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IMPLEMENTATION OF PROJECT-BASED LEARNING FOR NATURALISTIC INTELLIGENCE AND THE INSTILLATION OF MORAL RELIGIOUS VALUES IN GROUP B

Adinda Anastasya Regina Putri[1], Nurhayati Tine[2], Pupung Puspa Ardini[3]

[1,2,3] **Gorontalo State University, Indonesia**

(reginaputri2609@gmail.com)
(nurhayati.tine@ung.ac.id)
(pupung.p.ardini@ung.ac.id)

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Abstract

study seeks to elucidate the implementation process of project-based learning aimed at enhancing naturalistic intelligence in Group B at Mekar Hulawa State Kindergarten, located in Telaga District, Gorontalo Regency. The research objectives include analyzing and evaluating the effectiveness of project-based learning in fostering naturalistic intelligence within this cohort, as well as examining the school's approach to implementing such pedagogical strategies. Employing a qualitative descriptive methodology, the study involved grade B teachers as subjects, with the principal and the grade B assistant teacher serving as research informants. Data collection was conducted through observation, interviews, and documentation, with data validity ensured via source and technique triangulation. The data analysis process encompassed (1) data condensation, (2) data presentation, and (3) conclusion drawing. The findings reveal that the implementation of project-based learning for naturalistic intelligence in Group B at Mekar Hulawa State Kindergarten has been successful. The activities encompassed topic introduction, concept map development, learning activities, and evaluation. Children were actively engaged as the focal point of the learning process. Observable outcomes include the enhancement of naturalistic intelligence, increased willingness to explore and interact with the natural environment, improved ability to articulate opinions, enhanced collaboration with peers and teachers, and the development of critical thinking and creativity.

INTRODUCTION

Education is a fundamental human necessity, intended to cultivate both physical and spiritual capacities in alignment with societal and cultural values (Anwar, 2017). Through education, individuals are equipped to navigate the evolving challenges and advancements of contemporary times. This objective is consistent with the national aim articulated in the Preamble to the 1945 Constitution, which is to enhance the intellectual capacity of the nation. This aim is further enshrined in Law No. 20 of 2003 concerning the National Education System, which underscores that national education is grounded in religious and cultural values while being responsive to contemporary demands.

According to Howard Gardner's theory of multiple intelligences, naturalistic intelligence refers to an individual's capacity to recognize, classify, and comprehend natural elements, including plants, animals, and environmental phenomena. Within the context of early childhood education (PAUD), this form of intelligence is essential for cultivating empathy, enhancing environmental awareness, and stimulating children's curiosity about their surroundings (Gardner, 2013; Wijaya, 2018).

Project-Based Learning (PjBL) represents an active learning methodology that positions children at the core of educational activities, prioritizing autonomy, collaboration, communication, and the resolution of real-world problems (Kokotsaki et al., 2016; Fitrianingtyas et al., 2023). This pedagogical model is congruent with the Independent Curriculum (Kurikulum Merdeka), which seeks to cultivate students' social competencies and character development. Within the PjBL framework, students are encouraged to engage with meaningful inquiries through collaborative efforts, investigative processes, and the presentation of findings, with the educator serving as a facilitator who guides them in an engaging manner (Santoso, 2017; Widyastuti, 2022).

The project method is particularly well-suited for early childhood education, as it provides experiential learning opportunities to address real-world problems both individually and collaboratively (Moeslichatoen, 2004 in Amelia & Aisya, 2021). Children engage in the formulation of activity plans through preliminary discussions and subsequently execute the agreed-upon activities. Throughout this process, educators facilitate the expression of children's ideas and monitor their engagement, while offering

opportunities for creativity, critical thinking, and effective collaboration. Initial observations conducted by researchers at Mekar Hulawa State Kindergarten in Telaga District, Gorontalo Regency, revealed that the school was already employing project-based learning as a pedagogical approach. Although some project-based learning activities had been implemented, they had not been executed effectively. Researchers selected one project-based learning activity as the focus of their study, specifically naturalistic intelligence, particularly in Group B. The implementation of project-based learning at the school has encompassed several activities, such as hands-on nature exploration, gardening, and the creation of miniature trash cans from recycled materials. Consequently, researchers will investigate the implementation of project-based learning, with a particular emphasis on naturalistic intelligence, in Group B at the school.

RESEARCH METHODS

This research was conducted at Mekar Hulawa State Kindergarten, located in Hulawa Village, Telaga District, Gorontalo Regency, Gorontalo Province, which was purposively selected because it has implemented the Independent (Merdeka) Curriculum and applies project-based learning that positions children as the center of the learning process; the research subjects consisted of the principal, class teachers, and 10 students of Class B. The study employed a qualitative descriptive research design aimed at understanding and describing phenomena in depth based on naturalistic data in the form of words, observations, and documentation, in line with the post-positivist perspective as described by Sugiyono (2016), where the researcher acted as the key instrument and data were collected through triangulated techniques with inductive analysis emphasizing meaning rather than generalization. The researcher had previously conducted initial observations and obtained formal approval from the school, and their presence was recognized by all research subjects and informants. The data comprised information on students' naturalistic intelligence, including interview results regarding their experiences in project-based learning and anecdotal records of behaviors reflecting naturalistic intelligence during projects; data on the implementation of project-based learning, including learning modules designed to enhance naturalistic intelligence; and contextual data obtained from teacher interviews and descriptions of the learning environment and supporting facilities. Data sources included students, teachers, the

learning environment, and relevant documents such as teaching modules, observation notes, student project reports, photographs, and other learning materials. Data collection was carried out through direct observation of the project-based learning process in Group B, in-depth interviews as defined by Moleong (2016), and documentation, while data analysis followed the stages of data condensation, data display, and drawing conclusions or verification. Data validity was ensured through credibility, transferability, dependability, and confirmability using source triangulation and technical triangulation by comparing information from principals and teachers and cross-checking data obtained through observation, interviews, and documentation. The research stages consisted of preparation, data collection, data analysis, and results reporting.

RESEARCH RESULTS

4.1. Description of Observation Results

Observations conducted in Class B of Mekar Hulawa State Kindergarten during the "Let's Garden" themed learning activities revealed that project-based learning was executed in a structured, child-centered, and engaging manner. At the outset of the week, specifically on Thursday, the teacher and children collaboratively developed a concept map to outline the forthcoming activities, while the teacher prepared the requisite tools and materials in advance of the learning process. The learning commenced with brainstorming sessions in which children actively articulated their ideas related to gardening. This was followed by the implementation of the planned project, during which children were afforded the autonomy to select activities and allocate tasks among their peers, thereby fostering collaboration both with the teacher and among classmates. Observations indicated that children participated actively, creatively, and enthusiastically in the learning process within a joyful atmosphere. This was further reinforced by the teacher's use of guiding questions related to animated gardening videos that the children had viewed, where all children were able to respond correctly and accurately to the questions posed (Observation, May 22, 2025).

Further examination of the implementation of project-based learning revealed that agricultural activities were conducted through a series of structured stages, comprising opening, core, and closing activities. The opening activities encompassed greetings, light physical exercises, singing, attendance, and brief reading exercises

designed to foster motivation and readiness for learning. During the core activity, the instructor introduced examples of agricultural products and posed questions to stimulate critical thinking, such as identifying plant species, determining planting materials, and explaining the steps involved in planting. Following the viewing of a video related to environmental concepts, children were invited to engage in play-based activities. These included a numeracy-related addition activity, which attracted limited interest, and a direct observation activity involving soursop plants, which elicited high engagement from the majority of the children.

In this activity, children were encouraged to articulate their ideas through drawings based on their observations and previously viewed videos, thereby indicating meaningful engagement and the development of 21st-century skills. A subsequent observation on May 22, 2025, further corroborated that the farming project adhered to a consistent structure comprising opening, core, and closing activities. This structure commenced with physical warm-ups and singing, followed by the teacher's explanation of the day's activities, thereby demonstrating the systematic implementation of project-based learning in Group B.

Figure 1.

Second, the core activity. The core activity consists of three activities: planning, material preparation, and project implementation. First, the planning process. Each child is involved in the project planning. All children are instructed to sit neatly in the classroom. Then, the teacher explains the activity and shows an animated video explaining the

process involved in creating the project. This animated video can be seen in the following image:

Figure 2.

Second, the core activity. The core activity consists of three activities: planning, material preparation, and project implementation. First, the planning process. Each child is involved in the project planning. All children are instructed to sit neatly in the classroom. Then, the teacher explains the activity and shows an animated video explaining the process involved in creating the project. This animated video can be seen in the following image:

Figure 3 and 4.

Third, the implementation of the farming project. After the material preparation process was complete, the children were taken outside to the schoolyard with equipment that had been arranged beforehand by the teacher. This can be seen in the following image:

Figure 5 and 6.

There are farming projects that directly involve children in planting activities, so they can learn firsthand how to plant properly.

Based on the interviews, observations, and documentation above, it can be concluded that the project-based learning process in farming activities involves an opening, core, and closing activities. Children are the center of learning, with the teacher acting solely as a facilitator and motivator. Freedom to learn and play is highly valued in the learning process. The learning process is ensured to proceed according to the predetermined plan. Learning activities develop 21st-century skills, including communication, collaboration, critical thinking, and creativity.

4.2. Evaluation and assessment of project-based learning

Researchers conducted observations of Group B at Mekar Hulawa State Kindergarten on Fridays. The evaluations aimed to assess not only the students' learning outcomes but also to gain insights into the learning process. At the conclusion of the project-based learning process, a joint reflection session was organized involving both the teacher and the children. During this session, the children were encouraged to express their opinions regarding the week's learning activities and articulate what they had learned throughout the process. For instance, as per observations on May 22, 2025,

the children were invited to share their understanding of the topic "Let's Garden." They were given the freedom to discuss any aspect related to the topic.

Evaluation may also be conducted through discussions with children to assess their comprehension of the topics covered during the week and to ascertain their continued interest. If the children remain engaged, the same topic can be revisited in the subsequent week. Conversely, if the children express satisfaction with the topic, a new topic will be introduced the following week. Based on observations conducted by researchers on May 22-23, 2025, the assessment techniques identified included the use of project outcomes and observational methods. The results of these assessments are subsequently recorded in the children's assessment sheets. It is not necessary to assess all students daily; rather, four to five children are evaluated each day. The primary objective is to ensure that each child receives an assessment result within the week. Observations indicate that only observational and project-based assessment techniques were employed. These observations are derived from teacher evaluations, which are then documented on the assessment sheet using two indicators: BM (not yet present) and SM (present). The following is an example of project and assessment results:

Figure 7

Figure 8

Figure 9

employed. This is attributed to the difficulty teachers face in capturing moments when children successfully solve problems during learning activities. Additionally, the use of anecdotal notes was not observed. From the aforementioned explanation, it can be inferred that the assessment of project-based learning in the "Let's Garden" material employs a technique involving the evaluation of work and observations, which are subsequently recorded in a liaison book with two indicators: BM (not yet appearing) and SM (already appearing). It is not necessary to utilize all assessment techniques, nor is it

required to assess all children on the same day. However, it is imperative that each child receives an assessment within that week.

DISCUSSION

In this description, the researcher presents a description that aligns with the research findings. Therefore, in this study, the researcher will combine the findings obtained and modify them with the theory used in this study. As stated in the research methodology, this study uses qualitative research with a descriptive approach, which describes all data obtained through observation, interviews, and documentation with relevant parties involved in the data collection process. The results will then be connected to the theory used. Based on the findings obtained by the researcher, the following can be interpreted:

Project-based learning is a learning process that uses projects in its teaching process, emphasizing the principle of learning through play, with children as the center of learning. This aligns with John Dewey's statement that project-based learning is a way of providing learning experiences by confronting children with everyday problems that must be solved in groups or individually. This is manifested in the freedom to express ideas and develop them into concrete works. There is involvement in exploration, independence, activeness, critical thinking, and creativity to enrich and refine knowledge in the learning process. This is manifested in the freedom to express ideas and develop them into concrete works. The theory put forward by Fröbel's Kindergarten Theory (1840) emphasizes that children learn best through play in a supportive environment, allowing them to grow and develop naturally and in balance. Early childhood is likened to a sprouting plant, still requiring the full care and attention of the "planter."

The process of exploration, independence, activity, critical thinking, and creativity plays a crucial role in enriching and refining knowledge. In alignment with this theoretical framework, the implementation of project-based learning aimed at enhancing naturalistic intelligence through the "Let's Garden" curriculum at Mekar State Kindergarten has been executed accordingly. Within this learning environment, children actively participate in the lesson preparation process, freely expressing their opinions and engaging in both learning and play. They are involved in developing concept maps that reflect their interests and are encouraged to express their views. During learning

activities, children have the autonomy to select their play activities without external pressure. In the creation of artistic works, children independently develop their understanding without direct teacher intervention, as the teacher assumes the role of a facilitator. Children's curiosity is nurtured through self-directed activities, with the teacher serving merely as a catalyst for critical thinking. This approach is consistent with the concept of naturalistic intelligence, as defined by Howard Gardner's theory, which encompasses the ability to recognize, classify, and comprehend elements found in nature, including flora, fauna, the environment, and natural phenomena. This is particularly relevant in the context of early childhood education (PAUD).

The implementation of project-based learning at Mekar State Kindergarten commences with the selection of a topic at the beginning of the semester, followed by the development of a teaching module. This module is then discussed with the children to formulate a plan that serves as a reference for weekly activities. Subsequently, the teacher prepares instructional materials that align with the students' interests, implements the learning activities, and conducts evaluations. The learning activities themselves encompass several stages: an opening session with questions designed to encourage students to express their opinions, the execution of the project, a public presentation, and finally, a reflection phase. This approach is consistent with the theoretical framework proposed by Hosnan.

Santoso (2017) outlines that project-based learning commences with the determination of the project, followed by the design of steps necessary for its completion, the development of a schedule, and the execution of the project with the teacher serving as a facilitator. This process culminates in the publication or presentation of the project results and concludes with an evaluation. Puspita (2021) elaborates on this framework by asserting that project-based learning initiates with essential questions designed to stimulate children's ideas. This is succeeded by the formulation of a project plan, the development of an implementation schedule, monitoring throughout the learning process, documentation of children's progress, and evaluation. Further details are provided in the following table:

Table 1. Interpretation of Project-Based Learning Implementation

No	Aspect	Description
1	Project Determination	Project determination at Mekar State Kindergarten is conducted during the opening inspiration session through discussions between the teacher and children to collaboratively develop a concept map that outlines the project theme and activities.
2	Planning: Steps to Complete the Project	The steps for completing the project are planned based on the concept map that was previously created together with the children, ensuring that learning activities align with children's ideas and interests.
3	Scheduling	Based on the agreed-upon concept map, an appropriate project schedule is arranged to organize the sequence and timing of learning activities.
4	Project Completion	Project activities are implemented according to the established schedule, with children positioned as the main actors in the learning process, while the teacher serves as a facilitator who provides guidance and support as needed.
5	Project Presentation	After completing the project, children produce a product that is presented to the class. During the presentation, children explain the meaning and process of their work to the teacher and their peers.
6	Evaluation	Evaluation is carried out at the end of the week through

Project-based learning at Mekar State Kindergarten is implemented by actively engaging children's curiosity through concept mapping, provocative questions, collaboration, responsibility, and freedom of expression. This approach aligns with the theory of Larmer and Mergendoller (2010), which emphasizes the elements of need to know, driving

questions, student choice, and the development of 21st-century skills. This alignment is evident in learning activities themed "Let's Garden," where children not only explore concepts but also present their work directly to the class. The need to know component is addressed when teachers introduce contextual topics such as planting activities in simple, meaningful language. Driving questions are employed to stimulate curiosity and critical thinking, for instance, by asking what plants need to grow well or how to care for them. Children's opinions and choices are respected by allowing them to select activities based on their interests, fostering intrinsic motivation and ownership of learning. Through these projects, children develop essential 21st-century skills, including communication, collaboration, critical thinking, and creativity, as demonstrated by their active interactions with teachers and peers, cooperative use of limited tools, analytical thinking about planting processes, and creative problem-solving in producing simple projects such as planting seedlings or making functional objects.

This approach reflects the core principles of early childhood education, which position children as active learners who construct knowledge through play, exploration, and direct experience, particularly in learning basic scientific concepts closely related to their environment (Hasibuan & Fauziyah, 2019). Furthermore, learning at Mekar State Kindergarten aligns with the Independent Curriculum by granting children meaningful learning freedom, with teachers acting as facilitators who guide curiosity rather than dominate instruction. Through project-based learning, the development of soft skills, social skills, and character traits consistent with the Pancasila student profile is emphasized from an early age (Nisfa et al., 2022, cited in Eni, 1967), and assessment focuses not only on learning outcomes but also on learning processes using observation, anecdotal records, children’s work, and documentation, as recommended by Nurlaili (2018).

CONCLUSION

Based on the findings and analysis, it can be concluded that the implementation of Project-Based Learning in fostering naturalistic intelligence among Group B children at Mekar Hulawa State Kindergarten has proven effective. The children's active participation at every stage of the activity, from inception to completion, indicates that they are genuinely positioned at the center of the learning process. The children exhibited

characteristics of naturalistic intelligence, such as enthusiasm for environmental exploration, courage in expressing ideas, collaborative abilities, and critical and creative thinking. The learning stages, including topic determination, concept map creation, project implementation, and evaluation, were executed in a structured manner in accordance with established procedures. The children's active engagement throughout this process reflects the ethos of the Independent Curriculum, which emphasizes freedom in play and learning. Despite encountering challenges such as suboptimal classroom conditions, teachers continued to evaluate and improve the process to ensure that learning remained enjoyable and meaningful for students.

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