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# The Effect of the Outing Class Method on the Naturalist Intelligence of Children Aged 5–6 Years

**Lia Roaina[1*], Ahmad Syukri Sitorus[2]**
[1,2] *Pendidikan Islam Anak Usia Dini, Universitas Islam Negeri Sumatera Utara, Indonesia*

***Corresponding Author**: Lia Roaina **E-mail**: roaina0308213049@uinsu.ac.id

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**ABSTRACT**
Naturalist intelligence is a fundamental domain of early childhood development, reflecting children's capacity to observe, identify, and relate to elements of the natural world—an ability that is increasingly essential in fostering ecological consciousness from an early age. This study aims to determine the effect of the outing class learning method on the naturalist intelligence of children aged 5–6 years. The research employed a Quasi-Experimental Design. Participants consisted of 20 children from Group A and Group B at Rahmatul Iman II Kindergarten. Using simple random sampling, ten children were assigned to the control group (Group A) and ten to the experimental group (Group B). Data were collected through structured observation to assess indicators of naturalist intelligence. Data analysis included both descriptive and inferential statistics, namely normality tests, homogeneity tests, and independent t-tests. The findings revealed a statistically significant difference between the experimental and control groups, with the experimental group showing a more substantial improvement in naturalist intelligence. The analysis confirmed this outcome, as the calculated t-value was substantially higher than the critical value, leading to the rejection of the null hypothesis. It can thus be concluded that the outing class method has a significant and positive impact on the development of naturalist intelligence in children aged 5–6 years. These findings imply that integrating experiential outdoor learning into early childhood education may serve as an effective approach to nurturing environmental sensitivity and holistic development.

**Keywords:** *Outing Class, Naturalist Intelligence, Early Childhood*

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## INTRODUCTION

Early childhood is often referred to as the golden age, a critical period during which children's growth and development occur rapidly and uniquely across individuals (Nurlaila et al., 2025; Qistina & Khadijah, 2025; Rohali & Sitorus, 2025). This stage is characterized by heightened sensitivity to environmental stimuli and the formation of foundational cognitive, emotional, and physical capacities (Ailah et al., 2025; Wulandari et al., 2024). Recognizing the importance of this developmental phase, the Indonesian government has emphasized the significance of Early Childhood Education (ECE) as a formal effort to nurture children from birth to the age of six (Innes et al., 2023; Mahriza et al., 2023; Warmansyah et al., 2022). This is carried out through the provision of educational stimuli designed to support the holistic development of both physical and psychological aspects, ensuring that children are well-prepared for subsequent stages of formal education (Maryanti et al., 2019).

Children aged five to six years are in a critical phase of rapid development, during which they begin to display diverse forms of intelligence (Fitriana & Yusuf, 2024; Sternberg, 2021). At this stage, each child tends to exhibit a predominant type of intelligence, along with one or more supporting intelligences that facilitate the processes of learning and memory retention. Howard Gardner, through his theory of multiple intelligences, asserts that intelligence is not a single, uniform construct but rather a composite of various distinct types. These types of intelligence include linguistic, logical–mathematical, musical, visual–spatial, bodily–kinesthetic, interpersonal, intrapersonal, and naturalist intelligence. Gardner's theory highlights that every child possesses a unique intellectual profile. This understanding underscores the importance of educational strategies that recognize and nurture the individual strengths and potentials of each child in a holistic manner (Utami, 2020).

One of the essential types of intelligence that should be nurtured from an early age is naturalist intelligence, which refers to a child's ability to understand, recognize, and interact with the natural environment (Anggraini, 2017). This form of intelligence reflects a sense of environmental appreciation, manifested through care and sensitivity toward plants, animals, and natural phenomena. Developing naturalist intelligence from an early stage fosters environmentally conscious behavior and cultivates a sense of responsibility for ecological preservation (Rahayu & Sitorus, 2024). A child's growing knowledge of the natural world can enhance their awareness of the importance of environmental sustainability in the future. Therefore, the early cultivation of naturalist intelligence is crucial for shaping a generation that is not only environmentally responsible but also actively engaged in the stewardship of the planet.

According to Howard Gardner's theory of multiple intelligences, naturalist intelligence refers to the ability to recognize, differentiate, and classify various species of living organisms, as well as a sensitivity to natural phenomena. This form of intelligence allows individuals to categorize elements from the natural environment, particularly flora and fauna, and to interact meaningfully with them (Syarifah, 2019). Armstrong further defines naturalist intelligence as the capacity to observe and organize different types of plants and animals in one's surroundings while demonstrating an acute awareness of environmental features. He emphasizes that naturalist intelligence plays a crucial role not only in environmental awareness but also in contributing to sectors such as development, technology, and economics, highlighting the urgent need for environmentally conscious individuals in modern society (Julita & Juwita, 2024; Priyanti & Warmansyah, 2021).

Sit (2023) views naturalist intelligence as the ability to process, classify, and model natural elements based on personal observation and experience. This includes a strong interest in life sciences and a genuine concern for both living and non-living components of the ecosystem. Kurniawati et al.,(2022) adds that this intelligence encompasses awareness of landscapes, species differentiation, and the ecological relationships between them. For instance, a child with high naturalist intelligence is often affectionate toward animals, eager to interact with them, and motivated to care for them instinctively (Ismail, 2018).

Children who display naturalist intelligence typically enjoy outdoor activities, gardening, and maintaining a clean and healthy environment. Marlisa (2019) describe several behavioral characteristics of such children: a fondness for pets, enjoyment of nature walks, attentiveness to natural shapes and features, and enthusiasm for engaging with nature. Wulan (2021) and Aprilianti & Septiani, (2021) affirm that naturalist intelligence is associated with a passion for

outdoor exploration, including animal care and plant observation, and argue that such intelligence should be nurtured from an early age to support environmental stewardship.

In line with these theoretical perspectives, learning experiences that directly involve nature are essential for stimulating naturalist intelligence in young children (Lesiani, 2020; Suhirman et al., 2021). One such approach is the outing class method, which integrates outdoor educational experiences into the curriculum. This method allows children to interact with their environment in a real-world context and helps alleviate the monotony often associated with indoor, text-based learning (Kaswati et al., 2024). As emphasized by Utami (2020), the outing class method can significantly improve naturalist intelligence in early childhood by creating more engaging and practical learning opportunities.

Field observations and interviews conducted at Rahmatul Iman II Kindergarten suggest that children struggle to categorize plants, recognize their parts, and demonstrate environmental awareness. This may be due to the predominance of traditional classroom activities—focused mainly on reading, writing, and arithmetic—offering minimal interaction with the natural world. Consequently, children's learning experiences remain abstract and disengaging. To address this gap, it is essential to adopt educational strategies that bridge classroom learning with real-life environmental exploration.

The outing class method, as described by Istifarriana, (2023), involves taking children outside the classroom to interact with nature such as visiting gardens, farms, or simply exploring the school's surroundings. Activities such as planting, observing ecosystems, and engaging with animals are central to this method (Syahreni & Zahro, 2022). Sari et al., (2023) emphasizes that outdoor learning not only improves cognitive outcomes but also facilitates emotional, social, and moral development through meaningful experiences. Montessori education also supports this approach, stating that gardening activities such as sowing seeds and caring for plants instill responsibility, empathy, and communication skills (Maimanah & Sitorus, 2024). These experiences foster knowledge, skills, and values rooted in experiential learning (Puspita et al., 2024). Additional methods for stimulating naturalist intelligence include providing science books, animal documentaries, natural object collections, and hands-on exposure to environmental phenomena (Saripudin, 2017). Yasbiati et al. (2017)outline structured steps for gardening activities that support this learning process: preparing tools, guiding planting, ensuring proper drainage, assigning individual pots, filling them with soil, distributing seedlings, and maintaining the plants. Such processes enable children to develop practical skills and environmental sensitivity through active participation.

In summary, the outing class method offers an effective pedagogical alternative to conventional indoor teaching, allowing children to learn directly from nature and making the educational process more engaging and memorable. Given the current limitations observed in the naturalist intelligence development of children at Rahmatul Iman II Kindergarten largely due to the lack of experiential learning opportunities this study aims to explore whether the outing class method can significantly enhance naturalist intelligence in children aged 5–6 years.

Despite the growing body of literature highlighting the benefits of outdoor learning, few empirical studies have specifically examined its effect on naturalist intelligence using structured experimental designs in local early childhood contexts. This study addresses that gap by offering a focused investigation of the impact of outing class activities on children's naturalist development. The novelty of this research lies in its integration of Gardner's theory with direct pedagogical application in the form of systematic observation, treatment, and measurement of

naturalist indicators. Therefore, the purpose of this study is to determine the effect of the outing class method on the development of naturalist intelligence in early childhood learners at Rahmatul Iman II Kindergarten.

## RESEARCH METHODOLOGY

This research was conducted at Rahmatul Iman II Kindergarten, located on Jalan Perhubungan, Dusun XI Bandar Setia. The population in this study comprised two groups of children aged 5–6 years: Group A and Group B, totaling 20 participants. Group A consisted of 10 children, while Group B also included 10 children.

The study adopted a quantitative approach with a quasi-experimental design, specifically utilizing the pretest-posttest control group design. The experimental method was employed to examine the causal relationship between the implementation of the *outing class* method (as the independent variable) and the development of naturalist intelligence (as the dependent variable), within controlled conditions. In this design, participants were divided into two groups: Group A served as the control group, and Group B functioned as the experimental group. The research design is illustrated in Table 1 below:

Table 1. Research Design

| Group | Pre-Test | Treatment | Post-Test |
|---|---|---|---|
| A (Control) | $O_1$ | – | $O_3$ |
| B (Experimental) | $O_2$ | X (Outing Class Method) | $O_4$ |

Note:

$O_1$: Pre-test for control group

$O_2$: Pre-test for experimental group

$O_3$: Post-test for control group

$O_4$: Post-test for experimental group

X : Intervention using the outing class learning method

– : No treatment with outing class method

The sampling technique used in this study was simple random sampling. Simple random sampling is a method of selecting sample members from a population entirely by chance, ensuring each individual has an equal opportunity to be chosen, regardless of strata or group categorization. Data were collected through structured observation aimed at assessing children's naturalist intelligence based on pre-established indicators.

To analyze the data, both descriptive and inferential statistical methods were employed. The inferential analysis involved three main steps; 1) Normality Testing: Conducted using the *Shapiro–Wilk test* to assess whether the distribution of the data conformed to a normal distribution; 2) Homogeneity Testing: Performed using *Levene's Test* to evaluate the equality of variances between the control and experimental groups; 3) Hypothesis Testing (t-test): An independent samples t-test was utilized to determine whether there was a statistically significant difference in naturalist intelligence between the control and experimental groups, thereby testing the effect of the outing class method.

## RESULTS AND DISCUSSION

### Results

The research began with observational procedures to evaluate the initial level of naturalist intelligence among Group B children at Rahmatul Iman II Kindergarten. Several indicators were used to assess the children's ability to identify and engage with plants, including their capacity to name plant parts, describe plant characteristics, care for plants, recognize tools required for planting, and identify planting media (such as soil and water). Following the initial observation phase, the researcher implemented an intervention in the form of outdoor learning activities, referred to as the outing class method. The data collected in this study consisted of pretest and posttest scores from both the control and experimental groups. These results were then analyzed using descriptive statistical methods, as presented in the following section:

Table 2. Descriptive Statistics of Pretest and Posttest Scores

| Descriptive Statistics | | | | | | | |
|---|---|---|---|---|---|---|---|
| Measure | N | Range | Minimum | Maximum | Mean | Std. Deviation | Varians |
| Pretest (Experiment) | 10 | 6 | 6 | 12 | 8.80 | 1.814 | 3.289 |
| Posttest (Experiment) | 10 | 16 | 28 | 44 | 36.30 | 4.855 | 23.567 |
| Pretest (Control) | 10 | 6 | 5 | 11 | 7.80 | 1.814 | 3.289 |
| Posttest (Control) | 10 | 12 | 22 | 34 | 27.80 | 3.938 | 15.511 |
| Valid N (listwise) | 10 | | | | | | |

*Source: Processed by the researcher, 2025*

Based on the descriptive analysis, a comparison was made between the pretest and posttest scores of naturalist intelligence in the experimental and control groups, each consisting of 10 children. In the experimental group, prior to the implementation of the outing class method (pretest), the average score of naturalist intelligence was 8.80 with a standard deviation of 1.814. After the outing class method was applied (posttest), the average score increased significantly to 36.30 with a standard deviation of 4.855, indicating a substantial improvement in naturalist intelligence following the intervention.

In contrast, the control group, which did not receive the outing class treatment, recorded an average pretest score of 7.80 with a standard deviation of 1.814, and a posttest score of 27.80 with a standard deviation of 3.938. Although an improvement was observed in this group as well, it was not as substantial as the improvement shown by the experimental group.

The greater increase in scores observed in the experimental group suggests that the outing class method had a stronger positive impact on the development of children's naturalist intelligence compared to conventional teaching methods. This can be attributed to the broader range of learning outcomes achieved through direct interaction with the natural learning environment provided by the outing class activities. The next step of the analysis involved conducting a normality test, as follows:

Table 3. Shapiro–Wilk Test of Normality

| Test of Normality | | | | |
|---|---|---|---|---|
| | | Shapiro-Wilk | | |
| | Class | Statistic | df | Sig. |
| Results | Posttest (Experiment | .986 | 10 | .988 |
| | Posttest (Control) | .947 | 10 | .637 |

*Source: Processed by the researcher, 2025*

The normality test was conducted using the Shapiro–Wilk Test to determine whether the data were normally distributed. The results indicated that all data sets had significance (Sig.) values greater than 0.05. Specifically, the posttest score of the experimental group yielded a Sig. value of 0.988, while the control group recorded a Sig. value of 0.637. Since both values exceed the 0.05 threshold, it can be concluded that the data for each group are normally distributed. Therefore, a homogeneity of variance test was subsequently conducted to support further parametric analysis.

Table 4. Levene's Test of Homogeneity of Variance

| Test of Homogenity of Variance | | | | | |
|---|---|---|---|---|---|
| | | Levene Statistic | df1 | df2 | Sig. |
| Results | Based on Mean | .494 | 1 | 18 | .491 |
| | Based on Median | .626 | 1 | 18 | .439 |
| | Based on Median and With adjusted df | .626 | 1 | 17.974 | .439 |
| | Based on trimmed mean | .499 | 1 | 18 | .489 |

*Source: Processed by the researcher, 2025*

The homogeneity of variance test was carried out using Levene's Test to verify whether the variances between the experimental and control group data were equal. The results showed significance (Sig.) values of 0.491 based on the mean, 0.439 based on the median, and 0.489 based on the trimmed mean. All values exceeded the 0.05 threshold, indicating that the variances between the experimental and control groups were homogeneous. Therefore, it can be concluded that the data satisfy the assumption of homogeneity of variance, allowing for the use of further parametric testing. The next step was to conduct the independent samples t-test.

Table 5. Independent Samples t-Test Results

| Independent Sampels Test | | | | | |
|---|---|---|---|---|---|
| | Levenes Test for Equality of Variences | | | | |
| Results | F | Sig. | t | dt | Sig. (2-tailed) |
| Equal Variances assumed | .494 | .491 | 4.300 | 18 | .000 |
| Equal variances not assumed | | | 4.300 | 17.266 | .000 |

*Source: Processed by the researcher, 2025*

Based on the results of the Independent Samples t-test, the Levene's Test for Equality of Variances yielded a significance value of 0.491 (> 0.05), indicating that the assumption of homogeneity of variance was met. The calculated t-value was 4.300, with a critical t-table value of 2.101, degrees of freedom (df) equal to 18, and a two-tailed significance (p-value) of 0.000, which is less than 0.05. These results confirm a statistically significant difference between the group that received the outing class intervention and the group that did not. Therefore, it can be concluded that the outing class method has a significant effect on the naturalist intelligence of children aged 5–6 years at Rahmatul Iman II Kindergarten.

**Discussion**

The results of this study confirm that the outing class method has a significant effect on enhancing early childhood naturalist intelligence, particularly in the context of plant recognition. Through outdoor learning experiences, children were provided with direct engagement in natural

environments, enabling them to observe, touch, explore, and interact with real-life objects—especially plants. This form of experiential learning is highly compatible with early childhood education, as it aligns with children's natural learning styles, including kinesthetic, visual, and naturalist modalities.

Prior to analyzing the influence of the outing class method, a series of statistical tests were conducted to ensure data validity. The normality test using the Shapiro–Wilk method showed that both the control and experimental groups had normally distributed data, as indicated by significance values greater than 0.05. Homogeneity of variance was also confirmed through Levene's Test, which demonstrated that the variances between groups were statistically equal. These findings justified the application of a parametric test. The independent samples t-test revealed a statistically significant difference between the experimental and control groups, indicating that the outing class method contributed meaningfully to improved learning outcomes.

Children in the experimental group demonstrated notable improvement across all five indicators of naturalist intelligence: identifying parts of plants, recognizing plant characteristics, caring for plants, naming planting tools, and understanding planting media such as soil and water. Compared to traditional classroom instruction, which often relies on abstract representations through pictures or verbal explanations, the outing class method provided children with authentic, hands-on learning experiences. These real-life interactions strengthened memory retention and deepened conceptual understanding.

Observations at Rahmatul Iman II Kindergarten revealed a high level of enthusiasm among the children during the outdoor planting activities, particularly while cultivating water spinach (kangkung). Many children showed genuine interest in plants and sensitivity to their surroundings. This is consistent with characteristics of naturalist intelligence described by Winarti and Purnamasari (2023), such as enjoyment in exploring nature, appreciation for landscapes, and interest in gardening and caring for animals.

Before the intervention, many children had limited knowledge of plant parts, planting tools, or maintenance practices. After participating in outdoor learning activities, the children exhibited measurable gains in both cognitive understanding and emotional engagement with nature. This suggests that direct interaction with the natural environment enhances both knowledge acquisition and environmental awareness. The effectiveness of the outing class method can be attributed to the firsthand learning experiences it provides. Rather than merely observing images of plants, children were able to physically handle leaves, smell the earth, and witness plant growth in real time. This multisensory approach supports deeper cognitive processing and long-term memory, as children are actively involved in constructing meaning from their environment rather than passively receiving information (Purnamasari et al., 2022).

Furthermore, outdoor learning proved to be more engaging for young children. Compared to conventional classroom settings, which can be monotonous and sedentary, learning in nature encouraged movement, exploration, collaboration, and social interaction. Children became more active and communicative, working together while planting and caring for their vegetation (Amylia & Setyowati, 2014; Sari et al., 2023). These activities not only supported naturalist intelligence but also contributed to social-emotional development, cooperation, and problem-solving.

The findings of this study align with previous research. Utami (2020) found that the outing class method significantly improved naturalist intelligence in children aged 5–6 years, with those engaged in outdoor activities achieving higher scores than those learning indoors. Maryanti

et al. (2019) emphasized that learning through outdoor experiences fosters a deeper understanding of plants and animals, as children are able to observe and analyze living organisms directly in their environments. Qotrunnada (2024) further emphasized that this approach allows children to connect with the natural world through concrete observation, exploration, and sensory immersion.

Similarly, research by Syahreni & Zahro (2022) supports the notion that outdoor learning activities promote naturalist intelligence by encouraging interaction with natural elements such as plants, animals, and environmental phenomena. These activities stimulate children's curiosity, categorization skills, and environmental empathy. Kaswati et al. (2024) also confirmed that repeated exposure to outdoor learning gradually enhances children's awareness and sensitivity toward nature, reinforcing the effectiveness of outing class as a long-term educational strategy.

In sum, this study demonstrates that the outing class method not only makes learning enjoyable but also cultivates a deep sense of environmental responsibility and appreciation. Through direct contact with nature, children develop not only knowledge about flora and fauna but also attitudes of care, stewardship, and ecological awareness from an early age. Embedding such values through meaningful, child-centered outdoor experiences lays the foundation for developing future generations who are environmentally conscious and socially responsible.

Consequently, the outing class method is highly suitable for early childhood education, particularly for fostering naturalist intelligence. Beyond academic gains, this approach encourages active learning, critical thinking, and real-world engagement, all of which are essential components of high-quality early learning experiences.

## CONCLUSION

Based on the findings, it can be concluded that the outing class method has a significant impact on the development of naturalist intelligence in early childhood, particularly in the context of plant recognition. Children who participated in outdoor learning activities demonstrated stronger abilities in identifying plant parts, understanding plant characteristics, recognizing planting tools and media, and describing how to care for plants. The results confirm that experiential learning in natural settings fosters deeper ecological awareness and observational skills among young learners. Therefore, the outing class method can be considered an effective alternative instructional approach for enhancing naturalist intelligence in early childhood education, especially within environmental and science-related learning themes.

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