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Increasing children's naturalist intelligence through the application of the project method in the Al Khoiriyah Play Group

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ABSTRACT

This research was motivated by the underdevelopment of children's naturalistic intelligence, especially regarding their sense of belonging and affection, and liking to care for animals and plants in the Al Khoiriyah Play Group, West Bandung Regency. One of the reasons for this is that the application of learning methods is not appropriate. This research aims to increase children's naturalist intelligence by applying the project method. The research method used is Classroom Action Research (CAR) using the Kemmis and McTaggart model, which consists of the planning (plan), implementation (act), observation (observe), and reflection (reflect) stages. The research was carried out over 2 cycles, with the research subjects being group B children in the Al Khoiriyah Playgroup, West Bandung Regency, totaling 12 children, 7 girls and 5 boys. Data collection techniques use interviews, observation, and documentary studies, while data analysis techniques use descriptive quantitative and qualitative. The research results show that the teacher has implemented the project method well from the preparation, implementation, and assessment stages. As for the development of children's naturalist intelligence, applying the project method can optimally improve children's naturalist intelligence.

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ABSTRAK

Penelitian ini dilatarbelakangi belum berkembangnya kecerdasan naturalis anak khususnya terkait rasa memiliki dan kasih sayang serta suka memelihara binatang dan tumbuhan di Kelompok Bermain Al Khoiriyah Kabupaten Bandung Barat. Hal tersebut salah satunya disebabkan penerapan metode pembelajaran yang belum tepat. Tujuan penelitian ini adalah untuk meningkatkan kecerdasan naturalis anak melalui penerapan metode proyek. Metode penelitian yang digunakan adalah Penelitian Tindakan Kelas (PTK) dengan model Kemmis dan McTaggart yang terdiri dari tahap perencanaan (plan), pelaksanaan tindakan (act), observasi (observe) dan refleksi (reflect). Penelitian dilaksanakan selama 2 siklus dengan subjek penelitian anak kelompok B di Kelompok Bermain Al Khoiriyah Kabupaten Bandung Barat yang berjumlah 12 anak yakni 7 anak perempuan dan 5 anak laki-laki. Teknik pengumpulan data menggunakan observasi dan studi dokumenter, sedangkan teknik analisis data menggunakan deskriptif kuantitatif dan kualitatif. Hasil penelitian menunjukkan bahwa guru telah menerapkan metode proyek dengan baik dari mulai tahap persiapan, tahap pelaksanaan, sampai pada tahap penilaian. Adapun dalam hal perkembangan kecerdasan naturalis anak, penerapan metode proyek dapat meningkatkan kecerdasan naturalis anak secara optimal.

Kata Kunci: *anak usia dini; kecerdasan naturalis; metode proyek*

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INTRODUCTION

One of the intelligences that must be developed in children is naturalist intelligence or environmental intelligence. Environment-based education is one of the efforts that can be utilized to develop this intelligence potential (Priadi & Fitria, 2024). This intelligence is manifested in the ability to recognize the natural world, which includes plants, animals, nature, the environment, and scientific studies about it, as conveyed by Suparno in his book "Multiple Intelligence Theory and its Application in Schools" regarding naturalist intelligence. Through this intelligence, children will have a strong interest and curiosity about the universe and living things, such as the origin of animals, plant growth, phenomena, and other natural elements such as parks, forests, mountains, rocks, and weather change patterns. Having naturalistic intelligence allows children to learn to interact and empathize with their surroundings. Ultimately, this intelligence helps increase children's awareness and concern for love, care for, and preservation of plants and animals.

Facts show that if we do not stimulate naturalist intelligence in children, many children's behaviors will appear that do not show concern for the preservation of nature or the environment so that environmental care attitudes need to be instilled in children, one of which is by utilizing the potential of children's naturalist intelligence which is strengthened by habituation programs at school (Purwono & Jannah, 2020). In the context of education, given the importance of naturalist intelligence, it is appropriate to provide the right stimulation to develop it optimally. Children are helped to get more acquainted with nature, organize camping or nature tours, go to the zoo to get to know and love animals, and do environmental projects so that their naturalistic intelligence can be well stimulated (Jančaříková, 2019). The practice of gardening, farming, and recognizing the climate or wind situation is also very helpful in developing naturalistic intelligence.

In practice, especially in learning in PAUD institutions, efforts to develop naturalistic intelligence in the ways described above are still limited. Efforts to develop naturalistic intelligence are still carried out in conventional ways, for example by talking, asking questions, and giving assignments. This happens because of the various challenges faced by PAUD institutions, such as academic qualification problems, financial problems of institutions, and competencies that must be achieved by children as learners (Liani *et al.,* 2020). Using these methods is, of course, still not relevant if you want to optimally develop naturalist intelligence. These conventional learning practices, both directly and indirectly, will certainly have an impact on the low achievement of indicators of the development of children's naturalistic intelligence, for example related to indicators of a sense of belonging and affection for nature, like planting or gardening, like to care for animals and plants, and so on.

These problems also occur in the Al Khoiriyah Playgroup, Cilame Village, Ngamprah Subdistrict, West Bandung Regency. Based on the results of pre-research interviews conducted with group B teachers, information was obtained that 75% of the development of naturalist intelligence of children was still in the undeveloped category (BB), and 25% had reached the category of starting to develop (MB). Furthermore, the teacher also explained that naturalist intelligence stimulation was still limited to using learning methods such as storytelling, conversations, questions and answers, and assignments. The introduction of objects in the surrounding nature also still uses a lot of pictures.

Of course, these problems should not be ignored because they will greatly affect the development of children's naturalistic intelligence. Therefore, it is necessary to find the right solution. One alternative that can be used to overcome these problems is through the application of the project method. The project method can provide learning experiences by exposing children as learners to everyday problems that need to be solved (Rachmi & Ipah, 2023). The project method can attract the interest and attention of learners to learn to solve problems, including those that occur in their environment, as part of the development of

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children's naturalist intelligence. The project method used in PAUD institutions mostly shows an increase in children's participation as learners and shows the development of children's naturalistic intelligence (Adawiyah *et al.,* 2019; Oktari *et al.,* 2021; Rahmiati *et al*., 2021). In addition, children's intrapersonal abilities and discipline (Fatimah *et al.,* 2021; Mujahidin *et al.,* 2019).

Based on the problems and research results, the researcher intends to carry out the project method in learning at the Al Khoiriyah Playgroup, Cilame Village, Ngamprah District, West Bandung Regency. This research was conducted to improve children's naturalist intelligence as learners through the application of the project method in playgroups.

LITERATURE REVIEW

Naturalis Intelligence

Gardner, a professor of education and psychology from Harvard University, believes intelligence is not singular, but multiple. A person's intelligence is not only in the form of intellectual intelligence (Intelligence Quotient) which is often abbreviated as IQ, but also other intelligences, namely linguistic intelligence, logical mathematical intelligence, spatial intelligence, kinesthetic-bodily intelligence, musical intelligence, interpersonal intelligence, intrapersonal intelligence, environmental/naturalist intelligence, and existential intelligence. This is conveyed in the book “Multiple Intelligence Theory and Its Application in Schools” by Suparno.

One of the most important of the various intelligences is environmental intelligence or naturalist intelligence. Gardner defines naturalist/environmental intelligence as a person's ability to understand flora and fauna well, which can make other consequential distinctions in the natural world, such as understanding and enjoying nature and using that ability productively in nature. This is delivered by Musfiroh in the book “Playing While Learning and Honing Intelligence (Stimulation Multiple Intelligences of Kindergarten-Age Children)” published by the Directorate of PPPTK and KPT of the Ministry of National Education. Natural intelligence is related to recognizing and classifying flora and fauna, one's love for natural objects, animals, and plants, and sensitivity to natural forms such as leaves, clouds, and rocks. Meanwhile, Yaumi, in his book entitled “Multiple Intelligences - Based Learning Identifying and Developing Children's Multitalents,” defines naturalist intelligence as the ability to categorize and make hierarchies of the state of organisms such as plants, animals, and nature.

Naturalist intelligence should be instilled early (Wijaya & Dewi, 2021). Children who are stimulated to maximize the potential of naturalist intelligence have good traits and characters in their social life (Dewi & Dewi, 2024; Thambu *et al.,* 2021). Several characteristics of naturalist intelligence can be identified based on Yaumi in his book, namely 1) Talk a lot about animals, plants or natural conditions; 2) Enjoys traveling to nature, zoos, or museums; 3) Has sensitivity to nature (such as rain, storms, lightning, mountains, soil, and the like); 4) Enjoys watering flowers or caring for plants and animals; 5) Likes to see animal cages, birds, or aquariums; 6) Enjoys learning about ecology, nature, animals, and plants; 7) Talks a lot about animal rights, and how the planet works; 8) Enjoys doing nature-based learning projects (observing birds, butterflies or other insects, growing plants and raising animals); 9) Likes to bring to school small animals, flowers, leaves, then share the experience with the teacher and other friends; 10) Does well on topics involving animal life systems, the workings of nature, and even humans.

To increase the potential of children's naturalistic intelligence, Musfiroh through his book explains several ways, namely: 1) Inviting children to enjoy and observe the outdoors by carrying out learning outside the classroom; 2) Designing play activities to develop naturalist intelligence such as watering plants around PAUD institutions, planting plants in polybags and observing their growth; 3) Creating learning activities related to natural elements such as comparing various forms of plant leaves, observing differences in the

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texture of soil, husks, manure; 4) Providing books and other media that explain various animals, plants, and nature. Yaumi also explained that several other alternatives can stimulate children's naturalistic intelligence, namely learning through nature, learning stations, using plants as teaching aids, keeping animals in the classroom, and imitating animal sounds. Some other activities based on the surrounding nature can also be an alternative to increase the potential of children's naturalist intelligence as learners (Kusriyanti & Sukoco, 2020).

Project Method

The project method provides learning experiences by confronting children with everyday problems that must be solved in groups, based on “Teaching Methods in Kindergarten” written by Moeslichatoen. Meanwhile, according to the Department of National Education in the book “Didactic Method in Kindergarten” the project method is defined as a method that provides opportunities for children to use the surrounding nature and daily activities of children as material for discussion through various activities, for example, children are invited to observe one of the plants so that children know the process of growing plants..

The project method in PAUD involves activities between teachers and children as learners designed to increase participation in learning (Weckström *et al.*, 2021). In addition, implementing this project method can be one of the efforts to improve children's characteristics to care about the surrounding environment (Haryanto et al., 2024; Sari *et al.,* 2022). The implementation of this project also depends not only on the PAUD institution as the organizer, but also on the curriculum and regulations regarding the implementation of education issued by the government (Martin *et al.,* 2020; Probine *et al.,* 2023). The Ministry of National Education in 2003 explained that the application of the project method is directed at achieving several objectives, namely: 1) building children's sense of attachment; 2) children learning and doing specific activities; 3) developing the ability to observe and classify; 4) making children interested in teaching and learning activities; and 5) having a good attitude.

The project method is applied through the preparation, implementation, and assessment stages, based on what Moeslichatoen said in his book. In the project preparation stage, several activities are carried out, namely determining learning objectives and themes, determining learning materials and tools, determining the grouping of children in learning, determining learning steps, and determining learning assessments. In the project implementation stage, several activities are carried out: pre-development, development, and closing. In the pre-development activities, steps are carried out: preparation of materials and tools, preparation of grouping children, preparation of job descriptions for each group, and preparation of children to participate in project activities. In the development activities, children work according to the activities determined in their respective groups. The teacher guides and directs the groups to work according to the predetermined activities. In the closing activity, children are asked to return the materials and tools to their original place and clean and tidy up the workplace. As for the assessment stage, activities are carried out to assess the implementation of project activities and analyze child development.

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METHODS

Research Design

The research design used in this study is the Classroom Action Research (PTK) method. The PTK model used is the Kemmis and Taggart model in the book “The Action Research Planner,” developed in 1998. The Kemmis and Taggart model consists of four cycle stages: planning, action implementation, observation, and reflection. In this model, the acting component and the observing component are integrated.

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The research design begins with the planning stage. At this stage, researchers carried out various activities related to the research implementation plan. Researchers coordinated with teachers to prepare Daily Learning Implementation Plans (RPPH), child observation sheets, and teacher observation sheets. At the implementation stage, the researcher applies the project method to improve children's naturalistic intelligence, observes the extent of the teacher's mastery in applying the project method, and the development of children's naturalistic intelligence through the application of the project method. Next, the researcher makes an observation. During the activity, the researcher observes all processes in learning activities by applying the project method to increase children's naturalistic intelligence by giving an assessment based on the instruments on the observation sheet. The next step is reflection in the form of activities to process data obtained through observation activities. This reflection activity is carried out by examining the whole class action research in cycle I. If the application of the project method to increase children's naturalist intelligence has not been achieved, replanning is carried out by activities in the next cycle.

The research subjects in this study were children of group B of Al Khoiriyah Play Group (KB) West Bandung Regency, totaling 12 people, consisting of 5 boys and 7 girls. The research was conducted in Group B of Al Khoiriyah Playgroup located in Cilame Village RT 04 RW 09, Ngamprah District, West Bandung Regency. The data collection techniques used were observation and documentary studies. The data collection instrument was a checklist to observe the teacher's performance in applying the project method and developing children's naturalist intelligence. The documentation study sheet was used to analyze the required documents. The data analysis techniques used were qualitative and quantitative analysis. The teacher used qualitative data analysis to determine the application of the project method. Quantitative data analysis is used to determine the increase in children's naturalist intelligence as a result of the actions taken by the teacher.

RESULTS AND DISCUSSION

Implementation Result Data Cycle 1

1. Planning

In the planning of cycle 1, the theme of the activities chosen was the theme of plants, sub-theme vegetables, sub-sub-theme celery, and leeks. Planning activities were carried out on Monday, May 13, 2024. The activities carried out at the planning stage were conducted with the teacher to compile a daily learning plan or Daily Learning Implementation Plan according to the theme by identifying the objectives/indicators that children will achieve, especially related to the development of children's naturalistic intelligence. Then, determine the activities/learning experiences using the project method. Furthermore, the selection and preparation of learning tools/resources needed to implement activities and determine the assessment process were completed.

2. Action

Activities in cycle 1 were carried out on Tuesday, May 14, 2024. The activity began with the opening stage, consisting of prayers, attendance, apperception, and explaining project activities to plant vegetables in polybags. Furthermore, the core activity stage consists of forming groups, distributing activity tools and materials, demonstrating activities (making planting media, planting plants, and watering plants) as in **Figure 1**, **Figure 2**, and **Figure 3**, then guiding children to make planting media and plant plants, observing children making planting media and planting plants, assessing children's naturalist development, inviting children to clean up activity tools and materials, and inviting children to clean up the activity site. The closing activity consists of reviewing the activities, explaining tomorrow's activities, and closing with a prayer.

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Figure 1. Teacher Demonstration to Make Planting Media
Source: Documentation 2024

Figure 2. Children Make Planting Media
Source: Documentation 2024

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Figure 3. Children Plant Plants
Source: Documentation 2024

3. Observation

Observations made by the teacher used an observation sheet for the application of the project method. In contrast, observations of children used an observation sheet to develop children's naturalistic intelligence. The results of observations of teachers in cycle 1, in general, indicated that teachers have carried out the learning steps of the project method well, except that there are missed learning steps, namely, inviting children to clean up the place of activity at the core activity stage. The results of observations of the development of children's naturalist intelligence in cycle 1 show 16.67% of children are still in the category of not yet developing (BB), 75% in the category of starting to develop (MB), and 8.33% in the category of developing as expected (BSH). The graph of the development of children's naturalistic intelligence in cycle 1 can be seen through **Figure 4** as follows.

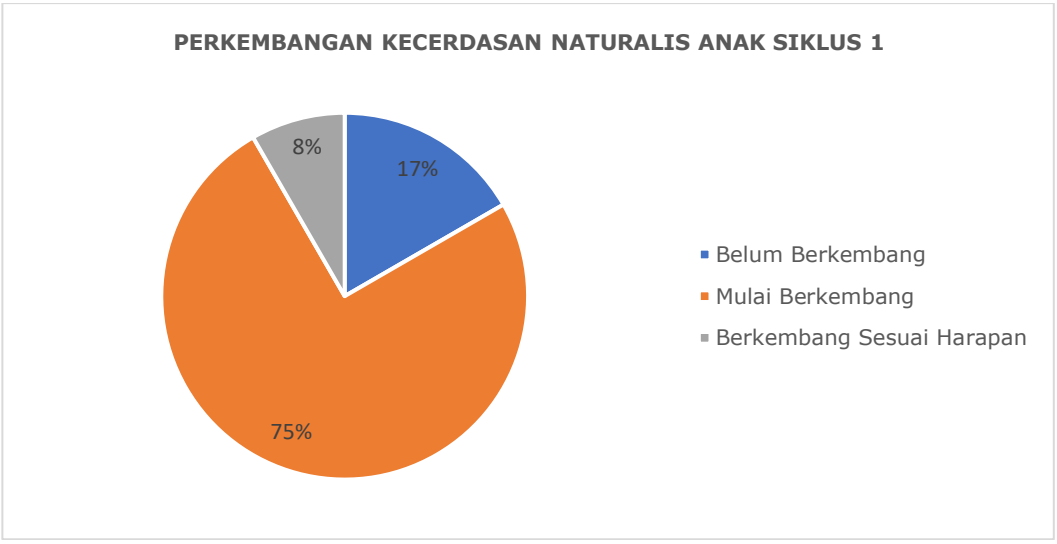

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Figure 4. Developmental Graph of Children's Naturalist Intelligence Cycle 1
Source: Documentation 2024

4. Reflection

The results of the reflection obtained indicate that the teacher needs to set a firmer time allocation at all stages of project method learning activities, in the process of planting vegetables children need to be given enough time (not in a hurry), the placement of tools and materials activities should be more easily accessible to children, the teacher should be slower in demonstrating activities so that children can listen well, the teacher should ask the child whether he has understood or not before the child practices it himself.

Implementation Result Data Cycle 2

1. Planning

In the planning of cycle 2, the chosen activities were still the theme of plants, the sub-theme of ornamental plants, and the sub-sub-theme of roses and zinnia. Planning activities were carried out on Friday, May 17, 2024. The activities carried out at the planning stage were conducted together with the teacher to compile a daily learning plan or Daily Learning Implementation Plan (SKH) according to the theme by identifying the objectives/indicators that will be achieved by children, especially related to the development of children's naturalistic intelligence. Then, determine the activities/learning experiences using the project method. Furthermore, the selection and preparation of learning tools/resources needed to implement activities and determine the assessment process were completed.

2. Action

Activities in cycle 2 were carried out on Monday, May 20, 2024. The activities carried out were the same as those in cycle 1, starting with the opening stage, which consisted of prayers, attendance, apperception, and explanation of gardening activities. Then the core activity stage which consists of forming groups, distributing activity tools and materials, demonstrating activities (making planting media, planting plants, and watering plants), guiding children to make planting media and plant plants, observing children making planting media and planting plants, assessing children's naturalist development, inviting children to clean up activity tools and materials, and inviting children to clean up the activity site. Next, the closing activity consists of reviewing the activities, explaining tomorrow's activities, and closing with a prayer.

3. Observation

The results of observations of teachers in cycle 2 indicated that the teacher has implemented the learning steps of the project method well. The results of observations of the development of children's naturalistic intelligence in cycle 2 show that 0% of children are still in the undeveloped category (BB), 16.7% in the category of starting to develop (MB), and 83.3% in the category of developing as expected (BSH). The graph of the development of children's naturalistic intelligence in cycle 2 can be seen through **Figure 5** as follows.

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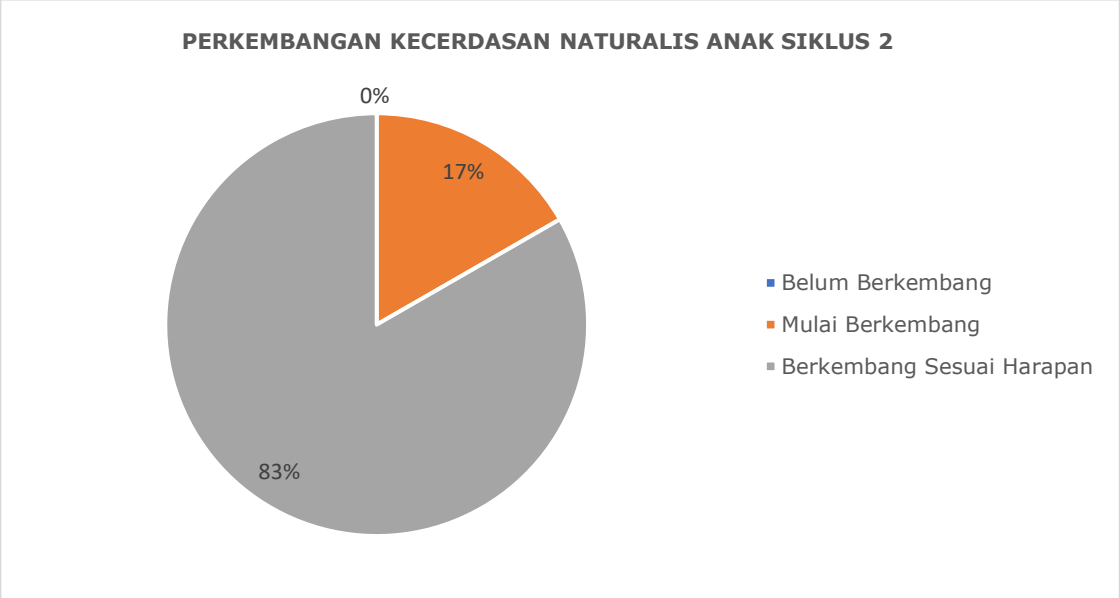

Figure 5. Deevelopmental Graph of Children's Naturalis intelligence Cycle 2
Source: Documentation 2024

4. Reflection

The results of the reflection obtained: indicated that the teacher has implemented the project method by the steps that must be taken and has no difficulty because he always prepares well before learning is done. In terms of the development of children's naturalistic intelligence in cycle 2, it has reached the specified criteria, namely 75% of children are in the category of developing as expected (BSH), which means that children have achieved the expected standard abilities.

Discussion

Application of the Project Method in Improving Children's Naturalist Intelligence

The project method is one of the learning methods applied in early childhood learning. For this project method to effectively achieve the expected learning objectives, teachers must understand and be able to implement the steps of this learning method correctly and appropriately. In classroom action research, researchers have observed how teachers practice this project method according to predetermined steps and explore fun steps in implementing the learning process (Alayinda *et al.*, 2019; Wulandari et al., 2024). Teachers arrange various programs that aim to serve as alternatives in implementing learning and overcoming boredom (Kuswidayani et al., 2024; Loka & Robiah, 2024).

Teachers carry out the implementation of the project method through three main stages, namely the preparation stage, the implementation stage, and the assessment stage. Teachers consider these three stages carefully because they realize that learning will be carried out effectively if it starts with careful preparation. In the preparation stage, teachers collaborate with researchers to determine learning objectives specifically focused on developing children's naturalist intelligence. Likewise, in determining the learning theme, the theme for implementing the project method must be truly relevant. The theme the teacher and researcher agreed upon is "plants", subtheme 'vegetables', and "ornamental plants". Furthermore, the teacher determines the materials and tools for implementing the project method. The activity in the project method chosen is planting plants in polybags. The tools and materials needed are a shovel, a sembor, a polybag, soil, husk, fertilizer, a plastic carpet, children's boat shoes, plastic gloves, and plants. Then determine the group of children's activities: making planting media with polybags,

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planting activities in polybags, and watering them. Next is determining the learning steps from pre-development, development, and closing activities in the project method. The last activity is to determine the assessment by using the observation sheet to develop children's naturalistic intelligence that the researcher has prepared.

In the implementation stage, the teacher starts by conducting pre-development activities by preparing tools and materials for planting vegetables (in cycle 1) and planting ornamental plants (in cycle 2). Then, the teacher determines the grouping of children, namely the group that makes planting media with polybags and the group that plants plants in polybags and waters them. Both groups were explained/description of the activities carried out in their respective groups. Furthermore, children enter development activities by following the steps: lining up outside the classroom, doing opening play, transition, circle time, prayer-salam, attendance, apperception, explanation/demonstration of project activities, children working according to their groups (making planting media and planting plants), children cleaning tools, materials, and places of activity, reviewing project activities that have been carried out, explaining tomorrow's activities, and closing with a prayer. As for the assessment stage, the teacher assesses the implementation of activities to make planting media and plant plants, and also analyzes the development of children's naturalistic intelligence through gardening activities.

Overall, in cycle one and in cycle two, the teacher implemented the project method well because, before its application, the researcher provided direction and practice to smooth the project method. The implementation of the teacher's project method needs to be adjusted to the teacher's ability. The hope is that from the beginning, the teacher has mastered the project method well and is well-prepared, so that its implementation at school can be conducive, increase participation, and provide enjoyable learning for children as students (Souisa, 2024; Yıldırım, 2021). The applied project focuses on children's naturalistic intelligence that utilizes the surrounding environment as stimulation by utilizing plants, tools, and materials commonly used daily (Jančaříková, 2019; Priadi & Fitira, 2024).

Improvement of Children's Naturalist Intelligence Through The Application of the Project Method

Data on the development of children's naturalistic intelligence in applying the project method cycle 1 shows that around 16.67% of the population is still in the undeveloped category (BB). Children in this category have not developed naturalistic intelligence indicators, namely identifying plant or animal food, how to breed animals or plants, a sense of belonging and affection for nature, and love for planting or gardening. When asked by the teacher about the food and breeding methods of plants or animals, children in this category do not know. In addition, when told and invited to plant plants according to the project theme, they responded less than other children who showed enthusiasm for participating. Based on the researcher's analysis, one of the factors influencing this is the learning methods that have been used by teachers, namely using the method of talking, asking questions, and giving assignments without demonstrating, using actual objects, and involving children to use all their senses in carrying out activities in the classroom. Ideally, children are learners at that age.

In these cases, children lack interest and attachment in teaching and learning activities, which can be stimulated using the project method (Rachmi & Ipah, 2023; Weckström *et al.*, 2021). Another influencing factor is that there are still limitations in applying the project method, namely, the use of time for each activity stage in applying the project method is still inconsistent and proportional. Time management for teachers in project method learning is crucial because it determines children's mood in learning (Bauml et al., 2020). The time allocated to the core activities is inadequate because the teacher is in a hurry to implement the project method. This certainly affects the readiness of certain children to participate in activities. Another factor is the placement of activity tools and materials that are difficult for children to reach, thus affecting children's interest in engaging in activities. The teacher's demonstration of activities

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too quickly also affects children's interest and readiness because not all children can listen to the teacher's explanation and demonstration quickly, but they must be slow and patient. These findings illustrate that teacher preparation also influences success in improving children's emotional intelligence using the project method (Rasmani *et al.,* 2023; Yustikarini, 2024).

In cycle 2, the development of children's intelligence increased significantly, where there were no more children in the category of not yet developing (BB); even 83.3% of children were in the category of developing as expected (BSH), meaning that children had reached the standard development indicators for their naturalistic intelligence. They did it independently (without much teacher assistance). There are still 16.7% of children who are starting to develop, which means that children reach the standard of naturalistic intelligence but are still heavily helped by the teacher. This developmental achievement can be understood because the teacher was more confident in applying the project method in cycle two, so the stages were carried out well. The teacher has also been able to perfect the shortcomings of the previous practice in cycle 1. This also impacts children's motivation and readiness to participate in learning activities with this project method. The children already knew the steps of the activities they had to do. They also became very eager to participate in learning activities that facilitate the involvement of their various senses through this project method. The atmosphere of learning outside the classroom, using actual tools and materials, open and challenging exploration opportunities further support the development of their naturalist intelligence.

CONCLUSION

This research provides valuable insights into the role of the project learning method in improving early childhood naturalist intelligence. The results of this study show that the application of the project method has a positive and significant impact on the development of children's naturalistic intelligence. The project method provides learning experiences in solving problems that have practical value, which is very important for healthy and realistic personal development. Children gain a complete understanding of how to solve certain problems that require cooperation with other children in an integrated manner, and they gain learning experiences in developing positive attitudes in working with other children.

Using the project method to provide learning experiences in developing children's naturalist intelligence, children can explore their abilities, interests, and needs. They can also explore things that are challenging for them. This information can be used to divide the work individually and in groups in project activities suitable for each of those involved. In activities using the project method, children can use their freedom physically and intellectually to complete the work they are responsible for, according to how they master it, and do not have to sit quietly on their respective benches.

This research highlights the importance of applying the project learning method in early childhood learning. This can lead to improving the overall quality of education and preparing children to face challenges in today's global era. By focusing on the application of project learning methods to improve naturalist intelligence, this article helps pave the way for positive changes in learning in ECD institutions, which will ultimately provide long-term benefits for children, parents, schools, and society at large

AUTHOR'S NOTE

The authors declare that there is no conflict of interest regarding the publication of this article and confirm that the data and content of the article are free from plagiarism.

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REFERENCES

Adawiyah, R., Fitriani, R., & Ashari, M. A. (2019). Pengembangan kecerdasan naturalis anak melalui metode proyek berbasis sains di TK Titipan Ilahi Renco Kelayu Jorong. *Jurnal CARE (Children Advisory Research and Education), 7*(1), 1-6.

Alayinda, A., Ali, M., & Yuniarni, D. (2019). Peningkatan kreativitas melalui metode proyek di PAUD Aisyiyah Busthanul Atfhal 3 Pontianak Tenggara. *Jurnal Pendidikan dan Pembelajaran Khatulistiwa (JPPK), 8*(3), 1-8.

Bauml, M., Patton, M. M., & Rhea, D. (2020). A qualitative study of teachers' perceptions of increased recess time on teaching, learning, and behavior. *Journal of Research in Childhood Education, 34*(4), 506-520.

Dewi, W., & Dewi, L. (2024). Analysis of teacher readiness conditions in implementing characteristic school-based curriculum. *Inovasi Kurikulum, 21*(1), 55-66.

Fatimah, Y., & Santana, F. D. T. (2021). Meningkatkan kecerdasan intrapersonal anak usia dini dengan penerapan metode proyek melalui kegiatan menanam bunga. *Ceria (Cerdas Energik Responsif Inovatif Adaptif), 4*(5), 577-585.

Haryanto, H., Samsudi, S., & Arbarini, M. (2024). Development of project-based learning model based on ethno-steam to improve numeracy literacy skills. *Inovasi Kurikulum, 21*(1), 255-266.

Jančaříková, K. (2019). Naturalist intelligence: How to recognize and support of pupils and students gifted in natural sciences in the Czech Republic. *Envigogika, 14*(2), 1-11.

Kusriyanti, K., & Sukoco, P. (2020). Model aktivitas jasmani berbasis alam sekitar untuk meningkatkan kecerdasan naturalis siswa. *Jurnal Pendidikan Jasmani Indonesia, 16*(1), 65-77.

Kuswidayani, N., Soepriyanto, Y., & Praherdhiono, H. (2024) Flipped classroom with a gamification case method approach for learning statistics. *Inovasi Kurikulum, 21*(2), 571-582.

Liani, S., Aslamiah, A., Suhaimi, S., & Barsihanor, B. (2020). Strategies for developing naturalist intelligence at nature schools. *Journal of K6 Education and Management, 3*(3), 401-410.

Loka, D. N., & Robiah, R. S. (2024). Penerapan model Pembelajaran Berbasis Proyek (PJBL) dalam meningkatkan kemampuan kerja sama anak usia dini. *Al-Muhadzab: Jurnal Pendidikan Islam Anak Usia Dini, 1*(1), 45-55.

Martin, J., Nuttall, J., Henderson, L., & Wood, E. (2020). Educational leaders and the project of professionalisation in early childhood education in Australia*. International Journal of Educational Research, 101*, 1-10.

Mujahidin, E., Mufarohah, L., & Alim, A. (2019). Penggunaan metode proyek untuk meningkatkan kedisiplinan pada anak usia dini. *Edukasi Islami: Jurnal Pendidikan Islam, 8*(1), 171-182.

Oktari, R., Rukaya, S., & Gusmarisa, M. (2021). Penerapan metode proyek untuk meningkatkan kecerdasan naturalis anak pada kelompok B di PAUD Budi Mulya Bengkulu Selatan. *Jurnal Pendidikan Islam Al-Affan, 2*(1), 69-77.

Priadi, A., & Fatria, E. (2024). The development of early childhood naturalist intelligence through environmental education. *Jurnal Pendidikan Usia Dini, 18*(1), 30-52.

Probine, S., Perry, J., Burke, R., Alderson, J., & McAlevey, F. (2023). Examining inquiry-based project learning in early childhood settings in Aotearoa/New Zealand. *Early Childhood Education Journal, 52*(1)*,* 1083-1093.

https://doi.org/10.17509/jik.v21i3.72524

Purwono, A., & Jannah, T. (2020). Pengaruh wiyata ligkungan dan kecerdasan naturalis terhadap sikap kepedulian lingkungan bagi siswa MI. *Child Education Journal, 2*(1), 1-9.

Rachmi, T., & Ipah, N. (2023). Peningkatan kemampuan naturalis melalui metode proyek pada anak usia 5-6 tahun di PAUD Annisa Qurota A'yun Kec. Sindang Jaya. *Ceria: Jurnal Program Studi Pendidikan Anak Usia Dini, 11*(2), 68-82.

Rahmiati, R., Isrwati, I., Rahmi, R., Amri, A., & Amalia, D. (2021). Mengembangkan kecerdasan naturalistik anak usia dini melalui penerapan metode proyek di PAUD Ananda Riski Kabupaten Aceh Besar. *Jurnal Ilmiah Mahasiswa Pendidikan Anak Usia Dini, 6*(4), 38-48.

Rasmani, U. E. E., Wahyuningsih, S., Winarji, B., Jumiatmoko, J., Nurjanah, N. E., Zuhro, N. S., ... & Prashanti, N. A. S. (2023). Implementasi manajemen pembelajaran proyek berbasis kurikulum merdeka di lembaga PAUD. *Murhum: Jurnal Pendidikan Anak Usia Dini, 4*(1), 567-578.

Sari, M., Warmansyah, J., Syaiful, L. D., & Utami, W. T. (2022). Environmental care characters in early childhood: The project method effects. *Atfaluna: Journal of Islamic Early Childhood Education, 5*(1), 37-46.

Souisa, F. C., Lestari, G. D., & Yusuf, A. (2024). Penerapan model pembelajaran project based learning pada anak usia dini. *Murhum: Jurnal Pendidikan Anak Usia Dini, 5*(1), 752-76

Thambu, N., Prayitno, H. J., & Zakaria, G. A. N. (2021). Incorporating active learning into moral education to develop multiple intelligences: A qualitative approach. *Indonesian Journal on Learning and Advanced Education (IJOLAE), 3*(1), 17-29.

Weckström, E., Lastikka, A. L., Karlsson, L., & Pöllänen, S. (2021). Enhancing a culture of participation in early childhood education and care through narrative activities and project-based practices. *Journal of Early Childhood Education Research, 10*(1), 6-32.

Wijaya, I. K. W. B., & Dewi, P. A. S. (2021). Pengembangan kecerdasan naturalis anak usia dini melalui model pendidikan lingkungan Unesco. *Ideas: Jurnal Pendidikan, Sosial, dan Budaya, 7*(3), 97-100.

Wulandari, A., Ain, S. Q., & Yolanda, F. (2024). Development of modules based on project-based learning material on block nets and cubes. *Inovasi Kurikulum, 21*(2), 1161-1176.

Yıldırım, B. (2021). Preschool STEM activities: Preschool teachers' preparation and views. *Early Childhood Education Journal, 49*(2), 149-162.

Yustikarini, R. (2024). Curriculum design to improve adolescent social-emotional skills. *Inovasi Kurikulum, 21*(1), 191-202.

https://doi.org/10.17509/jik.v21i3.72524