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Nature Based Learning Model in Greenlab Activities at Kindergarten Alam Bangka Belitung

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Abstract

This research explores the implementation of the nature-based learning model in greenlab activities at Kindergarten Alam Bangka Belitung, the first Alam school in the region. The greenlab activities, focused on gardening and farming, prioritize child-centered learning using the project method. The aim is to provide an enjoyable learning experience and foster knowledge through hands-on activities. This nature-based approach also serves as an alternative educational model to enhance early childhood education. Using a qualitative descriptive approach, data were collected through observation, interviews, and documentation. Miles and Huberman's data analysis method—data reduction, display, and conclusion drawing—was employed. The findings show that the greenlab activities involve farming projects, such as vegetable cultivation, where children, guided by facilitators, engage in the process from sowing seeds to harvesting. This method helps children acquire complex knowledge, while facilitators guide the learning by reflecting on the process. The study concludes that greenlab activities connect children directly with nature, teaching them about ecosystems, conservation, and environmental protection. This fosters environmental awareness from an early age. However, the study is limited to one institution, and the findings may not be applicable to other schools, particularly those in urban areas with limited access to nature.

Keywords: nature based learning model, greenlab activities

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Introduction

Early age is an early period that has a very important and fundamental role in the growth and development of human life (Suryana, 2021). At this age, growth and development begins and is on going, such as basic development aspects, namely religious and moral values, physical-motor, cognitive, social-emotional and language abilities. These basic developmental aspects must be stimulated appropriately according to the child's developmental stages so that the child can grow and develop optimally (Syaifauzakia, 2021). Because this golden period occurs once or cannot be repeated in the future and determines the quality of human life in the future (Aminah, 2020).

Early childhood education, abbreviated as kindergarten, is one of the most fundamental educational vehicles in supporting the successful process of education for children at an early age (Munirah dan Muhammad Arif, 2020). This education includes all efforts and actions carried out by educators in the process of caring, nurturing and educating children. Efforts are made to create a conducive and enjoyable environment for children, so that children can explore and build knowledge and gain learning experiences from the surrounding environment. One thing that cannot be denied is developing all the potential and intelligence that exists in children (Mercy F. Halamury, 2021)

Daniel Goleman in Helmawati said that education has tended to overemphasize the importance of academic grades or IQ alone (Helmawati, 2017). This is reinforced by the reality that occurs in the field, it is found that learning is still conventional or more often uses classical learning models so that it tends to be verbalistic and teacher-centred. Apart from that, it was also found that learning always used worksheets and learning that made children sit quietly in chairs and

tables. As a result, children easily get bored in the learning process and learning becomes not enjoyable for the child (Aminah, 2020).

The teacher's role in learning should not only be to provide information or fill children with material, but also to direct and provide learning facilities (directing and facilitating the learning) so that the learning process is more adequate (Abdul Syukur dan Yulianty Thabita Fallo, 2019). One way to obtain learning facilities is through the environment around the child. Thus, curriculum development is based on the principle of the relevance of education to the environment. This means that the curriculum provides opportunities for students to learn from the surrounding environment as curriculum content and have the understanding to apply what they have learned in class when they are at home (Sukoco, 2020). This is found in nature-based learning models at various levels of education, including kindergarten.

A learning model is a form of innovation that a teacher plans before starting the learning process. Learning models can also be used as guidelines for carrying out learning in the classroom with the aim that students do not feel bored with monotonous learning models (Darmawan Harefa, 2021). Meanwhile, according to Joyce and Well in (Darmadi, 2017), a learning model is a conceptual framework that describes systematic procedures for organizing learning experiences to achieve certain learning goals and has a function as a guide for educators in planning and carrying out teaching and learning activities.

Nature-based learning is a learning activity that helps children to adapt creatively to the natural environment which can develop various children's development potential (Suparmiati, Lita Latiana, 2022). Nature-based learning is a learning process that integrates teaching materials and the surrounding natural environment. In practice, learning is not only carried out outside the environment or in nature, but also utilizes and transfers materials found in nature to the classroom and uses whatever is in nature as a learning model (Sunanik, 2018). Apart from that, the natural environment will provide a number of direct learning experiences (real learning) and/or real learning (real instructions) to children (Suparmiati, Lita Latiana, 2022).

In research findings (Sunanik, 2018) that the implementation of nature-based learning can be carried out in the classroom (indoor learning) or outside the classroom (out learning). The aim of nature-based learning is to increase students' understanding and make learning meaningful. In research findings (Mukaromah, 2020) it is known that nature-based learning can stimulate the formation of each child's character, including tolerance, responsibility, simplicity and a healthy lifestyle. Apart from that, nature-based learning can also develop children's physical activity through activities carried out as in research results (Sukoco, 2020) namely earthquake response, exploring nature, sorting waste, and imitating animals.

The objectives of nature-based learning as a learning resource according to (Rani Rahim, 2021) are as follows: a) To make teaching and learning activities more interesting and not boring for students. b) So that the essence of learning will be more meaningful because students are faced with actual reality. c) So that the material that can be studied is richer and more actual so that the truth is more accurate. d) So that student learning activities are more comprehensive and more active because they can be done in various ways. e) So that learning resources become richer because the environment studied is diverse. f) So that students can understand aspects of their environment.From the findings above, it can be concluded that nature-based learning is feasible and effective for learning, especially at the kindergarten level.

In its implementation, the nature-based learning model is carried out in the open air by using nature as a learning medium. Nature is a very broad and abundant source of knowledge (Neni, 2021). This learning model adapts to the needs and abilities of children in the learning process. Nature-based learning understands children according to their age needs and individual needs which are stimulated through development activities (Wulansari & Sugito, 2016). Educators provide development activities according to the child's level of ability, as well as related to teaching materials and the learning process. The real essence of teaching is to invite children to real environmental conditions. All materials in the environment around the child can be used as a center

of interest or attention for the child (Sunanik, 2018). So, this nature-based learning is very suitable to be used as a learning model for early childhood in developing children's potential, one of them is through greenlab activities.

Greenlab activities are abiotic and biotic environmental engineering from local area potential which is used as a teaching and learning tool. Greenlab can also be said to be a miniature of the area (Setiawati, 2020). The main activities carried out in this greenlab activity are "raising livestock, growing crops and managing waste". This activity can be carried out every week. In one school there is something unique about this activity, namely that the children wear their parents' clothes. This is intended so that they can understand and appreciate the activities or work that their parents do every day (Rahmi et al., 2021).

According to (Kholik & Laeli, 2020) the aim of this greenlab activity is to foster children's affection for the surrounding environment. By carrying out greenlab activities, children will learn the process of loving, caring for, preserving and using it. Meanwhile, according to (Hadziq, 2016), namely providing understanding to children that a) interaction with the natural environment is an important part of the development of a child's healthy life and this interaction can encourage children's learning abilities and quality of life in the future, and b) in any religion it is recommended to preserve and protect the universe.

The benefits of greenlab activities include (Ratnasari et al., 2016):

a. Greenlab activities will hone children's love for nature, because children are directly involved in planting and caring for it. Awareness of protecting nature will become increasingly embedded in children along with their love for farming or gardening.
b. Teaches the process of growth and development, because in greenlab activities children are involved in selecting seeds, cultivating the soil and planting, caring for them until harvesting. Children will witness firsthand the growth and various changes that occur from the seeds they plant.
c. Greenlab activities are very effective in getting children to move actively and have an impact on children's physical and motor skills. The facilitator will direct the children to water, clean the grass and cultivate the soil.
d. Providing opportunities for children to explore and observe the surrounding environment, making direct contact with plants, animals and the natural environment can improve a person's physical health and mental health.

According to (Mariyana & Setiasih, 2018), greenlab activities teach children to be responsible. The process of sowing to harvesting will bring a sense of responsibility to children, because the consequences of what children do will be seen in the results of their plants. Apart from that, greenlab activities can stimulate children's development and can improve their ability to recognize, group and describe various features in their environment. In their article (Julianti & Maemonah, 2022) they explain the benefits of greenlab activities, namely that children can get to know various medicinal plants, types of vegetables and fruit. Usually, the facilitator will also tell you about the benefits and uses of each plant the children plant.

Regarding nature-based learning, it has attracted researchers' interest in conducting research at the Bangka Belitung Nature Kindergarten. TK Alam Bangka Belitung is the first natural school in Bangka Belitung which also applies a nature-based learning model. This learning model is implemented through greenlab activities, namely gardening by planting several types of vegetables using the land around the school. In greenlab activities, children are directly involved, accompanied by the teacher as a facilitator. This research supports several relevant previous studies on nature-based learning. The aim of this research is to describe and analyze the implementation of the nature-based learning model through greenlab activities at TK Alam Bangka Belitung.

Methods

This research is a type of field research. The research method was carried out using qualitative descriptive research methods. Qualitative descriptive research is research that intends to understand phenomena about what is experienced by research subjects, for example behavior, motivation, actions and so on holistically and by describing in the form of words and language, in a special natural context and by utilizing various scientific methods (Lexy J. Moleong, 2013). This research describes the situation or reality regarding the implementation of the nature-based learning model in greenlab activities at TK Alam Bangka Belitung.

The research data source comes from primary data sources obtained through interviews with facilitators and school principals and from observations of greenlab activities at TK Alam Bangka Belitung. Secondary data sources are obtained through official information arranged in the form of documents, journals, books, research and sources that are considered relevant.

In collecting data, researchers used three data collection techniques, namely, first, non-participant observation, which means the researcher only observed without being involved in the activity. Second, the semi-structured interview technique which according to (Sugiyono, 2017) is in the in-depth interview category using an interview guide that has been created which is open in nature and, third, namely good documentation regarding nature-based learning model activities in greenlab activities or other things that support research. Next, the data was analyzed using the non-statistical method of Miles and Huberman (Sugiyono, 2017) which includes data reduction, data presentation and decision making (conclusion drawing/verification).

Result and Discussion

Based on a series of steps in the nature-based learning model in greenlab activities at TK Alam Bangka Belitung, the following is an explanation obtained from the research results.

Before the greenlab activity begins, in class the facilitator first invites students to pray together as per the usual routine and then do an apperception. Apperception is given to students so that students know and understand what theme will be implemented that day. This aims to stimulate children's curiosity about what they will do in greenlab activities. Apart from that, at the apperception the teacher also invited the children to sing together related to the greenlab theme and activities.

Next, the facilitator asks the child to wear a greenlab uniform, namely a father's shirt, gloves, shoes and a hat. This attribute is used as a safety measure for children during activities. After the children wear their uniforms, the facilitator directs the children to go to the school yard to line up and the facilitator checks their equipment one by one. The facilitator opens the activity and conditions the child's position in the field. The facilitator asks about vegetables that have been eaten. The children enthusiastically answered by mentioning several types of vegetables, such as spinach, kale, and so on. However, the facilitator directed the explanation to the vegetables that would be planted that day, namely spinach.

Picture 1. Children line up on the field

The facilitator does not forget to convey to the children what rules must be followed and include the consequences if the children violate them. The rules conveyed include not pushing friends while queuing, not chatting, not picking plants and so on. The consequences if a child violates this are that the child is not allowed to continue greenlab activities and return to class. This is conveyed so that children understand the rules and that greenlab activities can take place in a conducive manner. After the children are orderly, the facilitator directs the children to the greenlab area. The group that is considered the most orderly is invited to enter first

Picture 2. Children queue to enter the greenlab area

In the greenlab area, the facilitator invites the children one by one to cultivate the land by taking turns loosening the soil and the other students pay attention to their friends who are loosening the soil so that they know how to do this. The facilitator also explained the function of compost fertilizer. When children use tools such as claws and shovels, the facilitator continues to accompany and supervise them.

Picture 3. The child is breaking the ground

The soil that has been loosened and then given fertilizer will be left for one week before vegetable seeds are sown the following week. This greenlab activity is carried out in stages to adapt to the process of growing vegetables.

After the core activities are carried out, the next step is the closing activities. However, children first clean up the equipment that has been used. Before leaving the greenlab area, children clean and wash their hands before taking a break and drinking. In the closing class activity, the facilitator and the children discuss the learning or activities that have been carried out. Usually the facilitator adds new information or knowledge to the child. Apart from that, the facilitator also asked what lessons could be learned after carrying out a series of greenlab activities. Children are given the opportunity to answer questions one by one according to their own understanding.

In the nature-based learning model in greenlab activities at Kindergarten Alam Bangka Belitung, the approach applied by the facilitator is pedocentric, where learning activities are based or based on the child's abilities or abilities as learning individuals. Furthermore, learning is also student-centred (child centric) where the focus at the center of learning is on the students. Students are required to be active in greenlab activities. The facilitator only facilitates and accompanies the students. Greenlab activities are concrete activities because children go directly into the field. This is shown in the children's activities of loosening the soil and applying fertilizer. Meanwhile, the facilitator is tasked with facilitating, supervising and guiding children if there are obstacles. In this greenlab activity, the facilitator prioritizes involvement in the activity.

Furthermore, the strategies used by facilitators in greenlab activities are group and individual learning or groups-individual learning. In greenlab activities, children can learn about the structure of plants in a simple way, learn about land in a simple way, then they can also learn about the rights of plants and so on. In greenlab activities, they are not only given knowledge, but also learn leadership, how they are guided to be disciplined in preparing their things from home, and bringing greenlab equipment such as father's clothes, shoes, hats, gloves.

The method used in greenlab activities is a simple project method, which means doing a job. The project carried out is planting spinach vegetables which is done in stages starting from loosening the soil first. Meanwhile, sowing the seeds continues the following week. This activity ends when they pick the vegetables they have planted. This study shows that outdoor activities help children develop various aspects of development, such as observation skills, creativity, and knowledge of nature. By experiencing direct learning in nature, children can better understand basic concepts about ecosystems, life cycles, and the important role of humans in protecting the environment (Anggraeni, 2024).

Greenlab activities, which are integrated into this nature-based learning model, are designed to increase children's awareness of environmental issues. Through activities such as planting, caring for plants, observing insects, or getting to know types of plants, children learn about the importance of preserving the environment from an early age. This can have a long-term impact on the formation of their attitudes towards nature and the environment (Heni, 2021).

Children who participate in this activity have high enthusiasm and curiosity. They are actively involved and show a deeper understanding of the concepts introduced. This supports the constructivist learning theory, where children build their understanding through direct interaction with the surrounding environment (Aqilla et al., 2024). In addition, this activity contributes positively to children's social-emotional development. They learn to work together, take turns, and help each other in managing tasks in Greenlab. In terms of motor skills, activities in nature that involve physical activities such as walking on the ground, digging, or holding various natural objects also help develop their fine and gross motor skills (Ardiyansyah, 2022). These aspects are important elements in early childhood education and support children's holistic development (Sari et al., 2024).

Although this model is effective in Bangka Belitung Nature Kindergarten, there are several limitations that may be faced if this model is adopted in other schools, especially those in urban areas or with minimal green open space. This study also found that the need for teachers who are skilled in environmental education is an important factor influencing the success of implementing nature-based learning models.

Conclusion

In implementing the nature-based learning model in greenlab activities at TK Alam Bangka Belitung, there are three stages carried out, namely the initial stage, the core activity stage, and the closing stage. In the initial stage, the facilitator opens the greenlab activity and checks the equipment. In the core stage, children are directed to the greenlab area and asked to carry out farming activities and in the final stage, the facilitator closes the greenlab activity by recalling today's activities and asking what lessons can be learned from the greenlab activity. This study

shows that greenlab activities can be a medium that connects children with nature directly, so that they can learn about ecosystems, conservation, and the importance of protecting the environment. This is expected to be able to form better environmental awareness from an early age. The limitation of this study is that it only focuses on one institution, namely TK Alam Bangka Belitung, so the results of the study cannot be generalized to other school contexts, especially those in urban areas or with limited access to nature.

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