



Indonesian Journal of Adult And Community Education



Journal homepage: <https://ejournal.upi.edu/index.php/IJACE/index>

Application of farming methods for Increasing Children's Naturalist Intelligence

Revita Yanuarsari¹, Evi Octrianty², Ulpah Nurmilah³

PG PAUD Study Program, Nusantara Islamic University Bandung, Indonesia

*Correspondence: E-mail: revita@uninus.ac.id

ABSTRACT	ARTICLE INFO
<p>This research is motivated by the low application of farming methods in improving naturalist intelligence of children aged 4-5 years in RA Lu'lu, West Bandung Regency, this is due to several factors including children littering, picking plants at will, and abandoned plants that have withered. The purpose of this study was to determine that the application of agricultural methods can improve naturalist intelligence. This research is a collaborative classroom action research consisting of two cycles. Data collection techniques using observation, documentation and non-tests. While the instrument used was the observation sheet. The results showed that there was an increase in naturalist intelligence after using the farming method.</p> <p>© 2023 UPI Journals and Publications Office</p>	<p>Article History: <i>Submitted/Received 04 Nov 2022</i> <i>First Revised 16 Dec 2022</i> <i>Accepted 07 Feb 2023</i> <i>First Available online 09 Feb 2023</i> <i>Publication Date 01 Mar 2023</i></p> <hr/> <p>Keyword: <i>Naturalist Intelligence; Early Childhood; Farming.</i></p>

1. INTRODUCTION

Learning can be carried out from early childhood, the learning tendency of early childhood has one characteristic, namely concrete, meaning that early childhood learn from real things in the environment around them (Pebriana, 2017). By managing a pleasant learning environment, it can help the learning development of early childhood children to be more optimal (Hasanah, 2018). The learning tendencies of early childhood have characteristics, including being concrete, which means that the learning process moves from concrete things using all the senses, with an emphasis on using the environment as a learning resource (Haji, 2015). Children are active learners so they need encouragement in constructing an understanding of the world around them (Nuraeni, 2014). Children contribute to their own learning processes as they attempt to give meaning to their daily experiences (Van Parys et al., 2013). Active involvement is the basis of Piaget's theory which states that children develop intelligence through direct experience or practice in the physical environment (Bustan et al., 2017).

Gardner (2003) found that in the human brain there are multiple intelligences (*multiple intelligences*) (McClellan et al., 2008) consists of nine intelligences, one of which is naturalist intelligence, namely the ability to recognize, differentiate, express and create categories of what is found in nature and the environment. The point is the human ability to recognize plants, animals and other parts of the universe (Juniarti, 2015). Naturalist intelligence is the intelligence to love the beauty of nature through recognizing the flora and fauna found in the surrounding environment and also observing natural phenomena and sensitivity or concern for the surrounding environment (Maryanti et al., 2019). Concern for the surrounding environment is very good if it starts from an early age (Dunlap, 2017). Where early childhood children learn by feeling, hearing, seeing, trying and exploring through the surrounding environment, seeing various incidents and incidents which will then become a lesson and knowledge (Putro, 2016).

It is important that naturalist intelligence is cultivated in children from an early age through appropriate learning strategies, so that concern for the surrounding environment and nature will become increasingly embedded in children until adulthood (Ulfah et al., 2018). Delivery of environmental material can be provided since the child is in an early childhood education environment (Khaironi, 2017). While playing, children can be invited to learn about plants or animals. In this way, knowledge and values regarding the environment can be introduced to children so that children's beliefs about these values will become stronger (Rufaedah, 2020).

Learning activities using gardens or plants have been developed in kindergarten schools with the aim of fostering naturalist intelligence (Mauladin, 2013). Gardening activities were implemented into the 2013 curriculum through the theme of plants. Naturalist intelligence can be developed by taking children to school gardens and farming, such as planting corn (Gardner But, 2016). Children are taught to care for plants by watering them, cleaning grass, applying fertilizer and so on.

However, this plant theme is only implemented once a year in early childhood education. Rarely will the plant theme be repeated in the following week or semester through garden or garden-based learning model activities. This is a suspicion that naturalist intelligence has not fully developed in early childhood. Children's naturalistic intelligence is still not given enough attention through several activities, such as children not being introduced to types of plants, how to care for plants and introducing the parts of plants (Wulandari et al., 2018).

Looking at the class, data shows that most of the children still show a lack of attention to their environment. They can be seen throwing rubbish carelessly, picking plants at will, and

abandoning plants that have withered. With this behavior, it can be said that children need to receive stimulation to increase their love for the surrounding environment (Soetari, 2017).

Looking at the problems above, the way to overcome them is to start introducing and bringing children closer to nature through activities that are directly related to nature. This is intended so that children can be closer and at one with nature and can help maintain the nature around them..

2. METHODS

This research uses a collaborative classroom action research method, which was carried out at RA Lu'lu, West Bandung Regency. The subjects in this study were children aged 4-5 years consisting of 20 children with 4 boys and 16 girls.

This research was carried out in four actions starting with pre-cycle actions, namely:

A. Action Planning

In this research, the class teacher (researcher) carried out actions or observations regarding the progress of the action process. The results of the observations are used as a basis for planning preparation carried out by researchers (Slameto, 2015). The preparations that will be used in this research are:

1. Make written plans for learning activities which are outlined in the form of weekly plans (RKM) and daily activity plans (RKH).
2. Prepare learning methods in the form of farming methods for early childhood that are in accordance with learning curriculum standards in increasing naturalist intelligence.
3. Prepare learning media, namely plant media.
4. Prepare an assessment plan for increasing naturalist intelligence through plant methods with farming media.
5. Create observation guidelines to observe the process and results of actions, interview sheets for school principals and teachers.

B. Implementation of Class Actions

During the learning process, researchers carried out learning according to the RKH that had been created and researchers observed children's involvement in the learning process related to the naturalistic intelligence of children aged 4-5 years. The activities carried out by researchers collaborate with a companion observer to plan actions and implementation schedules as well as formulate the necessary action components, such as: learning plans, lesson materials as children's learning resources and other necessary equipment.

C. Observation (Observation)

Observations are carried out during the action research process, starting from the pre-cycle, cycle I and cycle II. Through observations it is hoped that we can identify deficiencies in the implementation of the action. Observations were carried out continuously starting from cycle I until the expected cycle was achieved. Then the results of the observations are adjusted with the principal and teachers and practitioners to produce reflections that influence subsequent planning.

D. Reflection

Reflection is carried out at the end of each cycle and based on this reflection it can be seen whether the actions given are in accordance with the researcher's expectations and to find out whether the next cycle is needed or not. The data that has been obtained and analyzed then the researcher reflects on the results of the observations. This reflection also aims to develop a corrective action plan for the next cycle if necessary (Hyun et al., 2020).

3. RESULTS AND DISCUSSION

A. Profile of Raudlatul Athfal (RA) Lu'lu, West Bandung Regency Raudlatul Athfal (RA) Lu'lu, Gununghalu District, West Bandung Regency, in its founding history, may have many similarities with RA educational institutions in general, namely based on community demands. This RA was founded in 2005. During its development, this RA has experienced significant progress both in terms of quantity of students and in terms of quality. In terms of quantity, every year RA Lu'lu continues to experience an increase in the number of students, in terms of quality RA Lu'lu continues to make improvements, both in terms of infrastructure, quality of learning and quality of teachers. RA Lu'lu itself has been accredited with a very good title and is still standing strong, beautiful, safe and comfortable.

B. Initial Conditions of Group A Naturalist Intelligence at RA Lu'lu

Naturalist intelligence is intelligence related to the ability to study ecosystems in nature and the environment, enjoy caring for plants or animals (Wijaya, 2018). Based on the explanation above, especially on the ability of farming methods, it is average

The abilities of children at RA Lu'lu before the action were not as expected. Based on observations, there are still many children who have difficulty in farming methods. The results of observations starting from pre-action children still need guidance from educators because children are not yet accustomed to using farming methods. The activities carried out in class A RA Lu'lu are still teacher-centered. The process of activities above makes children dependent on educators. This makes learning monotonous, so that children's natural intelligence abilities do not develop well and optimally.

C. Implementation of Farming Methods to Increase Naturalist Intelligence

The method used in this research to increase naturalist intelligence is learning while playing using farming methods. In carrying out these activities, children can develop their imagination in the process of farming method activities, so that children's naturalistic intelligence can be trained and further developed.

Based on the results of observations starting from pre-action, children still need guidance from educators because they are not yet accustomed to using farming methods. In cycle I, educators provide action in the form of farming methods by paying attention to several aspects of assessment including being interested in the environment, knowing the names or types of plants, and liking to care for plants and children's accuracy is also trained at this stage.

In cycle II, educators also provide action in the form of farming methods by paying attention to several assessment aspects, including being interested in the environment, knowing the names or types of plants, and liking to care for plants and children's accuracy is also trained at this stage. In this cycle, children are starting to get used to using farming methods. The role of children has also increased so they are more active in using farming

methods. Increasing children's naturalist intelligence has been successful, with the BSH category reaching 30% and BSB reaching 70%.

D. Results of Increasing Group A Naturalist Intelligence at RA Lu'lu

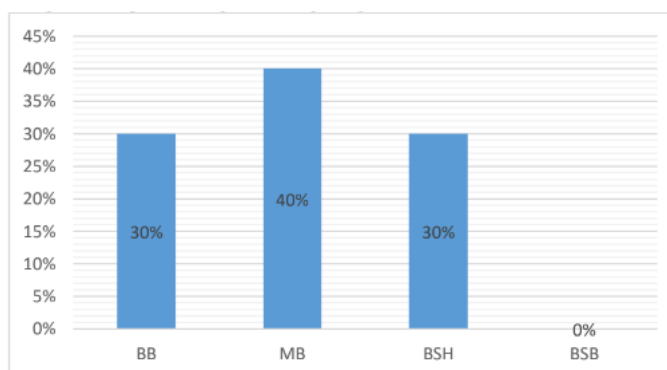
Based on data from observations made by researchers during the learning process from cycle I to cycle II, educators directly guide children who play with farming methods with steps that make it easier for children to achieve assessments that become a reference, including children being interested in the environment, know the names or types of plants, and like to care for plants, including: 1) by introducing them to the environment around them, 2) introducing several types of plants around them, and 3) guiding children on how to care for plants well. Apart from the feeling of joy that the bulkan brings, subconsciously children who succeed in using farming methods well actually learn to be able to solve problems in every step, so this shows that through the farming methods in group A at RA Lu'lu it is very effective for increasing students' naturalistic intelligence and making learning fun. For further clarity, the researcher displays recapitulation data of educators' activities during the lesson.

Tabel 1.1
Rekapitulasi Performa Pendidik Dalam Pembelajaran

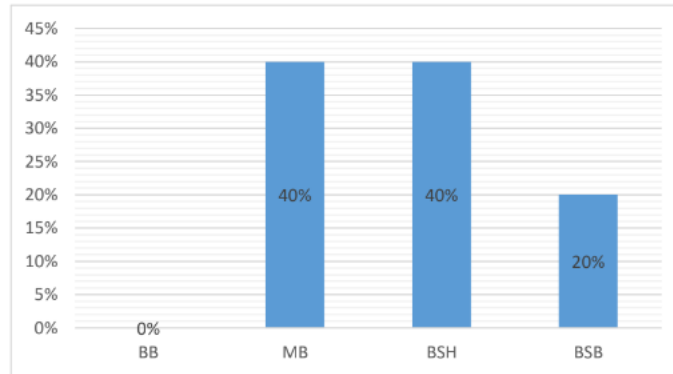
No	Aspek Penilaian	Siklus I	Siklus II
A Kegiatan Awal			
1	Persiapan sarana pembelajaran	B	B
2	Mengkondisikan kelas	B	B
3	Menghubungkan materi dengan kegiatan sehari-hari	C	B
4	Memotivasi anak didik	C	B
B Kegiatan Inti			
1	Menguasai materi pembelajaran dengan baik	B	B
2	Kesesuaian materi pembelajaran dengan tema	C	B
3	Menjelaskan media yang digunakan	C	B
4	Menjelaskan kegiatan hari ini	B	B
5	Berperan sebagai fasilitator	B	B
6	Mengajukan pertanyaan pada anak	B	B
7	Memberikan kesempatan pada anak untuk bertanya	B	B
C Penutup			
1	Membimbing anak dan membuat kesimpulan	B	B
2	Mengaitkan materi dengan pelajaran yang akan datang	C	B
3	Memberi tugas pada anak	C	B
4	Mengadakan evaluasi	B	B

The table above shows that the performance of educators during the learning process has increased quite well, namely in cycle I from a score of "C" (Fair) it has increased to a score of "B" (Good). This shows that educators always try to improve their performance in teaching.

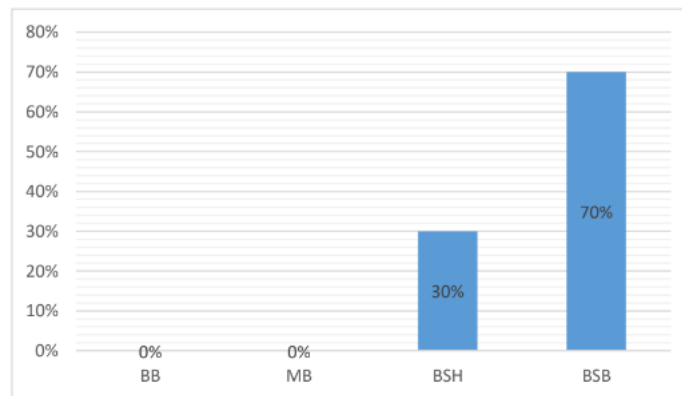
Data from observations of increasing children's ability to play using farming methods in each cycle can be seen in the graph below.



Grafik 1.1
Persentase Hasil Observasi Pratindakan



Grafik 1.2
Presentase Hasil Observasi Siklus I



Grafik 1.3
Persentase Hasil Observasi Siklus II

Kriteria Penilaian

- BB : Belum Berkembang
- MB : Mulai Berkembang
- BSH : Berkembang Sesuai Harapan
- BSB : Berkembang Sangat Baik

Based on the results of graphs 1.1, 1.2 and 1.3, there is an increase in children's ability to use farming methods with assessment aspects including being interested in the environment, knowing the names or types of plants, and liking to care for plants. This can be seen from the number of children who received the BB category, there was a very significant decrease, in pre-action it was 30%, in cycle I and cycle II it decreased drastically to 0%. Children in the MB ability category in pre-action were 40%, in cycle I there was no change, namely 40% and in cycle II there was a decrease to 0%. Meanwhile, 30% of children were in the BSH category in pre-action, 40% in cycle I and 30% in cycle II. There were 0% of children in the BSB category at pre-treatment, and there was a significant increase in cycle I to 20% and in cycle II to 70%.

By looking at and comparing the naturalist intelligence scores of children during pre-action, cycle I and cycle II, the results showed that children's naturalist intelligence had increased quite significantly. This proves the researcher's hypothesis that activities using farming

methods can increase children's naturalistic intelligence. Based on the results of cycle II, the percentage of students in the BSH and BSB categories had reached 100%, so this research was stopped in cycle II.

4. CONCLUSION

Naturalistic intelligence is a person's ability to recognize, express, differentiate between plants and animals as well as natural events in the child's environment. Early childhood naturalist development stages start with liking animals and plants, being able to differentiate between animals, liking farming, caring for the plants they plant, keeping the environment clean, caring for animals and plants and being able to determine the quality of the weather. An environment that supports children will greatly influence the development of children's naturalistic intelligence. Farming activities are one of the activities that can increase children's natural intelligence, because with this activity children are invited directly to encounter natural materials, including soil, grain, fertilizer, water. Children are invited to plant by going directly into nature. Based on research results, it is proven that children's naturalistic intelligence level continues to increase after farming methods are used in the learning process.

5. REFERENCES

- Bustan, R., Nurfadilah, N., & Fitria, N. (2017). Training on Optimizing Child Growth and Development for Parents of Early Childhood Children. *Al-Azhar Indonesia Journal Humanities Series*, 3(3), 274-282.
- Dunlap, A. (2017). 'The town is surrounded:'from climate concerns to life under wind Turbines in la Ventosa, Mexico. *Human Geography*, 10(2), 16-36.
- Gardner Burt, K. (2016). A complete history of the social, health, and political context of the school gardening movement in the United States: 1840–2014. *Journal of Hunger & Environmental Nutrition*, 11(3), 297-316.
- Haji, S. (2015). Ideal thematic learning in elementary/mi. *MODELING: Journal of the PGMI Study Program*, 2(1), 56-69.
- Hasanah, U. (2018). Active learning strategies for early childhood. *INSANIA: Journal of Alternative Educational Thought*, 23(2), 204-222.
- Hyun, C. C., Wijayanti, L. M., Asbari, M., Purwanto, A., Santoso, P. B., Igak, W., ... & Pramono, R. (2020). Implementation of contextual teaching and learning (CTL) to improve the concept and practice of love for faith-learning integration. *International Journal of Control and Automation*, 13(1), 365-383.
- Juniarti, Y. (2015). Increasing naturalist intelligence through the field trip method. *Journal of Early Childhood Education*, 9(2), 267-284.
- Khaironi, M. (2017). Early childhood character education. *Golden Age Journal*, 1(02), 82-89.
- Maryanti, S., Kurniah, N., & Yulidesni, Y. (2019). Improving Children's Naturalistic Intelligence Through Outing Class Learning Methods in Group B of Kindergarten Asyiyah X, Bengkulu City. *Potentia Scientific Journal*, 4(1), 22-31.

- Mauladin, D. (2013). The effects of learning methods and environmental knowledge on age 5-6 naturalistic intelligence (Experiment at AR-Ridho Nature Kindergaten Group B Tembalang Semarang). *Asia Pacific Journal of Multidisciplinary Research*, 1(1), 75-88.
- McClellan, J. A., & Conti, G. J. (2008). Identifying the multiple intelligences of your students. *Journal of Adult Education*, 37(1), 13-32.
- Nuraeni, N. (2014). Learning strategies for early childhood. *Prisma Sains: Journal of the Study of Science and Mathematics and Science Learning at IKIP Mataram*, 2(2), 143-153.
- Pebriana, P. H. (2017). Analysis of gadget use on social interaction abilities in early childhood. *Journal of Obsession: Journal of Early Childhood Education*, 1(1), 1-11.
- Putro, K. Z. (2016). Developing children's creativity through play. *Application: Journal of Applications of Religious Sciences*, 16(1), 19-27.
- Slameto, S. (2015). Preparing a Classroom Action Research Proposal. *Scholaria: Journal of Education and Culture*, 5(2), 60-69.
- Soetari, E. (2017). Character Education with Children's Education to Foster Islamic Morals. *UNIGA Education Journal*, 8(1), 116-147.
- Ulfah, M., & Khoerunnisa, Y. (2018). The Effect of Using Inquiry Learning Strategies on the Naturalist Intelligence of Early Childhood in Majalengka Regency. *Al-Athfal: Journal of Children's Education*, 4(1), 31-50.
- Van Parys, H., & Rober, P. (2013). Trying to comfort the parent: A qualitative study of children dealing with parental depression. *Journal of Marital and Family Therapy*, 39(3), 330-345.
- Wijaya, I. K. W. B. (2018). Developing the Multiple Intelligences of Elementary School (SD) Students Through Science Learning to Improve the Quality of Elementary School Graduates. *Quality Assurance Journal*, 4(02), 147-154.
- Wulandari, T. N., Kusumaningtyas, L. E., & Irmade, O. (2018). Increasing Naturalist Intelligence with Outdoor Learning in Group B Kindergarten Rumah Pelangi Colomadu. *AUDI JOURNAL: Scientific Journal of Child Science Studies and Early Childhood Education Information Media*, 3(1), 1-6.