

Stimulation of Naturalistic and Kinesthetic Intelligence Through Exploratory Activities in the Surrounding Environment of Early Childhood

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ABSTRACT

This research addresses the critical need to implement the School Religious Culture program during early childhood to cultivate noble character through daily activities. The study utilized a qualitative approach at TKN Pembina Wlingi through interviews, observation, and documentation, focusing on: (1) program implementation, (2) supporting and inhibiting factors, and (3) strategies for factor management. The findings confirm that the School Religious Culture program successfully develops the noble character of early childhood children, producing individuals who are more positive, religious, and morally upright. This success is strongly supported by the principal, teachers, educational staff, and parents, who continuously strive to instill religious character through consistent, non-pressurized daily habituation.

Introduction

Early childhood education plays a fundamental role in establishing the foundations of children's cognitive, affective, and psychomotor development. At this stage, each child is recognized as a unique individual with distinct potentials and characteristics. Therefore, instructional approaches must be designed to accommodate this diversity. One of the most relevant theoretical foundations for understanding differences in children's potential is the theory of multiple intelligences, first proposed by Howard Gardner. This theory has become an essential framework for understanding children's intelligence in a broader and more comprehensive manner.

Gardner identified eight different types of intelligence, namely linguistic intelligence, logical-mathematical intelligence, spatial intelligence, musical intelligence, bodily-kinesthetic intelligence, interpersonal intelligence, intrapersonal intelligence, and naturalistic intelligence. Gardner's Multiple Intelligences Theory revolutionized our understanding of human intelligence. This theory paved the way for a more holistic and student-centered educational paradigm that recognizes and develops various individual talents and potentials (Wibowo, 2024).

Through this perspective, intelligence is no longer viewed as a single and uniform ability; rather, it is understood as multiple potentials that may develop differently in each individual. When applied in education, the theory of multiple intelligences treats all learners equally

and uniquely. The theory assumes that no child is inherently unintelligent or superior; instead, every child has a tendency to excel in one or several types of intelligence. Therefore, teachers must be able to design learning methods that optimize students' intelligences (Berliana, 2023).

This perspective shifts the educational paradigm from a single-standard measurement of intelligence toward a more inclusive approach that values the diversity of children's potentials. Such a paradigm shift requires learning practices that are flexible and responsive to children's developmental needs. In line with this view, intelligence development must begin at an early age, particularly during the period widely known as the golden age.

The golden age is part of human psychological development. It is referred to as the golden age because at this stage children's brain capacity to think and absorb information is very high; any information provided will influence them in the future. Several experts define different ranges of the golden age period, such as 0–2 years, 0–3 years, 0–5 years, or 0–8 years. The early phase of human life is a golden period that is crucial and will never be repeated (Marzuki, 2025).

Thus, early childhood represents a strategic and irreplaceable phase for developing various forms of intelligence in an optimal and sustainable manner. Within the framework of multiple intelligences, naturalistic and kinesthetic intelligences are particularly relevant to

early childhood developmental characteristics. Naturalistic intelligence refers to children's ability to recognize, understand, and interact with the natural environment. Meanwhile, kinesthetic intelligence relates to children's ability to use their bodies in a coordinated and expressive manner through physical movement and activity. Both intelligences develop most effectively through direct experiences and active involvement in the learning process.

These two intelligences are highly potential to be developed during the golden age, as young children naturally possess strong curiosity about nature and an inherent need to move and explore. Therefore, the stimulation of naturalistic and kinesthetic intelligences must be consciously and systematically integrated into the learning process to ensure balanced and optimal development. This integration aligns with the characteristics of early childhood learning, which emphasize play and exploration.

Types of talents include general talents, which refer to basic potentials that are universal and possessed by everyone, and special talents, which refer to specific potential abilities that are not possessed by all individuals, such as talents in sports, arts, leadership, preaching, and many others (Fitria et al., 2025).

Understanding talent further strengthens the view that each child has unique potential that must be identified and nurtured from an early age. However, in practice, early childhood education still tends to focus

on classical and academically oriented activities. As a result, the development of naturalistic and kinesthetic intelligences has not been optimally integrated into daily learning activities. This condition may hinder the development of children who show dominant tendencies in these two types of intelligence.

Although Gardner's multiple intelligences theory has been widely examined and has become a foundation in early childhood education, research specifically analyzing the integrated development of naturalistic and kinesthetic intelligences remains relatively limited. Moreover, the systematic implementation of learning that consciously optimizes both intelligences has not yet become a primary focus in early childhood education practice.

Based on this gap, this study is significant as it offers novelty by examining the integrated development of naturalistic and kinesthetic intelligences in early childhood. This research aims to provide a deeper description of how both intelligences can be developed simultaneously through learning experiences aligned with children's developmental characteristics. The findings are expected to contribute theoretically to enriching early childhood education scholarship and practically to assisting educators in designing more holistic, contextual, and child-centered learning experiences.

Methods

This study employed a descriptive qualitative approach to portray

the development of naturalistic and kinesthetic intelligences in early childhood through learning activities (Hammarberg et al., 2016). A qualitative design was selected because it allows for an in-depth understanding of natural phenomena occurring in educational settings (Roller, 2020), particularly related to children's learning experiences and behavioral engagement during the instructional process.

The research subjects consisted of children aged 5–6 years and teachers involved in the learning process at an early childhood education institution (PAUD). The selection of participants was based on their direct involvement in classroom activities designed to stimulate naturalistic and kinesthetic intelligences.

Data were collected through three primary techniques: observation, interviews, and documentation (Chand, 2025). Observations were conducted naturally during the learning process to capture children's physical movements, interactions with the environment, and participation in exploratory activities. Interviews were carried out with teachers to obtain information regarding instructional planning, implementation strategies, and perceived outcomes related to the stimulation of both intelligences. Documentation techniques included collecting lesson plans, photographs of activities, and other relevant learning records to support the validity of the findings.

The data analysis process followed qualitative analytical procedures, including data reduction, data display, and conclusion

drawing. Data reduction involved selecting and focusing on relevant information related to the stimulation of naturalistic and kinesthetic intelligences. Data display was conducted through systematic organization and narrative description to facilitate interpretation. Finally, conclusions were drawn based on recurring patterns and consistent findings emerging from the data.

Through this methodological framework, the study aims to provide a comprehensive and contextual description of how exploratory activities in the surrounding environment contribute to the integrated development of naturalistic and kinesthetic intelligences in early childhood education.

Result and Discussions

The findings indicate that early childhood learners were actively engaged in various instructional activities involving bodily movement and environmental exploration. Throughout the learning process, children participated in physical activities such as moving, imitating movements, and engaging in games that required body coordination. They actively used their limbs during movement-and-song sessions, motor skill activities, and environment-based games. These findings demonstrate that learning activities were designed to facilitate direct physical involvement, which is essential for stimulating kinesthetic intelligence.

In addition to movement-based activities, children were also

involved in exploring their surrounding environment. They observed natural objects such as plants, small animals, and various natural materials available within the learning setting. The children showed curiosity by touching, observing, and directly interacting with environmental elements. During these activities, they were physically and sensorily engaged throughout the learning process.

The implemented learning activities included movement and song, environmental exploration, structured motor activities, simple project-based learning, and integrated sensorimotor activities. Children participated both individually and in groups while following the teacher's guidance at each stage of instruction. Teachers played a central role in directing activities and facilitating children's engagement, while parents supported the stimulation process at home through habituation of physical activities and environmental introduction. Learning was conducted in both indoor and outdoor settings, allowing children to gain diverse and contextual learning experiences through direct involvement with movement and nature.

Kinesthetic Intelligence

Within the framework of multiple intelligences theory introduced by Howard Gardner, kinesthetic intelligence is understood as a form of intelligence that develops through active bodily engagement in the learning process.

"Kinesthetic intelligence is the ability to use the body or bodily

movements to express ideas and feelings. Children with kinesthetic intelligence tend to enjoy movement and physical activity, quickly learn physical skills, prefer thinking while moving, enjoy acting and imitating others' gestures or expressions, like sports, are skilled in crafting, and use movement to help them remember various things (Berliana, 2023).” This perspective positions physical activity not merely as play, but as an essential learning mechanism in early childhood. Furthermore:

“Kinesthetic ability or physical ability refers to the skillful use of body parts to perform movements such as running, dancing, building something, engaging in artistic activities, and handicrafts. In this context, kinesthetic ability is defined as a person’s capability to use body parts for movement (Putri, 2024).”

The study findings align with these theoretical explanations. Children demonstrated active body coordination during movement-based learning, imitative games, rhythmic exercises, and nature-themed physical activities. These activities provided opportunities for children to refine gross and fine motor skills while expressing themselves physically.

Characteristics of individuals with kinesthetic intelligence include:

- “a) Exploring the environment and objects through touch and movement;
- b) Learning better through direct involvement and hands-on experiences;

- c) Enjoying concrete experiences such as outdoor trips;
- d) Being skilled at imitating movements, habits, behaviors, acting, dancing, carving, and similar activities (Hidayat, 2020)."

The observed behaviors of children during environmental exploration and structured motor activities reflect these characteristics. Their learning engagement was primarily experiential, emphasizing direct physical involvement rather than passive reception.

"Kinesthetic ability can be stimulated through structured activities such as dance lessons or sports clubs, encouraging participation in movement-oriented activities such as ballet exercises, drama, and sports. One activity that can stimulate kinesthetic ability is rhythmic gymnastics (Putri, 2024)."

The study confirms that structured and semi-structured movement activities conducted in early childhood settings contribute significantly to the development of body coordination, balance, and motor control.

"Developing kinesthetic intelligence in early childhood is crucial because it supports motor development, body coordination, and children's ability to express ideas and emotions through movement. Early childhood is a sensitive period for movement stimulation; therefore, properly designed physical activities can enhance sensorimotor abilities. Moreover, kinesthetic intelligence enables children to be more active and creative in learning, allowing them to learn not only cognitively but also through real bodily experiences

(Nurhayati, 2025).”

Thus, the findings reinforce that kinesthetic intelligence develops optimally when learning activities are designed to involve direct bodily participation in meaningful contexts.

Naturalistic Intelligence

Naturalistic intelligence refers to sensitivity toward and understanding of the natural environment.

“Naturalistic intelligence is the ability to be sensitive to the natural environment, such as enjoying being in open natural settings like beaches, mountains, nature reserves, or forests. Children with this intelligence tend to enjoy observing various types of rocks, soil layers, flora and fauna, celestial objects, and other natural elements (Berlian, 2023).”

The observed exploratory activities in this study—such as observing plants, interacting with small animals, and manipulating natural materials—illustrate the manifestation of naturalistic intelligence in early childhood learning.

“Characteristics of individuals with naturalistic intelligence include:

- a) Being familiar with pets;
- b) Enjoying outdoor walks;
- c) Liking gardening and showing ecological awareness;
- d) Enjoying aquariums or other life systems;
- e) Collecting insects, leaves, and other natural objects;

f) Understanding topics related to life systems (Hidayat, 2020)."

These characteristics were reflected in children's curiosity and enthusiasm when interacting with environmental objects during outdoor learning sessions.

Furthermore, "The term 'naturalistic intelligence' describes a person's capacity to identify, study, understand, and engage with nature (Handayani, 2025)."

The importance of naturalistic intelligence creates an urgent need for its integration into educational programs:

"This approach not only helps children recognize and understand nature but also builds responsibility and commitment toward environmental preservation. In the long term, it can produce a generation that is more concerned about environmental issues and contributes to sustainability (Handayani, 2025)."

The findings demonstrate that environmental exploration does not merely enhance ecological awareness but also contributes to cognitive, socio-emotional, and physical development. Through direct interaction with nature, children learn to observe, classify, develop empathy toward living things, and simultaneously strengthen motor skills through exploratory activities.

Integration of Naturalistic and Kinesthetic Intelligence in Learning

The study reveals that naturalistic and kinesthetic intelligences are not developed separately; rather, they are stimulated simultaneously

through exploratory, movement-based, and environment-centered learning activities. When children engage in gardening, nature walks, imitation of animal movements, or sensorimotor activities using natural materials, both intelligences are activated concurrently.

Learning conducted in diverse settings—indoors and outdoors—provides varied and contextual experiences that reinforce integrated development. The body becomes a medium for understanding nature, while nature becomes a context for meaningful movement. This integration aligns with the holistic principles of early childhood education, which emphasize experiential, play-based, and child-centered learning.

Conclusion

Based on the research findings and discussion, it can be concluded that the stimulation of naturalistic and kinesthetic intelligences in early childhood can be optimally developed through exploratory activities that utilize the surrounding environment as a primary learning resource. Learning approaches that emphasize direct experience, physical movement, and children's interaction with nature have been shown to provide meaningful and holistic developmental stimulation.

Kinesthetic intelligence develops when children are given opportunities to actively use their bodies in various motor activities, both structured and unstructured. Through these activities, children are able to express ideas and emotions, enhance body coordination, and

strengthen motor control. Active bodily engagement positions movement not merely as a complementary activity but as a central medium of learning in early childhood education.

Meanwhile, naturalistic intelligence grows through learning experiences that allow children to observe, identify, and directly interact with elements of the natural environment. Such engagement fosters curiosity, environmental awareness, responsibility, and a sense of care for sustainability from an early age. Interaction with nature also supports cognitive processes such as observation, classification, and cause-effect reasoning, while simultaneously reinforcing physical development through exploratory movement.

The integration of naturalistic and kinesthetic intelligences within learning activities demonstrates that both intelligences are complementary and can be stimulated simultaneously through environment-based exploration. When children move within natural contexts—such as gardening, observing plants and animals, or engaging in outdoor exploratory play—they activate bodily coordination while constructing understanding of ecological systems.

Furthermore, the successful stimulation of these intelligences is inseparable from the roles of educators and parents. Teachers function as facilitators who design creative, contextual, and child-centered learning experiences that intentionally incorporate movement and environmental interaction. Parents extend this stimulation at home by

providing opportunities for physical activity and cultivating habits of environmental care. Consistent collaboration between school and family environments strengthens the sustainability of developmental stimulation.

In conclusion, early childhood learning should be directed toward a holistic and experience-based approach that integrates environmental exploration and meaningful physical engagement. Such an approach ensures that children's diverse potentials—particularly naturalistic and kinesthetic intelligences—can develop in a balanced, integrated, and sustainable manner.

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