The Implementation Of A Planting Project Method To Foster Independence In Children Aged 5–6 Years

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ABSTRACT

This study was motivated by the observation that some children aged 5–6 years at RA An-Najah exhibited a reliance on teachers or peers to complete various tasks, including planting activities. The aim of this research is to describe the implementation of a project-based learning method through plant cultivation to foster children's independence, analyze the outcomes of this method on the development of independence, and identify the supporting and inhibiting factors in its application at RA An-Najah Kempek Gempol Cirebon. This study employed a qualitative approach with a case study design to explore the phenomenon holistically and in depth. Data collection techniques included participatory observation, in-depth interviews with the principal, teachers, parents, and children, as well as documentation of the project activities. The research subjects were 15 children in the B2 group, along with teachers, the principal, and parents as supporting informants. The results show that the project-based learning method was carried out in three stages: planning (preparation of planting media), implementation (planting, care, and observation), and evaluation (reflection on activities with the children). Most children showed development in the categories of Developing as Expected (BSH) and Very Good Development (BSB), with indicators including task completion, initiative, responsibility, confidence, and independent behavior. Supporting factors included teacher support, availability of materials, and parental involvement. Inhibiting factors involved children's inconsistency, limited time, and dependency on teachers. These challenges can be addressed through patient and continuous guidance.

1. Introduction

Early Childhood Education (ECE) serves as the foundational stage that shapes a child's personality, cognitive abilities, social skills, and emotional development. The early years, particularly between the ages of 0–6, are recognized as the golden age a critical period when the child's brain develops rapidly and is highly responsive to environmental stimulation. Therefore, appropriate educational interventions during this stage are essential to build character and basic competencies, including independence. Independence is a crucial developmental aspect that should be nurtured from an early age, as it directly influences a child's readiness for further education and future life challenges.

However, in practice, many children still struggle to demonstrate independent behavior. Preliminary observations in several ECE institutions, including RA An-Najah Kempek Gempol Cirebon, reveal that some children aged 5–6 years remain dependent on adults for completing simple

tasks such as tidying up toys, washing hands, or putting on shoes. Some also lack initiative in class activities and tend to wait for the teacher's instructions. This indicates that the current learning approach has not yet fully stimulated the development of independence.

In this context, there is a need for innovative learning models that offer children real and meaningful experiences. One approach that aligns well with the characteristics of early childhood is the Project-Based Learning (PjBL) method (W., 2000). This method engages children in structured yet flexible activities that require active participation and direct exploration. Children are not only recipients of information but also planners, doers, and evaluators of their own learning projects, with the teacher acting as a facilitator. A planting project is ideal for this purpose, as it integrates motor skills, responsibility, and environmental awareness.

The planting project not only provides rich sensory and visual experiences but also teaches children to care for living things, understand growth processes, and take responsibility for what they plant. Through activities such as daily watering, observing changes, and managing challenges like withered plants, children engage in learning that fosters both independence and self-confidence (Rusman, 2014).

Previous studies have shown that the PjBL approach is effective in enhancing children's independence, creativity, and social skills. However, its implementation in ECE settings, especially in rural or pesantren-based institutions like RA An-Najah, has not been thoroughly explored. This indicates a research gap that needs to be addressed to contribute both academically and practically to the field of early childhood education.

This study specifically examines how the implementation of project-based learning through a planting activity can foster independence among children aged 5–6 years. The focus lies on the implementation process, the outcomes in terms of children's independence, and the supporting and inhibiting factors that influence the success of this method.

The study addresses three main questions: first, how is project-based learning applied through planting activities at RA An-Najah Kempek Gempol Cirebon? Second, how does this activity affect the development of independence in children aged 5–6 years, particularly in completing tasks, showing initiative, taking responsibility, and demonstrating confidence? Third, what are the supporting and inhibiting factors in implementing the method, including the school environment, teacher roles, parental involvement, and child characteristics?

The objective of this research is to describe in detail the process of implementing the planting-based PjBL method, analyze its impact on children's independence, and identify the factors that support or hinder the project's execution. The findings are expected to provide valuable insights and inspiration for ECE educators in designing contextual, engaging, and character-building learning strategies (Asyafah, 2019).

This study also aims to contribute to the development of a child-centered "Merdeka Belajar" curriculum and to serve as a foundation for more responsive early childhood education policies that address children's real needs and future challenges. In this way, ECE will go beyond basic academic skills to prioritize character formation and independence from an early age.

Independence in early childhood can be identified through several indicators, including the ability to complete tasks without assistance, initiative in starting activities, responsibility for assigned tasks and personal belongings, confidence in expressing opinions, and the capacity to make simple decisions. These indicators reflect a child's readiness to act independently in various daily situations.

According to Bredekamp and Copple, a learning environment rich in stimulation, opportunities, and social support plays a crucial role in fostering children's independence (Bredekamp, 2020). Teachers who are sensitive to children's needs and able to provide appropriate support without being overly controlling can significantly contribute to the development of children's self-confidence and independent behavior (Rizkyani et al., 2020).

Independence is also closely related to moral and emotional development. Independent children tend to be more capable of self-regulation, understanding and adhering to rules, and interacting positively with their surroundings (Sari & Rasyidah, 2020). In the long term, independence becomes an essential asset for children to face challenges at higher levels of education and in social life.

One effective approach to cultivating independence is Project-Based Learning. This method positions children as active participants throughout the entire learning process. For instance, in a plant-growing project, children not only learn to care for and observe the daily growth of their plants but also take responsibility for their outcomes. Through this process, they are trained to make decisions, work independently or collaboratively, and solve problems that arise during the project.

Yuliani Sujiono emphasizes that project-based learning is highly effective in fostering children's character development, as it focuses more on the learning process rather than merely the final outcomes (Sujiono, 2016). Children are encouraged to explore, experiment, ask questions, and discover answers independently. Such experiences provide meaningful opportunities for children to become independent, critical, and creative individuals (Mukhlisin et al., 2023).

2. Method

This study employed a qualitative approach with a case study design to explore the implementation of project-based learning (PjBL) through a plant-growing activity in fostering independence among 5–6-year-old children at RA An-Najah Kempek, Gempol, Cirebon. The qualitative approach was chosen for its suitability in uncovering meanings, understanding experiences, and analyzing phenomena from the participants' perspectives in a natural context. According to Moleong, qualitative research seeks to understand social realities through descriptive data in the form of spoken or written words (Moleong, 2017). The case study design enabled an in-depth examination of a single case, focusing not only on the process of implementing the project but also on the dynamic interactions between teachers, children, and parents within the educational setting. The aim was not generalization but a deep understanding of the specific phenomenon.

The study was conducted at RA An-Najah Kempek, an Islamic early childhood education institution located within a pesantren environment that integrates Islamic values with modern learning methods. The participants consisted of the B2 class teacher (as the main implementer of the project), 15 children aged 5–6 years, their parents or guardians, and the school principal. Participants were selected using purposive sampling based on specific criteria relevant to the research focus. Data were collected through three techniques: participatory observation during the planning, implementation, and evaluation of the plant-growing project; in-depth semi-structured interviews with children, teachers, parents, and the principal; and documentation of activity photos, children’s plant projects, daily schedules, and teacher notes. These methods provided rich, triangulated data on children's independence indicators such as task completion, initiative, responsibility, and self-expression.

Data analysis followed the Miles and Huberman model, involving three key steps: data reduction, data display, and conclusion drawing (Miles & Huberman, 1994). Data reduction involved selecting and simplifying field data to extract meaningful information relevant to the indicators of children's independence (Creswell, 2014). The reduced data were then organized in descriptive narrative form and visual aids to facilitate analysis. Finally, conclusions were drawn and verified through source and methodological triangulation, and member checks were conducted to confirm the accuracy of interpretations. These procedures ensured the credibility, trustworthiness, and validity of the research findings.

3. Results and Discussion

3.1. Implementation of Project-Based Learning Method through Planting Activities at RA An-Najah Kempek Gempol Cirebon

The implementation of project-based learning (PjBL) at RA An-Najah Kempek Gempol Cirebon was carried out through a series of stages tailored to the developmental characteristics of early childhood learners. The selected project planting activities was designed to provide children with direct and meaningful learning experiences. Project-Based Learning is a learner-centered instructional model that engages students in constructing knowledge through authentic and contextualized projects (W., 2000). Through this method, children learn actively and interact directly with their learning environment.

The activity began with the planning stage, where the teacher explained the objectives and steps of the planting process. Children were introduced to the tools and materials, such as pots, soil, seeds, and watering cans. The teacher provided initial guidance, but the main execution of the task was carried out independently by the children. They were encouraged to gather their tools, fill pots with soil, plant the seeds, water the plants, and care for them regularly. The final stage was reflection, during which the children engaged in discussions and shared their experiences throughout the process.

This method aligns with the principles of active and participatory learning. Children were not merely passive listeners; they were actively involved in each step of the process from beginning to end. The teacher acted as a facilitator who provided support when challenges arose, while consistently encouraging children to take initiative and complete tasks independently. Project-based learning fosters active, creative, and responsible learners (Rusman, 2014). In this context, children gained understanding not only from what the teacher said, but more significantly, from what they personally experienced and did.

Fig. 1. The child's is planting plants

The Project-Based Learning (PjBL) activity focused on planting was implemented through three main stages: planning, implementation, and evaluation. In the planning stage, the teacher organized the activity schedule, prepared planting tools and materials such as soil, seeds, polybags, and gloves, and engaged the children from the beginning through a light discussion on the benefits of planting. The children were introduced to the planting tools and shown how to use them. Their initial response showed great enthusiasm, as they eagerly picked up the polybags and gloves provided. This stage aimed to build interest, a sense of ownership, and an early sense of responsibility toward the project.

During the implementation stage, the children actively carried out the planting process, including filling the polybags with soil, sowing the seeds, watering the plants, and recording their growth. The activity was designed to allow freedom of choice in tools, opportunities for collaboration, and independent observation of plant development. Observations revealed that the children participated actively, demonstrating teamwork and perseverance in completing their tasks. They appeared focused and careful while watering their plants, reflecting a sense of ownership, accountability, and emotional attachment to their work.

The evaluation stage was conducted through classroom discussions and behavioral observations. Teachers noted that most of the children had shown positive behavioral changes, such as watering their plants without being reminded, recognizing their own plants, and confidently sharing the planting process with their peers. These indicators highlighted the children's growing sense of pride, responsibility, and self-confidence after completing the project. Thus, this project-based learning model not only enhanced cognitive outcomes but also significantly fostered the holistic development of early childhood learners, particularly in their social and emotional growth.

3.2. The Outcomes of Project-Based Learning Implementation in Enhancing the Independence of Young Children

The implementation of project-based learning, particularly through plant-growing activities, has proven to significantly impact the development of independence among children aged 5–6 years. Based on observations of 15 children at RA An-Najah Kempek, 5 children were categorized as

Developing Very Well (BSB), 7 as Developing as Expected (BSH), and 3 as Beginning to Develop (MB).

This activity engaged children actively throughout the learning process from preparing tools and planting to caring for the plants. The children learned to make decisions independently, manage their time and responsibilities, and complete tasks without adult assistance. These findings indicate that real-life, contextual learning experiences can effectively internalize the value of independence in children's behavior.

Theoretically, these results align with Erikson's psychosocial development theory, which states that children aged 4–6 years are in the initiative vs. guilt stage. At this stage, children need space to try new things, take initiative, and assume responsibility for their actions to avoid developing guilt that may hinder their growth (Hurlock, 2022).

In the plant-growing project, children were trained to start a task from scratch and commit to the process consistently. They learned to respond to changing situations, such as handling withered plants or water shortages. Through this, they not only developed fine motor skills but also strengthened their self-regulation, decision-making abilities, and self-confidence. Moreover, children showed increased initiative in asking questions, seeking information, and expressing their opinions among peers and teachers. This demonstrates a strong interrelation between fostering independence and the development of children's social-emotional, cognitive, and affective domains (Mukhlisin et al., 2024).

Interestingly, the effects of this project-based learning extended beyond the classroom and into the children's home lives. Interviews with parents revealed that children began to demonstrate positive habits such as watering plants regularly, tidying up their toys, and dressing themselves without being prompted.

This confirms that project-based learning has a strong transfer value, allowing children to apply what they learn in real-life contexts. Additionally, the role of the teacher as a responsive facilitator is crucial. Teachers who can balance between providing support and granting autonomy help children become active agents in their learning journey. Thus, project-based learning is not only effective in enhancing children's cognitive and motor development, but it also serves as a strategic tool for instilling values of responsibility, perseverance, and autonomy from an early age. This strengthens the argument that experience-based approaches are highly relevant for building independent, resilient, and developmentally ready children.

3.3. Supporting and Inhibiting Factors in the Implementation of Project-Based Learning Methods

The implementation of project-based learning methods through plant-growing activities at RA An-Najah Kempek Gempol, Cirebon, has demonstrated significant effectiveness in fostering children's independence, particularly when supported by key enabling factors. The teacher's readiness to design contextual projects that align with the developmental stages of early childhood forms the foundation for success.

Educators with strong pedagogical competence are able to plan activities that are not only engaging but also educationally meaningful. Facilities such as planting media, pots, watering tools, and open space further contribute to creating a learning environment where children can learn directly through hands-on experiences. The children's high enthusiasm for gardening activities reflects an intrinsic motivation to learn and take responsibility two essential components in developing independence at an early age. Within the project-based learning framework, teachers no longer serve as mere transmitters of knowledge but act as facilitators who encourage exploration, problem-solving, and active decision-making (Muhaimin, 2021).

Nevertheless, the implementation of this method is not without its challenges, which require critical reflection and analysis. Variations in the levels of independence among learners create dynamics that demand a flexible pedagogical approach. Children who are already accustomed to independent activities tend to adapt more quickly to this model, whereas those who require more guidance need intensive scaffolding. This calls for the application of differentiated instruction to

ensure that all children can achieve the same learning objectives through paths appropriate to their individual abilities.

External factors such as unpredictable weather may also disrupt activity continuity, especially when learning occurs outdoors. Such uncertainty underscores the importance of adaptive planning and logistical preparedness to shift activities indoors without compromising the intended learning experience. In addition, repetitive or monotonous tasks may diminish children's engagement. Hence, teachers are expected to exhibit a high level of creativity in varying instructional strategies to sustain children's emotional and cognitive involvement over time (Rahmi et al., 2022).

Despite these constraints, the teachers at RA An-Najah have demonstrated a sustained capacity for adaptation and innovation. Flexible time management strategies such as utilizing break times or transition periods for plant care have shown that learning does not always require rigid formal structures. Teachers also encourage children to develop emotional connections with their plants, transforming the gardening activity into a meaningful and enjoyable personal responsibility.

This approach aligns with the principles of holistic education, in which cognitive, affective, and psychomotor domains are integratively developed through experiential learning. Thus, rather than being viewed as obstacles, the challenges encountered serve as reflective opportunities to enhance pedagogical quality and to strengthen the teacher's role as an architect of empowering learning experiences that foster genuine independence in children.

4. Conclusion

The implementation of project-based learning through a plant-growing activity was carried out in structured stages planning, execution, and evaluation—with teachers facilitating the process by providing initial guidance, preparing materials, and accompanying children throughout the activity. Children were actively involved in every phase, from preparing pots, soil, and water to planting seeds and caring for their own plants. The results indicated that most children fell into the categories of Developing as Expected and Very Well Developed, particularly in aspects of independence such as completing tasks autonomously, showing initiative, taking responsibility, expressing opinions confidently, and demonstrating self-reliance in daily routines. Notably, children were able to water their plants without being prompted, move them when they wilted, and even name their pots clear indicators of growing independence. The success of this method was supported by factors such as teacher involvement, availability of resources, and parental engagement at home. Conversely, challenges included inconsistency in some children's care for their plants, time constraints, and dependency on teacher instructions. However, these obstacles were effectively addressed through patient and sustained pedagogical approaches, highlighting the method's potential to foster independence in early childhood.

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