsa, 2024). These elements promote a sense of belonging and motivation, making the learning experience more holistic.

To further enrich student development, incorporating local social and cultural contexts into learning enhances relevance and supports character building. By connecting lessons to students' daily experiences and regional values, education becomes more meaningful and encourages traits such as independence and honesty (Aramudin et al., 2023). This integration strengthens the role of the school as not only a place for academic growth but also for moral and cultural formation.

In addition to teacher-driven strategies, the successful integration of the school environment as a learning resource also depends on institutional support and infrastructure readiness. The availability of green spaces, gardens, or open learning areas significantly influences the effectiveness of outdoor learning activities. Furthermore, school leadership plays a crucial role in establishing policies that encourage teachers to innovate and utilize environmental elements in their teaching. Without a supportive infrastructure and administrative commitment, even the most engaging strategies may face implementation barriers.

To maintain the motivation sparked by local and environmental learning, schools must adopt active learning strategies that engage students in hands-on, reflective, and exploratory activities. Teachers play a key role in shaping such learning environments, ensuring that both internal and external motivational factors are nurtured (Sahabuddin et al., 2024). A supportive climate allows students to become active participants in their education.

In these dynamic settings, the school can function as a "living laboratory," where students engage in real-world sustainability projects and apply their knowledge to solve practical problems

(Pratama et al., 2024; Mustafayeva, 2024). This approach fosters creativity, initiative, and readiness to face future challenges, particularly when aligned with environmental education goals.

Beyond academic interest and socio-emotional development, environment-based learning also cultivates a long-term sense of environmental stewardship among students. When learners regularly interact with nature and engage in real-world ecological observations, they become more aware of environmental issues and develop a sense of personal responsibility. This experience can shape sustainable attitudes and behaviors that persist beyond the classroom, aligning with broader educational goals that aim to prepare environmentally conscious citizens.

Teachers facilitate this transformation by guiding adaptive and reflective learning. By emphasizing positive relationships and personalized feedback, they support not only academic achievement but also students' broader developmental needs (Zengaro & Zengaro, 2022; Pratama et al., 2024). Although challenges such as resource limitations persist, the integration of motivational sustainability and active learning remains a crucial step toward cultivating lifelong learners.

To replicate the benefits observed in this study, schools should consider adopting flexible and context-sensitive curricula that allow space for outdoor and experiential learning. Professional development programs can also be provided to equip teachers with the skills and confidence needed to conduct environment-based instruction. Involving the local community—such as farmers, environmental agencies, or cultural leaders—can further enrich the learning experience, adding contextual relevance and promoting collaboration beyond school boundaries.

Finally, this study reinforces the principles of constructivist learning, where students build knowledge through meaningful, context-rich experiences. Especially in rural or underrepresented areas like Sigi, utilizing local environments as learning resources presents an accessible and impactful strategy to strengthen science education.

In conclusion, the use of the school environment as a learning resource in Biology effectively increases student interest by providing relevant, engaging, and hands-on learning experiences. This strategy not only supports curriculum goals but also nurtures essential life skills, making it a practical model for improving education in similar contexts.

CONCLUSION AND SUGGESTION

Based on the results and discussion, it can be concluded that there is a significant influence of using the school environment as a learning resource on students' interest in learning Biology in Grade VII at SMP Negeri 10 Sigi. This is evidenced by the increase in learning interest in the experimental class, which reached 92.5%, compared to 76.2% in the control class that received conventional classroom instruction. Direct interaction with real-life objects in the school environment made the learning process more contextual, engaging, and meaningful. As a result, students became more active, enthusiastic, and motivated during the lessons. Therefore, the more effectively the school environment is utilized as a learning resource, the higher the students' interest in learning Biology.

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