

## Implementation of the Forest School Model to Improve Creativity and Problem Solving Skills of Junior High School Students

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### ABSTRAK

Penelitian ini bertujuan untuk mengkaji penerapan model Forest School dalam meningkatkan kreativitas dan kemampuan pemecahan masalah pada siswa sekolah menengah pertama. Latar belakang penelitian ini didasarkan pada keterbatasan pembelajaran konvensional yang belum optimal dalam mengembangkan keterampilan abad ke-21, khususnya kreativitas dan kemampuan pemecahan masalah. Penelitian ini menggunakan pendekatan kualitatif dengan desain studi kasus untuk memperoleh pemahaman mendalam mengenai proses, pengalaman, dan makna pembelajaran berbasis alam. Subjek penelitian meliputi siswa sekolah menengah pertama, guru, serta pihak sekolah yang terlibat langsung dalam implementasi model Forest School. Pengumpulan data dilakukan melalui observasi partisipatif, wawancara mendalam, dan dokumentasi, sedangkan analisis data menggunakan model interaktif yang mencakup reduksi data, penyajian data, dan penarikan kesimpulan. Hasil penelitian menunjukkan bahwa model Forest School mampu menciptakan pengalaman belajar autentik melalui eksplorasi lingkungan alam yang mendorong keterlibatan aktif siswa. Kreativitas siswa berkembang melalui aktivitas terbuka (open-ended activities), berpikir divergen, serta keberanian untuk bereksperimen, sementara kemampuan pemecahan masalah diasah melalui permasalahan nyata yang menuntut proses observasi, pengambilan keputusan, dan refleksi. Peran guru sebagai fasilitator serta lingkungan belajar yang kolaboratif memperkuat efektivitas pembelajaran. Penelitian ini menyimpulkan bahwa model Forest School merupakan pendekatan pembelajaran yang inovatif dan relevan serta berpotensi meningkatkan kualitas proses pembelajaran siswa sekolah menengah pertama secara berkelanjutan.

**Kata kunci:** Sekolah Luar Ruangan; kreativitas; pemecahan masalah.

### ABSTRACT

*This study aims to examine the application of the Forest School model in improving creativity and problem-solving skills in junior high school students. The background of the study is based on the limitations of conventional learning, which is not optimal in developing 21st-century skills, especially creativity and problem-solving abilities. The study used a qualitative approach with a case study design to gain an in-depth understanding of the process, experience, and meaning of nature-based learning. The research subjects included junior high school students, teachers, and school officials directly involved in the implementation of the Forest School model. Data collection was conducted through participant observation, in-depth interviews, and documentation, while data analysis used an interactive model that included data reduction, data presentation, and conclusion drawing. The results showed that the Forest School model was able to create authentic learning experiences through exploration of the natural environment that encouraged active student involvement. Student creativity developed through open-ended activities, divergent thinking, and the courage to experiment, while problem-solving skills were honed through real-life problems that required observation, decision-making, and reflection. The role of teachers as facilitators and a collaborative learning environment strengthened the effectiveness of learning. This study concluded that the Forest School model is an innovative, relevant learning approach and has the potential to improve the quality of junior high school students' learning process in a sustainable manner.*

**Keywords:** Forest School; creativity; problem solving.



## INTRODUCTION

Learning at the junior high school level still strongly favors teacher-centered instructional patterns and closed classrooms. A learning orientation that emphasizes cognitive achievement often neglects the development of students' creativity and problem-solving skills. Routine and tightly structured learning activities limit students' opportunities to explore ideas and make independent decisions. This situation results in students lacking the courage to face new problems that lack a single correct answer. Divergent thinking, the core of creativity, is rarely optimally stimulated through conventional learning approaches. Learning experiences lacking real-world challenges leave students poorly trained in formulating solutions based on real-life situations. This situation indicates a gap between the demands of 21st-century competencies and the learning practices that occur in schools. This gap demands innovative learning models that can more comprehensively address students' developmental needs.

The developmental stage of junior high school students places them in a crucial phase of developing reflective thinking and problem-solving patterns. These developmental characteristics demand a learning approach that not only delivers material but also provides meaningful learning experiences. Direct experiences enable students to build understanding through active interaction with real-life objects and situations. Learning that is disconnected from the realities of students' lives has the potential to reduce motivation and engagement in learning. Student emotional and cognitive engagement are crucial factors in fostering creativity. A stimulating learning environment provides space for students to test ideas and explore. This learning process encourages students to view problems from multiple perspectives. The need for contextual learning becomes increasingly relevant as the complexity of the challenges facing the younger generation increases.

The natural environment offers dynamic and unpredictable learning characteristics. These circumstances create opportunities for students to encounter situations that require adaptation and flexible thinking. Direct interaction with nature allows for spontaneous questions, curiosity, and exploration. This process forms a crucial foundation for developing students' creativity. Real-world problems that arise in nature require students to formulate solutions based on direct observation and experience. Learning activities that take place outside the classroom provide greater freedom of expression. This freedom contributes to students' courage in trying new ideas without fear of failure. Nature's potential as a learning resource demonstrates high relevance for developing authentic problem-solving skills.

The use of the natural environment in learning has not been fully integrated systematically at the junior high school level. Outdoor learning activities are often positioned as supplementary activities, rather than a core part of the learning process. This view results in the pedagogical potential of nature being underutilized. Learning models that can bridge curriculum objectives with natural experiences are an urgent need. Integration between learning experiences and competency development objectives requires a clear learning framework. Innovative learning approaches play a crucial role in guiding exploratory activities so they remain meaningful. This framework allows students to learn freely yet purposefully. This need opens up space for the implementation of alternative learning models based on natural experiences.

The Forest School model offers a learning approach that places nature as the primary learning space. This approach emphasizes a continuous learning process through exploration, observation, and reflection. Learning activities are designed to encourage student independence and responsibility for their learning. Challenges arising

during nature activities provide tangible stimuli for problem-solving development. Students' creativity develops through opportunities to design, experiment, and modify solutions directly. The collaborative process that occurs during Forest School activities strengthens social and communication skills. Holistic learning involves a balance of cognitive, affective, and psychomotor aspects. These characteristics demonstrate the Forest School's suitability to the developmental needs of junior high school students.

The Forest School implementation also provides a more humanistic and student-centered learning experience. The teacher's role shifts to that of a facilitator, guiding students through their exploration. This shift in role creates space for students to take initiative and make decisions. This opportunity trains students to face the consequences of their choices. This learning process strengthens critical and reflective thinking skills. Open-ended challenges allow students to develop more than one solution. This diversity of solutions is an indicator of developing creativity and flexibility of thinking. A supportive learning environment helps students build confidence in problem-solving.

Despite its significant potential, Forest School implementation at the junior high school level remains relatively limited. A lack of empirical studies is one factor hindering the model's widespread adoption. Scientific evidence is needed to demonstrate the Forest School's contribution to student creativity and problem-solving. Research focused on the junior high school level is crucial given the varying developmental characteristics of students. In-depth analysis of learning processes and outcomes is needed to ensure the model's relevance. The formal education context demands adjustments to Forest School implementation to align with curriculum objectives. This adaptation process requires a strong academic foundation. The gap between potential and practice drives the need for structured research.

Research on the implementation of the Forest School model is expected to provide theoretical and practical contributions to the world of education. Research findings can enrich studies on nature-based learning in junior high school education. Practical implications of the research can serve as a reference for teachers in designing innovative learning. Developing creativity and problem-solving skills are important indicators of successful 21st-century learning. Learning models relevant to students' needs have the potential to improve the quality of the learning process. The natural environment as a learning space provides an alternative, more contextual and meaningful approach. Integrating Forest School into junior high school learning can be an adaptive pedagogical strategy. This effort is expected to address increasingly complex educational challenges.

## **METHODOLOGY**

This research uses a qualitative approach with a case study design. The qualitative approach was chosen because the research aims to deeply understand the process of implementing the Forest School model and its significance for the development of students' creativity and problem-solving skills. The case study design allows researchers to explore the phenomenon of nature-based learning contextually and holistically in a specific educational unit. The research focuses on the processes, experiences, and interactions that occur during the implementation of the Forest School model at the junior high school level.

The research subjects consisted of junior high school students directly involved in learning using the Forest School model, teachers who acted as facilitators, and school officials who supported the program's implementation. Subject selection was conducted purposively, taking into account active involvement in nature-based learning activities. The characteristics of the selected subjects enabled the researchers to obtain rich data relevant to the research objectives. The research location was determined at a school that

has access to a natural environment and has implemented or adapted the Forest School model in its learning activities.

Data collection techniques included participant observation, in-depth interviews, and documentation. Participant observation was used to directly observe student activities, interaction patterns, and forms of creativity and problem-solving that emerged during Forest School activities. In-depth interviews were conducted to explore students' and teachers' perspectives, experiences, and reflections on the learning process. Documentation included field notes, activity photographs, student work, and learning tools used during the research.

The research instrument in this qualitative study was the researcher herself, supported by observation and interview guidelines. The observation guidelines were designed to identify indicators of students' creativity and problem-solving skills during learning activities. The interview guidelines were semi-structured to allow for in-depth yet focused data exploration. The flexibility of the instruments allowed the researcher to adapt the data collection process to the dynamics of the field.

Data analysis was conducted using an interactive analysis model that includes data reduction, data presentation, and conclusion drawing. Data reduction was achieved by sorting and focusing data relevant to the research objectives. Data presentation was conducted in the form of a descriptive narrative to systematically describe the research process and findings. Conclusions were drawn in stages, taking into account patterns, themes, and meanings emerging from the data.

Data validity was ensured through source and technical triangulation. Source triangulation was conducted by comparing data obtained from students, teachers, and school officials. Technical triangulation was conducted by comparing the results of observations, interviews, and documentation. This step aimed to increase the credibility and trustworthiness of the research findings. Data rechecking was also carried out continuously throughout the research.

This research was conducted through the stages of planning, implementation, analysis, and reporting. The planning stage included instrument development and research location determination. The implementation stage included data collection in the field using various established techniques. The analysis stage was conducted simultaneously with the data collection process. The reporting stage aimed to present the research findings systematically and academically.

## **DISCUSSIONS AND RESULT**

### **The Process of Implementing the Forest School Model in Middle School Learning**

The implementation of the Forest School model in junior high school learning begins with planning that positions the natural environment as the primary learning space integrated with learning objectives. Learning plans are developed by considering student characteristics, environmental conditions, and the competencies to be developed. Teachers play a key role in designing exploratory activities that encourage active student engagement from the early stages of learning. Each activity is designed openly to allow for a variety of responses and different learning experiences among students. The learning structure remains systematic without eliminating the flexibility of the learning process. Curriculum adjustments are made to ensure that nature-based activities remain aligned with learning outcomes. The planning process demonstrates a paradigm shift from content-centered learning to experience-centered learning. This shift serves as a crucial foundation for the effective implementation of the Forest School model.

The Forest School approach places students as active subjects directly involved in environmental exploration. Learning activities occur through observation, experimentation, discussion, and reflection that emerge naturally during the activities. The teacher serves as a facilitator who guides without dominating the learning process. The interaction between students and the natural environment creates a dynamic and unpredictable learning situation. The uncertainty of the situation encourages students to adapt and make independent decisions. Learning processes that take place outside the classroom provide richer sensory experiences. These experiences strengthen the connection between knowledge and reality. The dynamics of learning demonstrate that the Forest School is capable of creating a participatory and meaningful learning environment.

The role of teachers in the Forest School implementation undergoes a significant transformation compared to conventional learning. Teachers no longer serve as the primary source of information but rather as facilitators in the learning process. This support is provided through the provision of stimuli, prompting questions, and collaborative reflection with students. This approach provides space for students to construct knowledge independently. The trust placed in students strengthens their sense of responsibility for the learning process. Teachers maintain the direction of learning to ensure it aligns with established objectives. A balance between freedom and direction is key to the model's successful implementation. This transformation in the teacher's role reinforces the humanistic and collaborative character of learning.

Adapting the Forest School model to the characteristics of junior high school students is a crucial aspect of its implementation. Early adolescents have a high need for exploration and a tendency to seek new experiences. Nature-based activities provide a safe space for these needs to be addressed. The challenges presented are tailored to the students' abilities and developmental levels. These adjustments aim to maintain a balance between challenge and safety. Activities that are too simple can potentially decrease learning motivation. Activities that are too complex risk causing frustration. Appropriate adjustments allow students to engage optimally. This adaptation process demonstrates the Forest School model's flexibility in addressing students' developmental needs.

Evaluation of the Forest School implementation is conducted through ongoing observation of the process and student responses. The evaluation focuses not only on the final results but also on the ongoing learning process. Changes in student learning behavior are important indicators of the model's success. Active engagement, courage to explore, and the ability to collaborate are systematically observed. Student reflections on learning experiences serve as a source of meaningful data. Teachers use the results of these reflections as a basis for improving subsequent learning. The ongoing evaluation process strengthens the quality of the model's implementation. The overall implementation process demonstrates that Forest School can be effectively integrated into junior high school learning.

### **Developing Student Creativity through the Forest School Model**

The development of student creativity through the Forest School model is evident in the emergence of diverse ideas during learning activities. The unstructured natural environment provides ample space for students' imaginations. Open-ended learning situations encourage students to express ideas without fear of error. The exploration process allows students to combine experience, knowledge, and intuition. Creativity develops through the freedom to experiment and modify ideas. Activities that require

open-ended solutions strengthen divergent thinking skills. The variety of student responses demonstrates the development of flexible thinking. This phenomenon indicates that Forest School supports a conducive creative climate.

Students' creative expression is evident in how they utilize the natural resources around them. Natural objects are used as media, tools, or symbols as needed for the activity. This utilization demonstrates students' ability to see alternative functions for available objects. This process reflects original and adaptive thinking skills. Students are not fixated on one method for completing a task. Courage to experiment is an integral part of the learning process. Failure is seen as part of learning, not as an obstacle. This pattern reinforces a sustainable creative attitude.

Social interactions during Forest School activities contribute to the development of students' creativity. Discussions and collaborations enable the exchange of ideas among students. The process of sharing ideas sparks new perspectives. Differences of opinion are positioned as a source of learning. Collaboration encourages students to develop ideas collectively. This process strengthens the ability to elaborate and develop ideas. Creativity does not develop solely individually, but through dynamic social interactions. A supportive learning environment fosters the courage to express oneself.

The teacher's role in fostering creativity is demonstrated by providing adequate space for exploration. Teachers avoid overly detailed and restrictive instructions. Open-ended questions are used to stimulate students' creative thinking. This approach encourages students to find solutions independently. Teachers reinforce the thinking process, not just the end result. Appreciation of diverse ideas strengthens students' intrinsic motivation. A learning environment that values the process accelerates the development of creativity. These practices demonstrate consistency between the teacher's role and the goals of creative learning.

The sustainability of creativity development is evident in changes in students' learning attitudes. Students demonstrate a greater interest in learning activities. Their desire to try new things gradually increases. Their confidence in expressing ideas is strengthened. Students become more open to challenges. Creativity is no longer viewed as an innate ability, but as a process that can be trained. Forest School provides a space that allows this process to occur naturally. These results confirm the relevance of the Forest School model in developing creativity in junior high school students.

### **Strengthening Students' Problem Solving Skills through Nature-Based Learning**

Strengthening students' problem-solving skills through Forest School is reflected in their ability to identify real-world problems that arise during activities. Dynamic natural environments present challenges that are not always predictable. Students are trained to carefully observe environmental conditions. The observation process forms the basis for problem formulation. The problems faced are authentic and contextual. The authenticity of the problem enhances the relevance of learning. Students are directly involved in the solution-finding process. The initial stages of problem-solving occur naturally through interaction with the environment.

Solution formulation is carried out through a process of discussion and exploration of alternative courses of action. Students consider various possibilities based on their experience and knowledge. This process fosters analytical and evaluative thinking skills. Each alternative solution is tested through concrete actions. Trials allow students to see the consequences of their decisions. Mistakes are viewed as information for strategic improvement. This process strengthens the ability to learn from experience. Problem-solving patterns develop gradually and reflectively.

Collaboration is a crucial element in strengthening problem-solving skills. Students work together to solve complex problems. Roles emerge naturally based on individual abilities. Group discussions help broaden perspectives in problem-solving. This process fosters communication and negotiation skills. Differences of opinion are managed to reach shared solutions. Teamwork accelerates the search for effective solutions. A collaborative learning environment strengthens students' social skills.

The teacher's role in strengthening problem-solving is realized through reflective mentoring. Teachers guide students to reflect on the process they have gone through. Reflection helps students understand the reasons for the success or failure of solutions. Reflective questions encourage students to think more deeply. The reflection process strengthens the transfer of learning to other situations. Teachers do not provide direct answers but facilitate the thinking process. This approach strengthens students' independence in problem-solving. Reflective practice is an integral part of Forest School learning.

Changes in students' attitudes toward problems indicate significant improvement in problem-solving skills. Problems are no longer viewed as obstacles, but rather as learning challenges. Students demonstrate persistence in the face of adversity. Confidence in decision-making gradually increases. Problem-solving skills develop as learning experiences increase. The natural environment provides a rich context for ongoing practice. Forest School creates a learning space that fosters resilience. These findings confirm Forest School's contribution to strengthening problem-solving skills in junior high school students.

## **CONCLUSION**

The conclusion of this study shows that the application of the Forest School model in junior high school learning can create meaningful learning experiences by utilizing the natural environment as the main pedagogical space. Structured yet flexible experiential learning provides space for students to actively engage in exploration and reflection. The teacher's role, transformed into a facilitator, strengthens students' learning independence and intrinsic motivation. Direct interaction with the natural environment encourages the emergence of authentic learning situations that require adaptation and decision-making. Students' creativity develops through open-ended activities that enable divergent thinking, originality of ideas, and the courage to experiment. A supportive and collaborative learning environment fosters a sustainable creative climate. Students' problem-solving skills are honed through exposure to real-life problems that require identification, solution formulation, and evaluation of actions. The reflective problem-solving process strengthens critical thinking and metacognitive abilities. Collaboration among students contributes to the enrichment of problem-solving strategies and the strengthening of social skills. Evaluation that emphasizes the learning process allows for a more holistic understanding of students' competency development. The integration of the Forest School model with formal learning objectives demonstrates its suitability to the developmental needs of junior high school students. These findings confirm that Forest School is an alternative, innovative learning model that is relevant for developing creativity and problem-solving skills sustainably.

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