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The Role of Teachers in Encouraging Student Innovation through Project-Based Learning (PjBL) in Grade 3 of Islamic Elementary School

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ABSTRACT

Teachers play a pivotal role in fostering student innovation, particularly at the elementary level where foundational cognitive and creative skills are developed. This study investigates the role of teachers in encouraging student innovation through the implementation of Project-Based Learning (PjBL) in Grade 3 at an Islamic elementary school in Indonesia. Employing a qualitative descriptive design, the study involved four classroom teachers and ten students selected through purposive sampling. Data were collected through semi-structured interviews and classroom observations and analyzed using data reduction, display, and conclusion drawing techniques.

The findings indicate that teachers function not only as instructors but also as facilitators, motivators, mentors, and classroom managers in the PjBL process. Through structured guidance, continuous supervision, and constructive feedback, teachers created a conducive learning environment that supported creativity, collaboration, and problem-solving skills. Students demonstrated active engagement and produced innovative outputs, such as dice-based mathematics learning media and mini booklets in language lessons. Supporting factors included the availability of learning materials and positive classroom management, while challenges involved limited instructional time and varying levels of student participation. The study concludes that the effectiveness of PjBL in promoting student innovation largely depends on teachers' pedagogical competence, adaptive classroom strategies, and sustained guidance throughout the project process.

INTRODUCTION

Elementary education plays a fundamental role in shaping students' character, thinking abilities, and creativity from an early age. Elementary schools are not only responsible for transferring knowledge, but also for fostering 21st-century skills such as critical thinking, creativity, collaboration, and communication. Students need to be equipped with the ability to adapt to the rapidly changing times, especially in the digital era. Therefore, learning in elementary schools must be designed innovatively in order to optimally develop students' potential. Teachers become the main actors in creating meaningful and relevant learning experiences that meet students' needs. Without professional and adaptive teachers, the goals of national education are difficult to achieve optimally (Pratiwi, 2024).

Student innovation is characterized by the ability to generate new ideas, find creative solutions, and develop ways of thinking that differ from common practices. Innovative students usually demonstrate high curiosity, willingness to try new things, and courage to face failure in the learning process (Naila et al., 2024). They tend to think critically and reflectively, are able to connect their knowledge with real-life situations, and produce original and applicable ideas. In addition, innovative characteristics are reflected in their ability to solve problems independently and collaboratively, show high initiative, and adapt to change. Unfortunately, learning in some schools is still dominated by

lecture-based methods and assignments that provide limited opportunities for exploration. As a result, students' innovative potential has not been optimally developed.

Innovation in education is essential to improve the quality of learning processes and student learning outcomes. The development of innovation and innovative skills should be a major focus of instruction, especially at the elementary school level as part of 21st-century skills (Khawani & Rahmadana, 2023). Learning activities that involve innovative competencies such as adaptability, communication, problem-solving, self-management, and systematic thinking are highly recommended. Therefore, teachers need to design and implement innovative learning strategies that incorporate new methods, technology, and creativity in teaching.

In the field of education, teachers play a crucial role. Teachers serve as role models who must demonstrate authority and strong responsibility. Through discipline and trustworthiness in teaching, teachers become references for students in their daily lives (Maswandi et al., 2023). Students tend to imitate their teachers because teachers are considered parental figures at school. Consequently, teachers' words and actions must reflect good manners and ethical behavior, including politeness and respect (Elmiani et al., 2023). Teachers are not only facilitators of knowledge acquisition but also fulfill various roles in students' lives, such as innovators, advisors, mentors, and motivators.

The role of teachers is crucial in determining how actively students participate in learning activities. Creative teachers are able to design challenging and enjoyable learning experiences that encourage students to think and create. In contrast, teachers who lack innovation tend to produce monotonous and less meaningful learning processes. Therefore, improving teacher competence is an important factor in fostering student innovation (Wahyuni & Siallagan, 2023).

One learning model considered effective in promoting student innovation is Project-Based Learning (PjBL). This model places students as the main subjects in the learning process through project activities. Students are given opportunities to design, implement, and present project outcomes either individually or in groups. PjBL enables students to learn in a contextual, active, and collaborative manner. This process can develop creative thinking skills, problem-solving abilities, and a sense of responsibility. Therefore, PjBL is considered highly relevant for implementation in elementary schools (Selasmawati & Lidyasari, 2023)

PjBL directs students to face real-life situations or challenging practical problems, in which the teacher functions as a facilitator who encourages students to learn independently as well as through group collaboration. During the learning process, students are involved in planning, implementing, and completing projects that are manifested in the form of products or work outcomes. Through these activities, students' critical thinking, creativity, communication, collaboration, and problem-solving skills can be developed (Krisnawati, 2025).

The implementation of Project-Based Learning (PjBL) cannot be carried out optimally without the role of professional teachers. Teachers are responsible for designing projects, providing guidance, facilitating discussions, and evaluating students' learning outcomes. They must also be able to create a conducive classroom atmosphere so that students feel comfortable expressing their ideas. In addition, teachers need to motivate students so that they are not afraid to try new things. In this context, teachers are no longer the central source of information, but rather learning partners for students. This shift in roles presents a particular challenge for elementary school teachers (Saputri et al., 2024)

Teachers also play an important role in guiding students to explore and analyze problems creatively, which is expected to increase their learning motivation and achievement (Elisabet et al., 2019). Furthermore, teachers can assist students in overcoming learning difficulties as well as personal problems related to the educational process, enabling students to develop according to their individual potential.

Teacher competence in implementing innovative learning is a key factor in successfully developing students' innovative abilities and meeting the demands of contemporary education (Daga, 2021). Teachers are able to generate new ideas in learning, develop varied media and methods, and have the courage to implement innovations in order to improve the quality of the learning process.

In the learning process at elementary schools, particularly in Grade 3, the teacher's role is highly influential in creating an active, creative, and innovative learning atmosphere. One approach that can encourage the emergence of new ideas from students is Project-Based Learning (PjBL)

(Wiratama & Irfan, 2024). Project-Based Learning allows teachers to design learning experiences that integrate real-life problems, thereby stimulating students' curiosity and critical thinking skills. Through this approach, students are encouraged to actively participate in the learning process and express their ideas more confidently, which supports the development of creativity and innovation from an early age.

Students tend to understand concepts more easily through direct experience than through abstract explanations. Therefore, project-based learning is highly appropriate to be implemented at this level. Through projects, students are able to observe, experiment, and produce tangible works. These activities help students develop a deeper understanding of the learning material. In addition, students also learn to collaborate and take responsibility for the tasks assigned. This indicates that PjBL has great potential to improve the quality of learning in lower elementary grades (Listiana et al., 2025)

However, in practice, various obstacles are still found in the implementation of PjBL in elementary schools. Some teachers experience difficulties in managing time, designing projects, and conducting assessments. In addition, not all students demonstrate the same level of participation in project activities. This condition requires teachers to employ specific strategies to ensure that all students are actively involved. Teachers also need to adjust projects to students' characteristics and abilities. Therefore, the role of the teacher becomes a key factor in the successful implementation of PjBL in the classroom (Rahmayani et al., 2025).

Al-Chusnaini Islamic Elementary School, as an educational institution based on Islamic values, has a responsibility not only for students' academic development but also for their character building. Innovative learning needs to be developed so that students are able to think creatively without neglecting moral and spiritual values. PjBL can serve as a means to integrate Islamic values into project activities. Through projects, students can learn responsibility, cooperation, honesty, and care for others. Therefore, the implementation of PjBL in Islamic elementary schools has strategic value in shaping students' character.

Based on the above discussion, it can be concluded that the role of teachers and the implementation of PjBL are closely related to students' innovation. Therefore, this study focuses on the role of teachers in encouraging students' innovation through Project-Based Learning (PjBL) in Grade 3 at Al-Chusnaini Islamic Elementary School. This study is expected to provide a clear picture of innovative learning practices in elementary schools. In addition, the results of this study are expected to serve as a basis for evaluation and future learning development. Thus, learning in elementary schools can become increasingly high-quality, meaningful, and relevant to the demands of the times.

METHOD

This study employed a qualitative approach with a descriptive research design. The qualitative approach was chosen because this study aimed to obtain an in-depth understanding of the role of teachers in encouraging students' innovation through Project-Based Learning (PjBL). The research was conducted at Al Chusnaini Islamic Elementary School, focusing on the implementation of PjBL in Grade 3. The population of this study consisted of all classroom teachers and Grade 3 students at Al Chusnaini Islamic Elementary School. The research subjects were selected using purposive sampling, involving four classroom teachers and ten Grade 3 students who were considered capable of providing relevant information in accordance with the research objectives.

The data collection techniques in this study included interviews and observations. Semi-structured interviews were conducted with four classroom teachers to obtain data regarding teachers' roles, PjBL learning strategies, and teachers' efforts in encouraging students' innovation. In addition, interviews were also conducted with ten Grade 3 students to explore their learning experiences during project-based learning activities. The interview technique was chosen because it allows in-depth and flexible data collection and enables researchers to obtain direct information from research participants based on real conditions in the field.

Observations were carried out directly during the PjBL learning process in Grade 3 at Al Chusnaini Islamic Elementary School. The observations aimed to examine the activities of teachers and students during the learning process, including interactions, student engagement, and forms of innovation that emerged in project activities. The type of observation used was passive participant observation, in which the researcher was present in the classroom without directly participating in the learning process. Data obtained from observations and interviews were then analyzed using

qualitative data analysis techniques, including data reduction, data display, and conclusion drawing, in order to produce a systematic and accurate description in line with the research objectives (Zuchri Abdussamad, 2021)

RESULT AND DISCUSSION

Based on observations of the Project-Based Learning (PjBL) implementation in Grade 3 at Al-Chusnaini Islamic Elementary School, the findings indicate that students demonstrated active engagement throughout the learning process. The students appeared enthusiastic in participating in each stage of the project, starting from planning, implementation, to product completion. They were involved in group discussions, shared responsibilities, and showed a strong sense of accountability toward their group work.

The results of interviews with four classroom teachers revealed that PjBL was perceived as an effective learning model for enhancing students' creativity and activeness. Teachers reported that students became more confident in expressing their opinions, more self-assured, and were able to understand the learning material more easily because they were directly involved in project activities. Teachers also stated that the learning process was more dynamic compared to the conventional lecture method.

The products created by the students, such as simple learning media including learning dice and storytelling aids, reflected elements of creativity and innovation. Each group produced different shapes, colors, and designs according to their own ideas. This indicates that students did not merely imitate the teacher's examples, but were able to develop their own ideas independently.

During the project implementation, some students still required intensive guidance from the teacher, particularly in organizing group work and compiling the final project outcomes. However, in general, students were able to complete the tasks effectively through group collaboration. The challenges encountered included limited instructional time and differences of opinion among group members.

Supporting factors for the implementation of PjBL included the teacher's open attitude, a conducive classroom environment, and the availability of learning tools and materials. Meanwhile, the main inhibiting factors were limited learning time and uneven group collaboration skills among students.

The results of the study indicate that Project-Based Learning (PjBL) is able to enhance the engagement and creativity of third-grade elementary school students. This finding is consistent with (Selasmawati & Lidyasari, 2023), who states that PjBL provides students with opportunities to learn through real experiences, thereby encouraging the development of creativity and higher-order thinking skills.

Through PjBL, students do not merely receive learning materials passively, but are actively involved in the learning process through challenging and enjoyable project activities. This condition encourages students to demonstrate their best abilities and motivates them to improve, both individually and in group work.

In mathematics learning at Grade 3 of Al Chusnaini Islamic Elementary School, teachers use attractive learning media to help students understand and answer the given problems. One of the media used is group-based dice construction. This activity is designed to allow students to learn mathematical concepts while directly engaging in practical activities. Students cannot complete all the problems if the dice they create are not properly formed; therefore, they are required to work carefully, collaborate with their peers, and take responsibility for the assigned tasks. This activity indirectly trains students' perseverance and patience in completing tasks.

During the learning process, the teacher provides clear guidance and procedures, starting from explaining the steps of making the dice to demonstrating how to use them to answer the questions. After the teacher gives examples and demonstrations, students are expected to imitate the demonstrated practices. At this stage, the teacher's role is crucial as a facilitator and guide. The teacher moves around the classroom to assist students in cutting and assembling the dice, while also ensuring that each group member participates actively. In addition, the teacher monitors and

evaluates group collaboration so that the learning process remains conducive and the learning objectives can be achieved.

The dice created by the students function both as learning media and as a means to encourage the contribution of each group member. Every student has a role in completing the project, which motivates them to support one another and work collaboratively. Accordingly, the learning concept is designed to enable students to achieve shared goals through their respective roles and approaches. Learning does not focus solely on the final outcome, but also on the process, collaboration, and learning experiences that are enjoyable and meaningful for students.

Figure 1. Mathematics learning for grade 3 of AL-Chusnaini Islamic Elementary School with the innovation of arranging dice

Through the previously conducted mathematics learning activities, the teacher was able to identify the limits and levels of Grade III students' skills, particularly in terms of accuracy, understanding of instructions, and the ability to complete tasks systematically. These observations served as the basis for the teacher to design more meaningful learning activities integrated with other subjects. As a form of reinforcement and more concrete evidence of students' skills, the teacher subsequently implemented the Project-Based Learning (PjBL) model in Indonesian language lessons.

In the implementation of this learning activity, the teacher invited students to analyze the characters in a story by using animated fable videos as learning media. The animated videos presented fable stories with animal characters that were visualized vividly and attractively, such as lion characters depicted with mouth and body movements resembling real animal behavior. The use of animated videos aimed to increase students' attention, interest, and understanding of the storyline and characters, as explained by (Taufik et al., 2023) who stated that animated videos are able to present dynamic visuals that facilitate students' comprehension of story content.

In addition to watching the animated videos, students were also guided to read together a short story text displayed through PowerPoint slides prepared by the teacher. This shared reading activity was conducted to train students' literacy skills, improve reading comprehension, and strengthen the connection between visual media and written texts. After the reading activity, the teacher provided reinforcement of the material on fable texts, including definitions, characteristics, structures, and examples of fable texts that are closely related to students' daily lives. This reinforcement aimed to ensure that students had a comprehensive understanding before carrying out the project activity.

After students understood the material, the teacher divided them into several small groups. Each group was given blank paper as well as sheets containing pictures and randomly arranged pieces of a fable story. Through this activity, students were encouraged to collaborate in reconstructing the storyline and packaging it in the form of a mini booklet. This booklet-making project was designed to develop students' thinking skills, creativity, and ability to work cooperatively in groups.

Through the project activities, teachers were able to assess various aspects of students' skills, including cognitive, psychomotor, and social competencies. Students' skills were reflected in the way they designed and created the booklet cover in accordance with the title and content of their group story, their accuracy in cutting materials, their ability to arrange images and story fragments in a logical sequence, as well as their skills in binding or organizing the pages to form a neat and

functional mini storybook. In addition, the process of discussion and cooperation among group members also served as important indicators for assessing students' communication, responsibility, and collaboration skills.

Therefore, the implementation of the Project-Based Learning (PjBL) model through the creation of mini booklets in Indonesian language learning not only helped teachers obtain a more concrete picture of the skills of third-grade students, but also provided students with an active, enjoyable, and meaningful learning experience.

At the initial stage of learning, the teacher first delivered a detailed and structured explanation of the technical procedures for completing the project. The teacher explained the steps for making the booklet, starting from how to punch holes in the paper, arranging the holes so that they were aligned, to the technique of binding the pages neatly so that the final product appeared strong and attractive. This explanation aimed to ensure that students understood the correct working procedures before starting the activity. After the explanation was given, students followed the teacher's instructions and began to practice the steps directly.

Initially, the teacher only directed students to use plain paper as the cover or title page of the booklet. However, as the process progressed, students' creativity began to develop. They added various decorations to the title cover, such as drawings, patterns, and attractive color combinations. This indicated that students were able to develop ideas beyond the initial instructions provided by the teacher, resulting in more varied products that reflected the creativity of each group.

In the process of creating the booklet content, students were assigned to cut out the provided pictures and arrange them sequentially to form a coherent and easily understandable story. This activity required critical and logical thinking skills, as students had to determine the storyline, select appropriate images, and organize the sequence of events so that the story could be conveyed effectively. Through this activity, students not only practiced fine motor skills but also developed higher-order thinking abilities.

During the group management stage, students were trained to organize cooperation so that the tasks could be completed on time. Each group member was assigned different roles and responsibilities, such as cutting pictures, arranging images, writing text, or decorating the cover. This division of tasks encouraged students to work collaboratively and to take responsibility for the roles that had been mutually agreed upon. Throughout the process, students were actively engaged in discussions, exchanged ideas, and were able to solve emerging problems through group collaboration.

In practice, many students required individual guidance or special assistance, either in understanding the material, performing technical tasks, or cooperating within the group. Through this direct interaction, the teacher was able to adjust the type of support according to each student's needs. This approach helped students who experienced difficulties to keep up with the learning process, while simultaneously encouraging those who had already understood the tasks to further develop their work more optimally.

Figure 2. Indonesian Language Learning for Class 3 of Al-Chusnaini Islamic Elementary School Making Mini Booklets

During the project implementation process, the teacher monitored the activities by moving around the classroom to provide opportunities for each student or group to ask questions. Many students required more individualized guidance. Through this supervision, the teacher was able to identify and understand each student's skills. Providing appreciation during the learning process can motivate students to continue developing their potential (Rahayu et al., 2023).

Through continuous supervision, the teacher can also recognize and understand students' skills, character, and learning styles. The teacher is able to observe levels of creativity, independence, communication ability, and collaboration within groups. This information is essential for implementing more appropriate instructional approaches, whether in providing further guidance, reinforcing learning materials, or conducting authentic assessments of students' skills.

This activity aims to ensure that all students have equal opportunities to ask questions, express difficulties, and receive the guidance they need. Direct supervision allows the teacher to be genuinely present in the learning process, so students feel supported and accompanied rather than merely assigned tasks without guidance.

In addition to providing guidance, the teacher also gives appreciation to students during the learning process. Appreciation may take the form of praise, verbal reinforcement, or recognition of students' efforts and progress. Such appreciation plays an important role in increasing students' learning motivation, self-confidence, and enthusiasm to continue improving. Through appreciation, students feel that their learning process is valued, which encourages them to become more active, creative, and responsible in completing the assigned tasks.

Teachers gain positive impressions from students when they are able to manage the classroom effectively without using verbal aggression or demeaning actions. Effective classroom management can be carried out in creative and enjoyable ways, such as redirecting students' attention through simple movements, chants, or engaging slogans. These strategies can increase students' enthusiasm, help them regain focus, and create a calm and conducive learning atmosphere. This is in line with(Hamda et al., 2021), who emphasize that positive and humanistic classroom management plays an important role in supporting successful learning processes.

The innovations produced by students, in the form of simple learning media such as dice and booklets (mini books), are the result of a learning process optimally supported by the teacher's role. The teacher not only provides instructions but also continuously guides students throughout the project implementation process. This support is manifested in the teacher's willingness to receive and answer students' questions, provide assistance when they encounter difficulties, and instill positive attitudes so that students remain motivated, enthusiastic, and enjoy completing the assigned project tasks. This intensive guidance makes students feel valued and confident in expressing their creative ideas.

During the project implementation process, students face various challenges, both technical and social in nature. Common challenges include group members who have difficulty cooperating effectively and students' dissatisfaction with the results of their work. These conditions have the potential to reduce learning motivation if not handled appropriately. Therefore, the teacher plays a crucial role in providing encouragement and direction so that students continue working on the project. The teacher guides students to face problems calmly, prioritize discussion and consensus, and support one another within the group so that problems can be resolved collaboratively.

In addition, students show enthusiasm and a strong desire to produce the best booklet. They strive to present their group work creatively, both in terms of story content and visual appearance. This indicates that project-based learning is able to increase students' learning motivation and self-confidence in producing a tangible product (Arianti et al., 2024)

In every learning process, there are supporting and inhibiting factors that influence the success of teaching and learning activities. In the implementation of the Project-Based Learning (PjBL) model, teachers can assess students' skills through the project-making process, understand each student's level of creativity, and identify their strengths and potential in group work. Projects can be completed successfully when students are not hesitant to ask questions, are able to work in a conducive atmosphere, and have a sense of responsibility toward their group tasks.

The teacher also provides students with freedom to express their creativity, particularly in designing the cover and arranging the booklet to make it more attractive and aligned with their ideas.

This freedom encourages the emergence of creativity and a sense of ownership toward the products they create. Supporting factors in the implementation of this project include the availability of tools and materials, such as scissors and adhesive supplies, which are stored in each student's locker so that they can be used directly without having to be brought from home. The availability of these facilities helps ensure a smooth project process and saves instructional time.

Teachers play an essential role in the learning process. In a classroom consisting of 26 students, teachers must be able to manage the class effectively so that it remains conducive, enjoyable, engaging, and capable of providing meaningful learning experiences (Sari & Angreni, 2018). A teacher should be able to create a pleasant classroom atmosphere that supports student learning. Teaching third-grade students serves as a valuable reference for developing patience and assertiveness. At this age, students tend to have a high level of curiosity and require greater guidance in shaping their future development. Through positive behavior, such as discipline, honesty, responsibility, friendliness, and politeness, teachers can contribute to the formation of students' good character (Rahmadila et al., 2022)

In addition to academic skills, teachers also instill social skills in students, such as communication abilities, tolerance, and responsibility in group work (Izza et al., 2023). During group formation and the project implementation process, students demonstrated various challenges, one of which was the tendency to choose only certain friends as group members. In such situations, the teacher's role as a facilitator is crucial in mediating, guiding students to accept differences, and maintaining a conducive group-working atmosphere.

Nevertheless, there are also inhibiting factors in the implementation of project-based learning, particularly the limited instructional time. The restricted class hours prevent students from having optimal opportunities

CONCLUSION

Based on the results and discussion, it can be concluded that the implementation of Project-Based Learning (PjBL) in Grade 3 at Al-Chusnaini Islamic Elementary School made a positive contribution to the development of students' innovation, creativity, and active engagement. The students demonstrated high enthusiasm, cooperative skills, and confidence in expressing their ideas through project activities such as creating learning dice media and mini booklets. The learning process was not only oriented toward final outcomes but also emphasized meaningful, collaborative, and contextual learning experiences.

The role of the teacher proved to be a key factor in the successful implementation of PjBL. The teacher did not merely act as a transmitter of knowledge but also as a facilitator, motivator, mentor, and classroom manager. Through intensive guidance, clear instructions, and appreciation of both the learning process and students' work, the teacher was able to create a conducive learning environment and encourage the emergence of student innovation. The teacher also played an important role in managing group dynamics, resolving conflicts, and ensuring that all students were actively involved in project activities.

Nevertheless, the implementation of PjBL still faced several challenges, particularly limited instructional time and differences in students' abilities and characteristics in group work. These challenges required teachers to adopt adaptive and flexible classroom management strategies. Therefore, it can be concluded that the success of PjBL largely depends on teachers' readiness in designing learning activities, managing the learning process, and adjusting instructional approaches to students' needs. Overall, PjBL is an effective learning model for elementary schools when supported by professional, creative, and responsive teachers.

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