

## Project-Based Learning In Early Childhood Education: Building Relevant 21st Century Skills

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### Abstract

*This study aims to describe the implementation of project-based learning (PBP) at the Early Childhood Education (PAUD) level and analyze the extent to which PBP can develop relevant 21st century skills in early childhood. This study uses a qualitative approach with a case study method. The subject of the study is one PAUD institution in Bantul that has implemented PBP. Data collection was carried out through participatory observation, in-depth interviews with teachers and children, and documentation. The results of the study show that PBP has been implemented well in the PAUD institution. Children are actively involved in the learning process, from project planning to presentation of results. Through PBP, children develop a variety of 21st century skills, such as critical thinking, creativity, collaboration, and communication. They also showed improvements in problem-solving abilities, social skills, and self-confidence. However, the study also found several challenges in the implementation of PBP, such as limited resources, lack of training for teachers, and differences in perception between teachers and parents about the goals of PBP. This study concludes that PBP is an effective learning approach to develop 21st century skills in early childhood. However, stronger support is needed from various parties, including the government, schools, and parents, to ensure the successful implementation of PBP.*

**Keywords:** *project-based learning, early childhood education, 21st century skills, critical thinking, creativity, collaboration, communication*

### Abstrak

Penelitian ini bertujuan untuk mendeskripsikan implementasi pembelajaran berbasis proyek (PBP) di tingkat Pendidikan Anak Usia Dini (PAUD) serta menganalisis sejauh mana PBP dapat mengembangkan keterampilan abad 21 yang relevan pada anak usia dini. Penelitian ini menggunakan pendekatan kualitatif dengan metode studi kasus. Subjek penelitian adalah satu lembaga PAUD di Bantul yang telah menerapkan PBP. Pengumpulan data dilakukan melalui observasi partisipatif, wawancara mendalam dengan guru dan anak, serta dokumentasi. Hasil penelitian menunjukkan bahwa PBP telah diterapkan dengan baik di lembaga PAUD tersebut. Anak-anak terlibat aktif dalam proses pembelajaran, mulai dari perencanaan proyek hingga presentasi hasil. Melalui PBP, anak-anak mengembangkan berbagai keterampilan abad 21, seperti berpikir kritis, kreativitas, kolaborasi, dan komunikasi. Mereka juga menunjukkan peningkatan dalam kemampuan pemecahan masalah, keterampilan social, dan rasa percaya diri. Namun, penelitian ini juga menemukan beberapa tantangan dalam implementasi PBP, seperti keterbatasan sumber daya, kurangnya pelatihan bagi guru, dan perbedaan persepsi antara guru dan orang tua tentang tujuan PBP. Penelitian ini menyimpulkan bahwa PBP merupakan pendekatan pembelajaran yang efektif untuk mengembangkan keterampilan abad 21 pada anak usia dini. Namun, diperlukan dukungan yang lebih kuat dari berbagai pihak, termasuk pemerintah, sekolah, orang tua, untuk memastikan keberhasilan implementasi PBP.

**Kata kunci:** pembelajaran berbasis proyek, PAUD, keterampilan abad 21, berpikir kritis, kreativitas, kolaborasi, komunikasi.

### Introduction

Because of the speed at which times are changing, people need to possess talents that are appropriate for the demands of the twenty-first century. "In order to meet future difficulties,

abilities like communication, teamwork, creativity, and critical thinking are essential (Kusumajati & Kurniawan, 2019). As the cornerstone of education, early childhood education (PAUD) is essential to provide kids these abilities.

One of the teaching strategies that is seen to be successful in helping young children acquire 21st century abilities is project-based learning (PBP). Children can actively learn, work together, and solve real-world problems using PBP (Alisma & Adri, 2021). Children are encouraged to participate in the entire learning process through PBP, from project planning and execution to evaluation (Satrianingrum et al., 2021).

Prior studies have demonstrated that PBP can enhance a child's cognitive, social, and emotional development, among other areas (Jarcho et al., 2019). Youngsters who participate in educational initiatives are typically more engaged, driven, and self-assured (Sanderse, 2018). Furthermore, PBP can assist kids in cultivating critical and creative thinking abilities, which are crucial building blocks for learning throughout their lives (Rejeb et al., 2021).

PBP implementation in early childhood education is still difficult, nevertheless, particularly when it comes to resource availability, teacher preparedness, and environmental support (Darlan et al., 2021). Other barriers to the successful implementation of PBP include the absence of proper training for educators and the disparity in how parents and teachers view the program's goals (Dardjito Endo, Sistiarani Colti, 2014). Many stakeholders, including parents, educators, and governments, have expressed concern about the significance of fostering 21st century abilities in young children. According to the PBP tenets, active and child-centered learning have also been incorporated into Indonesia's PAUD curriculum (Satriawan et al., 2021).

The purpose of this study is to outline how PBP is implemented at the early childhood level and assess how well it can help young children acquire pertinent 21st century abilities. It is envisaged that gaining a deeper understanding of the PBP implementation process and outcomes will help early childhood educators create more successful teaching strategies.

## **Method**

This study employs a case study methodology and a qualitative research design. The qualitative method was used because it enables a thorough examination of how project-based learning (PBP) is implemented in PAUD and the significance that teachers and students attach to the educational process. In order to give a more thorough and in-depth view of the application of PBP in a particular setting, the case study was selected since it uses a single early childhood education institution as the unit of analysis.

PAUD Terpadu Mutiara in Bantul, which has adopted project-based learning, is the study's research subject. This PAUD university was chosen based on a number of factors, including:

1. Length of PBP implementation: To provide better data, early childhood education institutions have been using PBP for a long time.
2. Age diversity: To observe variations in children's comprehension and engagement in PBP, early childhood education institutions have a wide range of ages of children.
3. Resource availability: Early childhood education establishments possess adequate resources to facilitate the application of PBP.

In this study, the data collection techniques used are:

Participatory observation: To watch the process of implementing PBP, teacher-student interactions, and group dynamics firsthand, researchers will actively participate in learning activities in the classroom. In-depth interviews: To learn more about instructors' and a few purposefully chosen children's perceptions of PBP, their experiences taking part in project activities, and the challenges they encounter, researchers will interview them in-depth. Documentation: The researcher will gather a variety of research-related papers, including lesson plans, syllabuses, student work, and photographs of educational activities.

Qualitative data analysis techniques will be used to examine the information gleaned from the data collecting outcomes. The following phases of data analysis will be conducted: Data reduction: Only information pertinent to the study's goals will be extracted from the collected data. Data presentation: For ease of comprehension, condensed data will be displayed as narratives, tables, or diagrams. Conclusions: The researcher will make inferences on the application of PBP in early childhood education and its effect on children's development of 21st century abilities based on the data that has been examined.

The researcher will be mindful of the following ethical considerations when conducting this research: Informed consent: Before beginning any research, the researcher will obtain approval from the PAUD institution, educators, and kid parents. Confidentiality: To protect the privacy of the research participants, their identities will be kept secret. Benefits: It is anticipated that this research will advance learning in early childhood education.

This research has a number of drawbacks, such as: Number of subjects: Because this study only includes one PAUD institution, its findings may not be applicable to other PAUD institutes. Research time: Insufficient research time may restrict how thoroughly data may be analyzed.

## **Result and Discussion**

The implementation of project-based learning (PBP) in the PAUD institutions under investigation has been going quite smoothly, according to the findings of the research that has been conducted. The following are some significant conclusions drawn from the observations, interviews, and documentation.

First, the kids participated in project activities with great enthusiasm. They take an active part in all phases of the project, from planning and execution to outcomes presentation. This is consistent with earlier studies that demonstrated PBP can boost kids' desire to learn (Tiarani et al., 2021)

Second, PBP helps kids acquire a range of 21st century abilities like communication, teamwork, creativity, and critical thinking. They can collaborate with their peers to finish project tasks, assess issues, and come up with solutions. These results corroborate (Firdhaus et al., 2021) study, which claims that PBP can serve as a platform for kids to acquire abilities necessary to meet the needs of the twenty-first century.

Third, teachers are crucial to the effective use of PBP. Effective learning can be facilitated by teachers who possess a solid understanding of PBP and are able to establish a supportive learning environment. Nonetheless, some educators continue to struggle with class management during project activities, particularly with time management and group discussion facilitation (Mahluddin, 2018)

According to the study's findings, PBP has a lot of promise to help young children acquire 21st century abilities. These results are consistent with a number of other research that demonstrated how well PBP works to enhance several facets of a child's development (Putra & Pratama, 2023). PBP is an engaging and enjoyable learning method for kids, as evidenced by their eagerness to participate in project activities. Children may become more motivated to learn and acquire more significant knowledge as a result.

PBP focuses on children's social and emotional development in addition to their cognitive growth in order to help them acquire 21st century skills. Children acquire the skills of teamwork, communication, and problem-solving. To get children ready for challenges in the future, this is crucial. Nonetheless, there are still a number of obstacles to overcome before PBP may be implemented in PAUD. The shortage of resources, both human and material, is one of the primary issues. To increase their proficiency in putting PBP into practice, teachers require ongoing training. Furthermore, the school environment and parental support are required to establish a favorable atmosphere for PBP implementation.

The study's intriguing conclusions include the part parents play in encouraging the use of PBP. The majority of parents of research participants said they were completely in favor of PBP being used in classrooms. They believe that PBP can assist their kids in acquiring a range of future-ready abilities. Nonetheless, some parents still struggle to assist their kids at home since they do not fully grasp the PBP concept. This demonstrates how crucial it is for parents and teachers to communicate well in order to improve parents' comprehension and support of PBP. Parental participation in at-home learning activities can improve children's learning motivation and learning outcomes, according to research by (Tasrikhah Tasrikhah, 2020)

PBP benefits children's language development as well. Children can engage with teachers and classmates in a range of settings through project-based learning activities. They gain the ability to efficiently and clearly communicate their thoughts, feelings, and opinions. Furthermore, PBP can assist kids in expanding their vocabulary and strengthening their

comprehension of reading materials. PBP can enhance children's language abilities, particularly in speaking and writing, according to research (Zati, 2020)

A comparison between the learning outcomes of kids who take part in PBP and those who don't. More study with a more robust design is required to compare the learning outcomes of kids who take PBP with those who don't. However, it is evident from the study's findings that kids who participate in PBP are more likely to be energetic, creative, and self-assured. Additionally, they are more adept at problem-solving and teamwork. This suggests that PBP can have a beneficial impact on kids' social-emotional and cognitive growth.

The findings of this study have significant ramifications for how the PAUD curriculum is developed. One of the instructional strategies used within the PAUD curriculum is PBP. Teachers can create learning activities that are tailored to the interests and needs of the students with the help of a project-based curriculum. Furthermore, the curriculum must include explicit instructions on how teachers might apply PBP. According to research by (Iswantiningtyas & Wulansari, 2019) the curriculum for early childhood education places more of an emphasis on child-centered learning and the development of 21st century abilities.

## Conclusion

The purpose of this study is to outline the application of project-based learning (PBP) in early childhood education and examine how it affects young children's development of 21st century abilities. The study's findings demonstrate that PBP has a lot of potential for helping kids develop critical thinking, creativity, teamwork, and communication, among other crucial abilities. Children participate in the learning process more actively, with greater motivation, thanks to PBP. This is consistent with a number of earlier research that highlighted the value of child-centered and active learning.

Nonetheless, there are still a number of obstacles to overcome before PBP may be implemented in PAUD. Effective PBP implementation is hampered by a lack of resources, inadequate teacher preparation, and disparities in parent and teacher perceptions. Therefore, to raise the standard of PBP implementation in early childhood education, more methodical and long-term efforts are required.

PBP is a pertinent and successful teaching strategy for fostering 21st century skills in young children, according to the study's findings. However, support from a variety of sources, including the government, communities, schools, parents, and teachers, is crucial to the effective implementation of PBP. All stakeholders must work together to establish a supportive learning environment for PBP implementation.

The following recommendations can be made in light of the study's findings: Enhancing the caliber of teacher training: To increase teachers' proficiency in putting PBP into practice, they must receive ongoing, pertinent training. Provide sufficient resource support: Educational institutions must supply the infrastructure and resources—such as information technology, instructional aids, and materials—that facilitate the application of PBP. Engage parents in the educational process: Parents must take an active role in helping their children learn at home and in giving teachers feedback. Creating an early childhood curriculum that is project-based: PBP must be incorporated into the early childhood curriculum as the primary teaching methodology.

Therefore, it is anticipated that this research will help improve early childhood education learning techniques and equip kids to handle obstacles in the future.

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