

Project Learning in Improving Critical Thinking Skills and Learning Outcomes of Elementary School Students

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ABSTRACT

This research is motivated by the demands of 21st-century learning, which require students to develop skills such as communication, collaboration, critical thinking, problem-solving, creativity, and innovation. These skills are categorized as higher-order thinking skills (HOTS). Critical thinking and creativity, in particular, are crucial components of effective learning in schools. Therefore, evaluation tools must be designed to measure students' higher-order thinking abilities, encouraging them to utilize their HOTS. However, the current evaluation tools used at the elementary school level do not sufficiently measure critical and creative thinking skills. As a result, there is a need for innovation in developing evaluation tools to support HOTS-based Project Learning in elementary schools. This study is descriptive qualitative research. The findings indicate that the project learning evaluation tool developed is effective as an assessment instrument, capable of measuring higher-order thinking abilities, including critical and creative thinking skills, with significant improvements observed in these areas.

Keywords: Critical thinking skill, evaluation tool, hots, project learning

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INTRODUCTION

Elementary environmental schools are ideal for developing higher-order thinking skills (HOTS) because students at this age benefit from learning through direct experiences and interactions with their surroundings. However, the challenge lies in the lack of appropriate evaluation tools that accurately measure students' HOTS abilities in these settings. The current tools do not adequately

assess students' critical and creative thinking in project-based learning contexts. Therefore, there is a pressing need to develop an evaluation tool specifically designed for HOTS-based Project Learning in elementary schools.

The Project Learning model was created to focus on developing students' critical and creative thinking abilities (Radiansyah et al., 2022). So that this model can be implemented more effectively, learning tools consisting of lesson plans, teaching materials, media, and evaluation tools are needed. It is very important to develop evaluation tools to support the HOTS-based Project Learning model.

The reality in the field is not as expected because the existing evaluation tools are still not HOTS-based; the existing evaluation tools are not able to measure students' critical and creative thinking abilities (Jannah et al., 2022). Based on these problems, researchers are trying to develop an evaluation tool that is very necessary for implementing HOTS-based Project Learning in elementary schools with the aim of producing an assessment instrument that is able to measure high-level thinking abilities (HOTS), producing an assessment instrument that is able to measure critical and creative thinking abilities student (Omanda et al., 2023).

METHOD

The research method used is descriptive qualitative. The research took place at Pemurus Dalam 2 Elementary School, Banjarmasin, using classroom action research (PTK). Data collection was conducted through various sources, including direct observation of classroom events, interviews with key informants, and documentation of activities. Specific instruments used for data collection included structured interview guidelines, observation sheets, and documentation guidelines. These instruments were designed to capture detailed insights from homeroom teachers, school principals, school operators, librarians, and students. The validation of these tools was ensured through pilot testing and expert review, which confirmed the reliability of the instruments in capturing relevant data.

RESULT

Based on the results of the observation data analysis of students' critical thinking skills when carrying out teaching and learning activities using the Project Learning model, Figure 1 shows that students' critical thinking skills increased from meeting 1 to meeting 4.

Students' critical thinking skills when carrying out teaching and learning activities applying the Project Learning model to mathematics subjects have increased at each meeting. They can reach the criteria of being highly skilled. It is, of course, related to the role of educators in developing activities that aim to improve critical thinking skills. The role of educators in stimulating children's critical thinking abilities cannot be separated from learning planning (Haloho, 2023). Creating learning that can develop critical thinking

skills cannot be separated from the material to be studied, nor can creating and processing that material increase students' activity when using their minds to form concepts in the critical thinking process. This activity emphasizes that learning depends not only on how educators teach but also on how educators create.

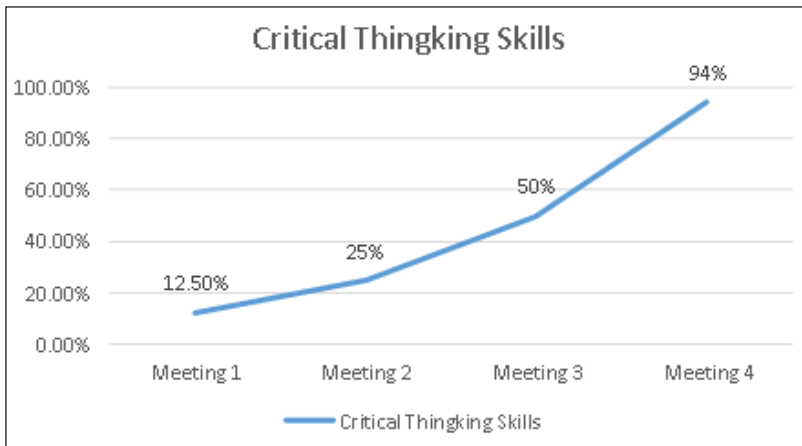


Figure 1. Trend graph of students' critical thinking skills

The first aspect of students' skills in providing simple explanations increases with each meeting. When students are able to explain something simply, it shows that they have understood the concept or information well. The ability to simplify something into easy-to-understand language indicates a deep understanding. Thus, students' ability to explain something simply has broad benefits, not only for their own understanding but also for collective learning, communication, problem-solving, and leadership development (Nurbayani et al., 2021).

The second aspect of students' skills, being able to understand problems from the basics, increases with each meeting. When students are able to understand the problem from the basics, they have a deep understanding of the core of the problem. By understanding the root causes or underlying factors of a problem, they can develop more effective and sustainable solutions. Thus, students' ability to understand problems from the basics significantly benefits decision-making, innovation, problem prevention, and effective solutions. (Nafrin & Hudaidah, 2021).

The third aspect of students' skills in being able to determine strategies and tactics for solving problems increases with each meeting. By being able to determine the right strategy and tactics, students can improve their overall problem-solving abilities. They can develop skills to identify problems, formulate solutions, and implement them more effectively. Thus, students' ability to determine strategies and tactics for solving problems has broad benefits, including increasing problem-solving abilities, efficiency, independence

in learning, developing creativity, and increasing self-confidence. (Munthe & Naibaho, 2019).

The fourth aspect of students' skills is the ability to carry out in-depth problem analysis, which increases with each meeting. By conducting an in-depth problem analysis, students can gain a more comprehensive understanding of the root causes and complexity of the problem. It helps them to recognize aspects that might be missed in a superficial analysis. Thus, students' ability to conduct in-depth problem analysis has broad benefits, including more comprehensive understanding, identification of more effective solutions, prevention of future problems, more accurate decision-making, development of analytical skills, and strengthening critical thinking. (Ritonga et al., 2020).

CONCLUSION

In conclusion, Project Learning has the potential to improve critical thinking skills and student motivation in mathematics learning. Future research should consider expanding this model to other subjects to explore its broader application further. Additionally, combining qualitative and quantitative data with a mixed-method approach could provide deeper insights into the model's effectiveness and impact across different learning contexts.

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