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Analysis of Naturalist Intelligence in 5-6 Year Old Children at Budi Luhur Kindergarten

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A B S T R A C T
This study aims to analyze the naturalist intelligence of children aged 5-6 years at Budi Luhur Kindergarten. The research method in this study uses a qualitative descriptive approach. The population in this study were all 16 students of Budi Luhur Kindergarten. While the sample in the study amounted to 7 people. The sampling technique used by the researcher was a random sampling technique. The data obtained were in the form of observation notes, interview notes, field documentation such as photographs or other supporting data. The results of this study are 3 out of 7 children's naturalist intelligence has not been seen because the children are still afraid of interacting with the surrounding nature. Children are still afraid of being approached by cats and children are still afraid of getting dirty when asked to care for plants. Therefore, children's naturalist intelligence needs to be further improved by using the nature material center learning method and Outing class.

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INTRODUCTION

Every child born into this world has been gifted by the Creator with their own talents and intelligence. It remains to be seen how society, educators, and parents work together to develop each child's intellectual potential. According to Munif Chatib in Muhaemin and Fitrianto (2022), intelligence is a person's ability to familiarize themselves by constantly moving and creating new works of cultural or creative value, as well as being able to solve problems and find solutions independently or problem-solving. Naturalist intelligence is one of the various types of intelligence identified by Howard Gardner in his theory of multiple intelligences. This intelligence relates to an individual's ability to recognize, understand, and interact with the natural environment, including flora and fauna.

According to Armstrong in Muhaemin and Fitrianto (2022), naturalist intelligence is a child's ability to love the natural environment by recognizing various plants and animals and observing phenomena that occur in their surroundings. According to Muhaemin and Fitrianto (2022), naturalist intelligence is a child's ability to identify and classify various things in the universe, such as the occurrence of a full moon, a solar eclipse, rain, rainbows, and so on. This naturalist intelligence is related to a child's ability to love the environment, both plants and animals.

Naturalist intelligence is related to the skill in recognizing and classifying flora and fauna in their environment. This intelligence is also related to a person's love for natural objects, animals, and plants. Naturalist intelligence is also characterized by sensitivity to natural forms. The characteristics of Naturalist Intelligence are that children will be familiar with pets, children enjoy walking in the open air, children are sensitive to natural forms, children like gardening or being near gardens, children enjoy aquariums, herbariums, terrariums, or other living systems, children like a clean and healthy environment and are convinced that animals have their own rights (Firdausy, 2022).

In children aged 5-6 years, this developmental stage is very important because children begin to develop a deeper understanding of the world around them through direct experience and exploration. Based on the results of interviews conducted by researchers with child A, it was found that the child has chickens and cats at home. The child often helps his mother feed her pets. His mother also has many flower plants at home, so the child often helps his mother when she is caring for them. The child is often invited by his mother to care for the plants, such as watering them and fertilizing them. In this way, the child directly loves the animals and plants around him and the child can learn how to care for them properly, such as feeding his pets and watering and fertilizing his flowers.

At this age, children have a strong sense of curiosity and the ability to learn through observation. Therefore, it is important to create a learning environment that supports the development of their naturalist intelligence. One effective method of stimulating this intelligence is through a natural materials learning model. A Natural Materials Center is a learning environment in the form of an area designed in such a way that teaching materials, namely various activities

using media derived from the surrounding environment according to the child's developmental level, can stimulate an active, interactive learning process that aligns with the child's interests. Based on previous research conducted by Asih and Susanto (2022), results showed that naturalist intelligence in children aged 5-6 years can be enhanced through the natural materials center learning model.

Furthermore, activities involving direct exploration of the surrounding environment, such as outing classes or outdoor activities, have also been proven effective in enhancing children's naturalist intelligence. According to Vera Dalam (Rahmawati and Nazarullail, 2020), outing classes are activities that directly involve nature as a learning resource. Outing classes are one way to bring children closer to real life, namely the community environment. Outing class activities that arise are taking children outside to a place that has been planned as a place for learning and other activities aimed at developing aspects of early childhood development. Through direct experience, children can observe and interact with various elements of nature, which in turn enriches their knowledge and understanding of the world. Through outing class activities, children not only sit quietly listening to teacher explanations but also move actively and freely according to their abilities in exploring the environment they visit. This is in line with previous research conducted by Maryanti, et al. (2019) where the results showed that using the outing class method can enhance naturalist intelligence in early childhood.

Therefore, analyzing naturalist intelligence in children aged 5-6 years is crucial for understanding how they interact with their environment and how appropriate learning methods can support their development. Further research in this area could provide deeper insights into effective strategies for enhancing children's naturalist intelligence.

LITERATURE REVIEW

Naturalist Intelligence is one of the eight intelligences introduced by Howard Gardner in his theory of multiple intelligences. This type of intelligence refers to the capacity to recognize, classify, and utilize environmental features such as animals, plants, and weather patterns to solve problems or create products. According to Howard Gardner (in Sunardi & Kurniastuti, 2022), this intelligence is closely related to an individual's ability to recognize, classify, and understand nature and all its contents. During childhood, naturalist intelligence forms an important foundation for environmental awareness and science-related learning. According to Armstrong (2009), children with high naturalist intelligence tend to enjoy exploring nature, observing organisms, and participating in outdoor activities. This aligns with the findings of Yaumi (2022), who explained that this intelligence fosters sensitivity and a sense of responsibility towards living things.

Indicators of children's naturalist intelligence are important to develop. According to Musfiroh in Firdausyi (2022) the characteristics of children who have Naturalist intelligence are as follows: 1) Children like animals and plants, 2) children love animals and plants around them, children love animals and plants, caring for and maintaining them has begun to appear. From these

indicators, teachers can identify the achievement of this naturalist intelligence can stimulate and develop naturalist intelligence in teaching and learning activities. According to (Gumitri & Suryana, 2022) indicators of children's naturalist intelligence are as follows: (1) Likes activities related to the surrounding environment, such as caring for animals or liking plants, (2) shows a desire to preserve the surrounding environment, (3) is sensitive to natural events, (4) likes to explore or explore by showing the surrounding environment.

Children aged 5-6 years are at a developmental stage where sensory learning and experiences are most effective. Piaget's theory of cognitive development places children in the pre-operational stage at this age, where symbolic thinking emerges and concrete experiences play a crucial role in shaping understanding (Piaget, 1973). Therefore, the learning environment should provide rich interactions with natural elements to stimulate their curiosity and knowledge retention.

To foster naturalist intelligence, two educational approaches stand out: nature centers and outing classes. Natural centers involve the use of objects such as leaves, seeds, soil, and natural textures to stimulate exploration, creativity, and learning (Asih & Susanto, 2022). This model supports hands-on learning and can improve not only naturalist intelligence but also fine motor skills and observation (Azizah, 2023). Meanwhile, outing classes, defined as structured outdoor learning sessions, enhance children's sensory engagement, promote active observation, and foster an emotional connection with nature. According to Rindani Dalam (Rahmawati and Nazarullail, 2020), outing classes are fun teaching and learning activities. Learning activities can be said to be fun because play is voluntary and creates a sense of joy in children. Through play, learning activities that initially seemed boring for children transform into enjoyable learning activities through play. Teaching and learning activities are not carried out indoors as is usually the case, but rather outdoors. This activity brings children closer to their environment. The benefits of implementing outing class learning include: a) Reducing boredom during online and face-to-face/conventional teaching and learning processes; b) Training children to have social attitudes and work together when forming groups; c) Increasing children's creativity; d) Increasing children's morality for discipline; e) Increasing children's love for the environment, especially God's creatures; f) Improving language skills in storytelling.

Maryanti et al. (2019) found that children exposed to guided classroom activities demonstrated greater enthusiasm and understanding of environmental topics compared to those in traditional classrooms. Furthermore, a study by Yasbiati et al. (2017) and Saripudin (2017) emphasized that early exposure to nature through direct interactions—such as gardening or caring for animals—can build empathy, responsibility, and cognitive maturity in children. This also aligns with Vygotsky's sociocultural theory, which argues that interactions with the environment and social context significantly influence cognitive development (Vygotsky, 1978). Thus, an educational model rooted in real-life environmental experiences is crucial for nurturing naturalist intelligence in early childhood.

METHODOLOGY

The research method concerns the analysis of naturalist intelligence in children aged 5-6 years. This research was conducted using a qualitative descriptive approach. This study aims to determine the naturalist intelligence of children aged 5-6 years at Budi Luhur Kindergarten. The population of this study was all 16 students of Budi Luhur Kindergarten. The sample size was 7 people. The sampling technique used by the researcher was random sampling. According to Sugiyono (2022), random sampling is a technique for selecting samples randomly from members of a population without considering strata within the population. Data obtained in the form of observation notes, interview notes, field documentation such as photographs, or other supporting data.

Research on naturalist intelligence uses a descriptive qualitative approach, in line with Sujiono's opinion in (Saripudin, 2017) that multiple intelligences, including naturalist intelligence, are assessments that descriptively examine how individuals use their intelligence to solve problems or produce something. Therefore, research on naturalist intelligence in students at Budi Luhur Kindergarten is suitable to use a descriptive qualitative research type. Then, the data is analyzed by reducing the data, presenting the data in a well-organized narrative form, and then concluding it in a meaningful form.

RESEARCH RESULT

Analysis of naturalist intelligence in children aged 5-6 years is an important topic in early childhood education. Naturalist intelligence refers to a child's ability to recognize and interact with the natural environment, including plants, animals, and other natural phenomena. According to (Gumitri & Suryana, 2022) naturalist intelligence is part of multiple intelligences that involves sensitivity to the surrounding natural environment. From the age of 5-6 years, children can demonstrate forms of naturalist intelligence in the following ways: (1) Enjoying activities related to the surrounding environment, such as caring for animals or liking plants, (2) showing a desire to preserve the surrounding environment, (3) being sensitive to natural events, (4) liking to explore or explore by showing the surrounding environment.

Based on the research that has been done regarding the Analysis of Naturalist Intelligence in children aged 5-6 years in Budi Luhur Kindergarten, the results can be obtained, namely: Naturalist intelligence possessed by students includes interest or attraction to the surrounding environment such as keeping animals and liking plants, having concern for the environment and showing a desire to preserve the environment, enjoying exploring or exploring by showing the surrounding environment. The results of research that has been done on students in Budi Luhur Kindergarten found that most of Budi Luhur Kindergarten students have interest or attraction to the surrounding environment such as keeping animals and liking plants, having concern for the environment and showing a desire to preserve the environment, enjoying exploring or exploring by showing the surrounding environment. One of them is student A who keeps animals namely cats and chickens and often helps his mother in caring for her mother's flower plants. Student A has concern for the environment such as not littering the remains of his snacks, he always throws

trash in its place even when he sees his friend littering, he advises his friend and invites his friend to throw trash in the trash. Based on this statement, it can be seen that child A has a sense of concern for animals and plants, has concern for the environment and shows a desire to preserve the environment.

Based on the research that has been done that child B when invited to study outside the house he likes to see caterpillars on the leaves, and he also likes to watch the ants walking around him. Then when asked child B answered that he likes to see caterpillars on the leaves and ants walking around him. And when he sees dry leaves on flower B child B likes to pick the leaves. When asked child B answered that he likes to pick dry leaves so that the leaves turn into new green leaves, this he knows based on the explanation from his parents. Then child B also has a high environmental concern such as throwing garbage in its place and he also often forbids his friends to hit ants walking on the floor. Based on the results of the study it can be seen that child B has an interest or interest in the surrounding environment such as keeping animals and liking plants, having concern for the environment and showing a desire to preserve the environment, enjoying exploring or exploring by showing the surrounding environment.

Based on the research that has been done that child C is happy when asked by the teacher to water the flowers in front of his class. In accordance with his statement that when at home he often helps his mother water the flowers so that the flowers do not wilt and do not die. In addition, child C also likes to see or hold cats that roam around the school, even C also likes to hold and hold the cat. He did this because when at home he keeps a cat. Child C is also happy when learning is done outside such as at the peak of the gardening theme, child C is very happy because he can farm and can plant plants that he brought from home. The results of the study can be seen that child C has an interest or interest in the surrounding environment such as keeping animals and liking plants, having concern for the environment and showing a desire to preserve the environment, enjoying exploring or exploring by showing the surrounding environment.

Based on the research that has been done, child D likes to observe trees blown by the wind, and he is also happy when invited to plant flowers. Based on the results of the interview, child D when at home likes to help his mother plant in the backyard of his house. In addition, child D also likes to see and observe birds flying in the school yard, then the child asks his teacher why the bird can fly. And child D also likes to see ants walking around him and sometimes he likes to catch the ants. The results of the study can be seen that child D has an interest or interest in the surrounding environment such as keeping animals and liking plants, having concern for the environment and showing a desire to preserve the environment, likes to explore or explore by showing the surrounding environment.

This is in line with Yaumi's theory (2022) which states that children who have fairly good naturalist intelligence are children who enjoy and are interested in approaching nature such as holding animals, approaching them, and even caring for them. In addition to animals outside the house, there are also many plants or other natural materials where students admitted to being interested in blooming flowers, leaves they had just seen, and also being interested in touching

seeds on plants. In agreement with the theory of Yasbiati, et al. (2017) who explained that students' naturalist intelligence can be shown by their concern for the plants around them and trying to water them as well as their concern for the animals around them.

Based on the results of research from 7 children there are 3 other children who do not have an interest or interest in the surrounding environment such as keeping animals and liking plants, do not have concern for the environment and show a desire to preserve the environment, do not like to explore or explore by showing the surrounding environment. The 3 children are still afraid to hold animals around them, even the child is one of the children who when approached by a cat he cries because he is afraid of being scratched and when there are ants he moves away. There is a child who when asked to plant he does not want to because the child is still afraid of getting dirty and does not want to hold it, he feels that if he does that his clothes will be dirty and smelly. Then there are children who do not have concern for the environment such as still throwing garbage carelessly when his snacks run out.

DISCUSSION

Based on the results above, it can be seen that of the 7 children studied, 4 of them have an interest or passion for the surrounding environment such as keeping animals and liking plants, having concern for the environment and showing a desire to preserve the environment, enjoying exploring or exploring by showing the surrounding environment. This shows that the naturalist intelligence of Budi Luhur Kindergarten students has begun to improve. To further improve children's naturalist intelligence, teachers can implement learning using the natural materials center learning model. The center learning model is a combination of theory and direct experience in the field which ultimately can develop children's development well according to their stages (Azizah, 2023). Teachers can use this learning model to introduce the surrounding environment to children, for example, teachers can make collages with banana leaves, taste using banana stems and stick seeds.

In addition to using the natural resource center learning model, outing class activities can also be used to help improve the naturalist intelligence of early childhood. According to Rindani Dalam (Rahmawati and Nazarullail, 2020), outing classes are enjoyable teaching and learning activities. Learning activities can be said to be enjoyable because play is voluntary and creates a sense of joy in children. Through play, learning activities that initially felt boring for children transform into enjoyable learning activities through play. Teaching and learning activities are not carried out indoors as is usually the case, but rather outdoors. This activity brings children closer to their environment.

Outing Class is a learning activity carried out outside the classroom or class that aims to equip students with skills and develop their abilities (Dina Indriana in Rahmawati and Nazarullail, 2020). To implement learning outside the classroom, teachers must be careful in determining the location of the activity that will be carried out as a place for outing class activities. The location of Outing Class activities should be a strategic and effective place for learning. In general,

there are two locations that can be used as a place for outing class activities, namely the environment inside the school and the environment outside the school. The first location is the school environment. The school environment is a fairly effective place for outing class activities because it does not require large costs to go out, does not require a lot of time to get to the learning activity location but learning is still effective. Locations in the school environment that can be used as a place for outing class activities, including: a) the school yard; b) the flower garden at school; c) trees in the school yard; d) the school backyard; e) the school field. The second location that can be used as a place for outing class activities is the outside school environment. This outside school environment can have a positive impact on children's intelligence and can influence the improvement of aspects of child growth and development. Places that can be used as venues for extracurricular activities include: a) zoos; b) museums; d) places of worship; e) parks; f) tourist attractions; g) animal enclosures.

In this study, outing class activities that can be used by researchers are outing class activities that are around the school environment such as the school yard at school where children can see and observe animals that roam around the school such as cats and birds flying. In addition, outing class activities can be carried out in the school flower garden by doing gardening activities. Through gardening, children can interact directly with nature and it makes children feel happy and prevents children from feeling frustrated when learning in class. Then the teacher can also invite children to work together to collect trash scattered in the school yard because this activity is also an effort to protect the surrounding environment. So, outing class learning more directly involves children with the environment around them which refers to environmental experiences and education that greatly influence naturalist intelligence.

CONCLUSION AND RECOMMENDATIONS

Based on the results and discussion above, it can be concluded that the development of naturalist intelligence in early childhood is very important in supporting children's growth. Based on the results of the study, it can be seen that 3 out of 7 children about naturalist intelligence is not visible because children are still afraid to interact with the surrounding environment such as children are still afraid when approached by animals and children are afraid of getting dirty when invited to learn about plants. Therefore, ways that can be done to increase children's naturalist intelligence are to use natural material learning methods and outing classes. Outing class activities that can be used by researchers are outing class activities that are around the school environment such as the school yard in the school environment, children can see and observe animals that roam around the school such as cats and birds flying. In addition, outing class activities can be carried out in the school flower garden by doing planting activities. Through planting, children can interact directly with nature and this makes children feel happy and prevents children from feeling frustrated when learning in class. Then, teachers can also invite children to work together to pick up trash scattered in the school yard because this activity is also an effort to protect the surrounding environment. So, learning in outing classes involves children more directly with

the surrounding environment, which refers to environmental experiences and education that have a great influence on naturalist intelligence.

ADVANCED RESEARCH

Future research could focus on comparing the effectiveness of the nature center model and the outdoor classroom method in enhancing naturalist intelligence in early childhood. This would involve implementing both methods in different groups, measuring outcomes using consistent observation and interview tools, and analyzing which approach produces more significant improvements in children's interactions with nature. Such studies could guide educators in selecting the most effective strategies for stimulating the development of naturalist intelligence.

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