

Teachers as Drivers of Innovation: Optimizing Project-Based Learning for Students

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Abstract

This study aims to analyze the role of teachers in encouraging student innovation through the application of project-based learning methods at the junior high school level. Using a descriptive qualitative approach, this study examines how teachers function as facilitators, mentors, motivators, and evaluators during the learning process. The results show that the role of teachers has a significant impact in developing students' creativity, critical thinking skills and innovation. Through the project-based learning method, teachers not only direct students in completing tasks, but also create a learning environment that supports the exploration of ideas, collaboration, and the application of knowledge in a real context. Thus, this research highlights the importance of teachers' active role in creating an innovative learning atmosphere and empowering students to think creatively and critically.

Keywords

Student innovation; project-based learning; teacher's role; learning method

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1. INTRODUCTION

In the era of globalization marked by the rapid development of technology, a teacher is required to not only have extensive knowledge, but also have the ability to think creatively and innovatively. The challenges faced by teachers today are increasingly complex, making it important for them to have skills that are able to adapt and compete in an ever-changing world. Project-Based Learning (PjBL) emerged as an approach that is considered effective for developing these abilities.

PjBL provides opportunities for students to actively build knowledge through real experiences, encouraging students to think critically and find innovative solutions to problems. In this context, teachers play an important role as drivers of



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innovation. They do not only function as conveyors of information, but also as facilitators who create learning environments that support the exploration of ideas and collaboration.

This study aims to deeply analyze the role of teachers in encouraging student innovation through the application of the PjBL method at the junior high school level. By using a qualitative descriptive approach, this research will examine how teachers act as facilitators, mentors, motivators, and evaluators in the learning process. It is expected that the results of this study can provide valuable insights into the significant impact of the teacher's role in developing students' creativity, critical thinking skills, and innovation.

Through comprehensive data analysis, this research will highlight the importance of teachers' active role in creating an innovative learning atmosphere, which not only directs students in completing tasks, but also empowers them to think creatively and critically. Thus, it is hoped that this research can make an empirical contribution in developing more effective learning models to prepare the younger generation to face future challenges.

2. METHOD

The method used in this research is an in-depth literature study, which aims to explore the role of teachers in encouraging student innovation through project-based learning (PjBL) methods. This literature study includes a series of systematic activities, including collecting literature data, reading, recording and managing data objectively, analytically and critically. This research focuses on learning models that integrate PjBL and the active role of teachers in creating a learning environment that supports innovation.

The data sources used in this research include relevant books, journals, articles and internet sites, which were collected using a structured method. The data obtained are secondary data related to the role of teachers in designing and implementing learning projects that encourage student engagement and the development of critical thinking skills.

The data analysis technique used is content analysis, which begins by assessing the most relevant and recent research results. The researcher will read the abstract of each study to discuss the topic with the research focus, then note the important parts related to teacher intervention in the project-based learning process. With this approach, the research is expected to provide comprehensive insights into how teachers can play an active role in encouraging student innovation, as well as the effectiveness of PjBL in improving students' critical thinking skills and creativity in the classroom.

3. FINDINGS AND DISCUSSION

The research was conducted from September to November, with comprehensive data collection from academic sources, including journals and websites that focus on

project-based learning (PjBL). Through an in-depth qualitative approach, the research uncovered several important findings regarding the role of teachers and its impact on students' innovation and creativity.

1. Teacher's Role as Facilitator

Teachers function as active facilitators in project-based learning. This task involves more than just delivering materials; teachers need to create a supportive learning environment among others:

- a. Resource Management: The teacher should provide a variety of relevant resources to support students' projects. This includes the necessary teaching materials, tools, and technology. With the right access, students can explore further and apply their knowledge in a real context.
- b. Classroom Harmony: It is important for teachers to create a safe and inclusive classroom atmosphere. A supportive atmosphere encourages students to speak up and share their creative ideas. Research shows that students who feel safe and valued tend to be more actively engaged in learning.

2. Teacher Role as a Mentor

In the context of PjBL, the teacher acts as a mentor who provides academic and emotional support to students, such support includes:

- a. Emotional Support: Teachers need to be aware of the challenges their students face and provide guidance to overcome these difficulties. As a mentor, the teacher helps students build self-confidence which is very important in the learning process.
- b. Social Skill Development: In addition to academic support, teachers also help students develop social skills, such as communication, cooperation, and problem solving. In groups, students learn to respect different opinions, enriching their learning experience.
- c. Facilitating Collaboration: Teachers play a role in facilitating collaboration between students. By creating an environment where students can learn from each other, teachers help them understand the importance of collaboration and mutual respect.

3. Teacher's Role as evaluator

Evaluation is an integral part of the learning process. Teachers must be able to assess the process and results properly such as:

- a. Continuous Assessment: Teachers conduct continuous assessment of students' learning progress, both in terms of the process and the end result of the project. This assessment helps teachers understand the extent to which students have achieved the learning objectives.
- b. Constructive Feedback: Providing constructive feedback is key to helping students improve their performance. Clear and specific feedback allows students to understand which areas they need to improve on.

- c. Reflection for Improvement: Teachers also need to provide overall learning effectiveness. This reflection can be used to plan future improvements, ensuring project-based learning continues to evolve and meet students' needs.

4. Teacher's Role as Evaluator

Motivation is the key to successful project-based learning. The teacher must function as a trigger for students' enthusiasm. Things that teachers can do to trigger students' enthusiasm are:

- a. Creating a fun atmosphere: Teachers need to create a fun and challenging learning atmosphere. When students feel challenged and entertained, they will be more motivated to learn and develop themselves.
- b. Achievement: Rewarding and recognizing students' achievements, both individually and in groups, is very important. Positive feedback not only boosts students' confidence but also encourages them to keep trying.
- c. Building Self-Confidence: Through constructive feedback and opportunities to their abilities, teachers help students build self-confidence. Students are more likely to take risks and innovate in their projects.

Implementation of Project-Based Learning Strategy

To achieve successful implementation of project-based learning (PjBL), careful planning and systematic implementation are required. An effective strategy can help teachers and students undergo a more structured and meaningful learning process.

a. Comprehensive Planning

First of all, setting clear and specific learning objectives is essential for every project implemented. Good goals serve as a guide for both teachers and students, ensuring that all parties have a common understanding of the expected outcomes. With well-defined goals, students can focus on what they want to achieve during the learning process.

In addition, choosing projects that are relevant to students' interests and real life will increase their engagement. Projects related to actual problems or challenges faced by society tend to be more interesting for students, as they can see their relevance and application in the real world. This not only motivates students to be more engaged, but also gives them the opportunity to develop skills that can be applied outside the classroom.

Time organization is also an important aspect of planning for PjBL. Outlining a realistic schedule and allocating sufficient time for each stage of the project will help students stay focused and complete their tasks well. Effective time management allows students to plan their activities, conduct research, and collaborate with team members without feeling rushed.

b. Effective division of tasks

After careful planning, the next step is the effective division of tasks within the group. Heterogeneous team formation is highly recommended, as diversity in the team can enrich discussions and broaden students' horizons. By giving each

student the opportunity to contribute, they will feel more involved in the project and learn to appreciate each other's contributions.

Setting clear roles for each team member is also very important. By assigning specific responsibilities, each student will have a greater sense of belonging to the group. This helps to create an environment where students feel valued, and they are motivated to give their best in their projects.

Finally, the focus on collaboration between students needs to be emphasized. Creating an atmosphere that supports cooperation and mutual help will enhance the overall learning experience. By encouraging students to work together, they not only learn from the teacher but also from their peers. This collaboration teaches students the importance of communication, empathy and other social skills that are invaluable in the real world.

By applying these strategies, it is expected that project-based learning can be optimized, and students not only gain knowledge but also critical and innovative thinking skills that are much needed in the current era of globalization.

Benefits of Project-Based Learning Strategy for Teachers

The implementation of project-based learning (PjBL) not only provides benefits for students, but also brings various benefits for teachers. Here are some of the main benefits of PjBL strategy for teachers' professional development:

a. Improved Teaching Skills

Through PjBL, teachers are required to develop better teaching skills. They need to plan, facilitate and launch projects effectively, which can improve their pedagogical abilities. Teachers learn to adapt their teaching methods according to students' needs and the learning context, thus adding variety to the teaching strategies they use.

b. Development of Managerial Skills

PjBL requires good time and resource management. Teachers learn to plan and organize projects efficiently, which helps them improve their managerial skills. These skills are not only useful in the educational context, but also in many other aspects of professional life.

c. Collaboration and Networking

PjBL often involves collaboration between teachers and other parties, such as parents, communities, or even professionals in certain fields. This opens up opportunities for teachers to build wider networks and share experiences and Resources. This collaboration can enrich the learning process and provide useful new perspectives.

d. Enhanced Creativity

In designing projects, teachers are required to think creatively and innovatively. They have to find new ways to expose the material to real life, which can enhance their creativity. This process can inspire teachers to create more interesting and effective teaching methods in the future.

e. Constructive Feedback

Through PjBL, teachers get valuable feedback from students on their teaching methods. By knowing what works and what doesn't, teachers can reflect and continue to make improvements. This feedback strengthens the learning process for teachers and helps them become better educators.

f. Increases Job Satisfaction

When teachers see their students engaged and successful in the projects they facilitate, it can increase their job satisfaction. Seeing the positive impact of their methods gives teachers motivation and pride, which can contribute to their professional well-being. Thus, project-based learning strategies not only provide direct benefits for students, but also enrich teachers' experiences and professional development. The implementation of PjBL can be an effective tool to create a dynamic and innovative learning environment, which ultimately benefits the entire educational ecosystem.

Reasons Teachers Use Project-Based Learning Strategies in the Classroom

The use of project-based learning (PjBL) strategy in the classroom has various underlying reasons. Here are some of the main reasons why teachers choose to implement PjBL in the learning process:

a. Increasing Student Engagement

One of the main reasons teachers use PjBL is to increase student engagement. Relevant and interesting projects can make students more excited and eager to learn. By giving them the opportunity to actively participate in the learning process, teachers can increase students' interest in the open material.

b. Encourages Active Learning

PjBL encourages students to learn actively, not only through lectures or direct teaching. By engaging in real projects, students are expected to explore, collaborate and innovate. This approach helps them develop critical thinking and problem-solving skills that are indispensable in the real world.

c. Builds Social Skills

Projects often involve working in groups, which helps students develop important social skills. Teachers use PjBL to teach students about communication, collaboration, and other interpersonal skills. These skills are invaluable in both academic and professional settings.

d. Relevance to Real Life

PjBL allows teachers to teach real-life learning, making open-ended material more relevant to students. By presenting actual problems or challenges facing society, teachers can help students understand how their knowledge can be applied in a real-world context.

e. 21st Century Skills Development

In the era of globalization and digitalization, 21st century skills such as creativity, collaboration, and critical thinking are increasingly important. PjBL

helps students develop these skills through practical and interactive learning experiences. Teachers use this strategy to prepare students for future challenges.

f. Flexibility in Assessment

PjBL allows for flexibility in assessment methods. Teachers can highlight students based on the process and results of their work, thus providing more thorough feedback. This diverse assessment allows teachers to understand student progress more holistically.

g. Enhanced Creativity and Innovation

By providing space for students to develop new ideas and solutions, PjBL encourages creativity and innovation. Teachers use this strategy to help students think beyond traditional boundaries, stimulate their imagination, and enhance their ability to generate original ideas. Therefore, it is no surprise that more and more teachers are choosing to implement project-based learning in the classroom. These strategies not only enrich students' learning experiences, but also help them become better prepared and adaptive individuals in an ever-changing world.

4. CONCLUSION

This article emphasizes the importance of the teacher's role in encouraging student innovation through the Project Based Learning (PjBL) method in junior high school. Amidst the challenges of globalization and technological advancement, teachers must have extensive knowledge and creative thinking skills. The PjBL method allows students to actively build knowledge through real experiences, encouraging them to think critically and seek innovative solutions. In this case the teacher acts as a facilitator who creates a supportive learning environment, a mentor who provides academic and emotional support, an evaluator who conducts continuous assessment, and a motivator who creates a fun learning atmosphere. PjBL also provides benefits for teachers, such as improved teaching and managerial skills, as well as cooperation with other parties. By learning in a real-world context, PjBL makes the material more relevant and interesting, and helps students develop 21st century skills needed in the future. Overall, this study shows that the active role of teachers in PjBL is essential to create an innovative learning atmosphere that empowers students and prepares the younger generation for future challenges.

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