

# Implementation: Natural based Kindergarten Learning in Bantul, Yogyakarta

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**Abstract**—Based kindergarten uses the universe as a medium and learning resource. Not only in the learning process, but also in terms of facilities and infrastructure. The purpose of this study is to find out the standards of educators, curriculum, facilities and infrastructure of Natural Kindergarten in Bantul, Yogyakarta. This research method is qualitative research that is descriptive naturalistic with case study design. The data were collected through participant observation, in-depth interviews, and documentation retrieval. As for data analysis through data reduction, display then make a conclusion or verification. This research indicates that the curriculum used in Natural kindergarten in Bantul, Yogyakarta referring to the curriculum service, with the strengthening of environmentally-based curriculum because for the means and infrastructure also refers to nature.

**Keywords**—*nature school, nature-based kindergarten, case study*

## I. INTRODUCTION

Early childhood education is the level of education before the level of basic education [1]. Based on Law Number 20 Year 2003 regarding National Education System related to Early Childhood Education written in article 28 paragraph 1 which reads "Early Childhood Education is held for children from birth up to six years and not a prerequisite to follow basic education". Furthermore, in Chapter 1, article 1, verse 14, it is emphasized that Early Childhood Education is a coaching effort aimed at children from birth up to the age of six that is done through the provision of educational stimuli to assist growth and physical and spiritual development so that children have readiness in entering more education continue [2].

In fact from the results in the field, shows that the quality of programs and institutions of ECD is still one third of children aged 3-6 years have not received early childhood education. Even those who get early childhood services are still many who do not fit the standard of education. Early Childhood Education that has good service quality is only available in some developed regions and middle to upper economy. As for the areas that are fairly remote and for families from the economy down is still very difficult to get good quality Early Childhood Education services.

Education runs very mechanically and embraces the principle of profit oriented. Schools are organized as the main target is efficiency. As a result, children are only trained to become instruments to achieve efficiency. Looking at the reality of the education, parents who begin to understand the various theories of child development thanks to the help of increasingly sophisticated technologies such as internet,

television, magazines and seminars, and began looking for alternative education for children. One

alternative of early childhood education that parents choose is Nature School or early childhood based nature.

Early childhood education is early childhood education with an inspirational process that offers children the opportunity to excel and develop self-confidence through direct learning in the open environment [3]. The concept of early childhood education with natural learning in Indonesia is a new innovation in the field of education. Realized through the School of Nature Ciganjur in 1998. In other countries this concept first known as the forest kindergarten or nature kindergarten.

Indonesia is the largest archipelagic country in the world consisting of 17,499 islands from Sabang to Merauke. The total area of Indonesia is 7.81 million km<sup>2</sup> consisting of 2.01 million km<sup>2</sup> of land, 3.25 million km<sup>2</sup> of ocean, and 2.55 million km<sup>2</sup> Exclusive Economic Zone (ZEE). The strategic geographic location with an area of about 1,919,440 km<sup>2</sup> shows how rich Indonesia is for natural resources with all its flora, fauna and hydrographic potential and its abundant natural resource deposits. Indonesia's natural resources ranging from agriculture, forestry, marine and fishery, livestock, plantation and mining and energy. Indonesia has abundant natural resources mostly located in remote areas such as in the countryside. Indonesia is a rich country. The potential of its natural wealth is remarkable, both biological and non-biological natural resources. Imaginable, its natural wealth ranging from the wealth of the sea, land, earth and other wealth contained in this beloved Indonesia earth may not be counted. When viewed geographically, from Sabang to Merauke, it lies not a few islands in Indonesia.

Natural resources in the countryside such as vast expanses of forests, water sources such as rivers and lakes, expanses of agricultural land and other natural resources. It is inversely proportional to the natural resources in urban areas, because much of the land is used as housing, offices, supermarkets. Land to establish an educational institution alone is still experiencing many obstacles. For example Early Childhood Education institutions such as kindergartens in big city areas such as Yogyakarta are still rare because it is hampered by land. Because to be able to establish kindergarten-based nature schools require a large area as a place to conduct learning activities such as outbound. The land used should be really natural surroundings close to the child and safe.

Thoughts about nature-based learning have evolved long before School or the Natural Childhood was established [4]. Froebel, the educational figure of children from Germany began to form kindergarten which means language park for

children. Froeble was the first person to have ideas to teach children outside the home. Froeble uses the park as an extension of his view of the world and his understanding of early childhood education should be introduced to three things: God, Nature and Humanity. As the name suggests, nature-based Early Childhood Education use the universe as a medium and learning resource. Not only in the learning process but also in terms of facilities and infrastructure. Children's learning place is set with natural nuance so that children can love nature around and appreciate God's creation.

Natural-based preschools are usually defined as licensed early childhood programs for 3-5 year-olds, with 25-50% of the day classes being held out daily, nature as the theme driving the curriculum, and natural existence infused into indoor space [5]. The benefits of natural-based schools and natural kindergartens are to spend time in nature during school activities. Grahn, *et al.* in [6] studied the overall behavior of children, how they played, how often they were outside, their play routines, and the development of motor function and strength of concentration for a year. For clarification, it should be noted that the literature of "nature-based preschool" and "preschool nature" are used interchangeably.

Technological advances make education grow, but like the problems that have been described above nature-based Early Childhood Education there are only a few areas in Yogyakarta. Existing nature-based Early Childhood Education certainly have educational standards and distinct school characteristics. This study aims to determine the standards of educators, curriculum, facilities and infrastructure in one of The Kindergarten Nature in Bantul, Yogyakarta.

The rest of this paper is organized as follow: Section II describes the literature review. Section III describes the material and proposed methodology. Section IV presents the obtained result and following by discussion. Finally, Section V concludes this work.

## II. LITERATURE REVIEW

In Adam and Savahl research on Nature as Children's Space: A Systematic Review mentions that the natural environment in particular has been identified as a significant space involving and exploring children, and has been shown to contribute positively to their well-being. Substantial research indicates that the active involvement of children in the natural environment as space is associated with various benefits of cognitive, physical, affective, and moral development [7].

The involvement of children with nature has also been linked to the acquisition of a sense of independence and autonomy, and the development of subjective geography through play, exploration, living, and learning [8]. Some natural school contributions make the development of contemporary practice of environmental and environmental education introduced.

Sara's research on "Forest Schools and Outdoor Learning in the Early Years" reveals that there are many benefits children receive from unstructured play with nature [9]. The effect of nature-based kindergarten in children from low-income families who do not have access to natural settings outside of school. They focus on eight outcomes, including

confidence, social skills, language and communication, motivation and concentration, physical skills, knowledge and understanding, new perspectives, and ripple effects associated with other outdoor experiences. Much of this outcome is evaluated through storyboards with school staff, as well as direct observation of children's games and experiences in a natural-based kindergarten setting [10].

Overall, children and parents find nature-based kindergarten to be a positive experience, with most children and parents reporting increased self-confidence, social skills, physical skills, and environmental knowledge, as well as the carefree effect outside the home with family, as previous studies are often more descriptive [11].

Research in Wales and the UK from 2002 to 2005 evaluated the partnership between Forest Research and the New Economic Foundation. The methodology was developed to explore the impact of School-based nature on children and this was then used to track changes in 24 children in three case study areas over a period of 8 months. The research highlights that children can benefit in a range of ways. Six themes emerged from positive impact data on children in terms of self-confidence, social skills, language and communication, motivation and concentration, physical skills and knowledge and understanding.

The two themes further highlight the wider impact of natural-based schools on teachers, parents, and extended families. Contact with the natural environment can be restricted to children and adolescents in contemporary society due to concerns about outdoor safety and the issue of risks and obligations. A nature-based school provides an important opportunity for children to gain access and become familiar with forests on a regular basis, while learning academic and practical skills. Constructivist learning theory seems to be very suitable for a natural-school-based approach as children do by their immediate experience [12].

Studies in British Columbia examined the effects of a natural-based kindergarten on various aspects of the functioning of children [13]. The study assessed 41 children attending natural kindergartens and 45 children attended regular kindergartens at the beginning and end of the school year. There were no significant differences in changes in activity level, attention, working memory, related attributes or environmentally responsible behaviors between children in kindergarten and children in regular kindergartens. Natural kindergartens have a beneficial effect on children's motor skills, and positively affect their social skills and well-being. Learning activities that are outside the classroom have many activities that use physical motor and interaction of one child with another. Therefore, learning in Natural kindergarten can improve the motor and social development of children's emotional.

The implementation of the Natural Kindergarten in a public school system in British Columbia, Canada was inspired by a similar program in Northern Europe [14]. Natural Kindergarten became the first program in Western Canada. Developing pedagogical principles is very important starting from early childhood education, by understanding the local context and designing programs that are responsive for places highlighted. Learning about the places where they live offers an opportunity for Natural Kindergarten students to learn that cannot be found in the classroom. This learning can

be complex and layered and deepen the relationship of children to their place. Natural Kindergarten educators also take on different roles to encourage them to continue to question their thoughts and practices around the emerging learning. The study concludes that the process of creating a Natural Kindergarten provides educational opportunities to think differently about how kindergartens learn, what they should learn, and to articulate pedagogy that includes complexity and uncertainty.

The team of educators and academics of the Kindergarten program in British Columbia started operations in September 2012 at a local elementary school. Following the model of a natural-based school in Scandinavian countries, Nature-based Kindergarten provides time for children in the outdoors, where they can play, explore their abilities with activities that are close to nature and the media of natural materials. This study describes the creation of a Natural-Based Kindergarten and pedagogical principles that form the foundation of this school of nature, and to illustrate the children's experience outdoors. The preliminary findings of this study were to evaluate the effects of the child's nature on the nature and behavior of those responsible for the environment [15].

Research in the Czech Republic illustrates the advantages and disadvantages of a Natural-Based Kindergarten from the perspective of stakeholders. Based on qualitative data obtained from semi structured interviews and observations in 3 Natural-Based Kindergarten and document analysis, present these advantages and disadvantages as characteristics of kindergarten based on nature. Advantages in aspects of society that can improve the capacity of preschool education, male and female teachers, and add to the experience of parents. The second advantage to the parent's lifestyle is that children throughout the day become close to nature, making alternative education. Third, the advantages in the field of education is to increase creativity in education, provide a positive approach to nature, develop emotional social behavior of children, as well as the development of fine motor and smooth child. Another advantage is that for children's health, the physical condition of children, children's immunity, natural kindergarten environment. However, the disadvantages that can be experienced from this natural-based school lies in safety that is the risk of natural activities, insects, minor injuries, and hygiene of objects around the child that can affect the child's health as well. The conclusions of this study are related to existing empirical investigations and theoretical knowledge about the possibility of comparing common kindergartens and nature-based kindergartens [16].

### III. MATERIAL & METHODOLOGY

This section presents the material used and the proposed methodology.

#### A. Participants

Subjects in this study were managers, educators, children, parents or guardians of children. From the manager, the researcher will get the data of various policies related to the educational institution program, such as eight PAUD educator standards that include standards of child development achievement, content standards, process standards, assessment standards, educator standards and education personnel, management standards, equipment and infrastructure standards, and financing standards.

From the educator, the researcher will get data about the program and implementation of Early Childhood Education standard consisting of daily activity plan, syllabus, organizing, implementation, and evaluation. While through the child, can be seen how the implementation of the given school in the child's development. Parents also serve as resource persons to provide information on the implementation of activities of kindergarten and child development.

#### B. Method

This research uses a qualitative approach that is descriptive naturalistic with case study design. Therefore, its nature is qualitative research. This research describes the education standard of Kindergarten based on Nature in Bantul, Yogyakarta.

The data were collected through participant observation, in-depth interviews, and documentation retrieval. As for data analysis through data reduction, display then make a conclusion or verification. Sugiyono suggests that the activity in qualitative data analysis is conducted interactively and continuously to complete, so that the data is saturated [17]. Activities in data analysis are data reduction, display data, and conclusion drawing / verification. Data validation checks are performed through persistence of observation, extension of participation, triangulation, and reference adequacy.

The first stage is data reduction. The researcher obtains the data from the field then chooses and summarizes the data then classifies it in a broader pattern concerning the Early Childhood Education educator standard. The second stage is the presentation of data, after the authors finished to process the data obtained from the field, the researchers present the data in the form of text that is narrative so easily understood and make conclusions. The third stage of conclusion / Verification, by way of describing the conclusions in the form of verbal language that is easily understood as a form of answer to the problems studied namely the standard of education in nature kindergarten Yogyakarta.

### IV. RESULTS AND DISCUSSION

The research conducted by Mark Leather in his journal entitled "A critique of Forest School: Something lost in translation" shows the results of criticism of natural schools in the UK [18]. Three things are the main points of the results of this study, namely the first natural school as a type of outdoor education is social construction and that the practice lies culturally, socially and historically. Secondly, some theoretical foundations that view play are the main principles of the natural school experience, and suggest that playing pedagogy will be useful in natural school activities. Third, the problem and impact of the commodification of the natural school approach to the exploration of neoliberal education.

The positive value of natural schools is that activities are based on play, so they offer excitement, provide a lot of experience for children, and introduce nature directly to children from an early age. However, natural schools will be an outdoor version that is reified and limited to environmental education. To prevent this, it is necessary to better understand and utilize natural-based learning and development.

The results of Jennifer Masters & Leanne Grogan's study in a journal entitled "A comparative analysis of the nature of

kindergarten programs in Australia and New Zealand" is that each of the two countries is unique in the established natural school program. For educators in both countries, a strong and relevant pedagogical curriculum framework and philosophical beliefs are the basis for the implementation of natural programs [19]. Understand and apply the principles of curriculum documents and core pedagogical practices such as play-based learning and curricula negotiated in nature-based kindergarten parameters.

Organizing natural schools in both countries also pay attention to practical arrangements such as activities to travel to and from the site, residence, policy, bad weather, first aid, toileting arrangements, and all other significant factors. This study found that natural kindergartens in both countries varied, but all had similar challenges and considerations. These challenges include finding suitable locations where children can develop relationships with nature and feelings and where they can experience manageable risks based on data obtained from the field about the implementation of The Kindergarten Nature in Bantul Yogyakarta, namely:

The process of learning in kindergarten Nature in Bantul is holistically built from the relationship with the child's parents and the local environment. Therefore, the learning process is a movement to find the values and understanding of better life, because it is the essence of the "School of Life". Creating an independent learning life where the entire educational process is built on the basis of collective needs, departs from the collective agreement of all learning.

The implementation of the learning process comes from strength, ability possessed (self-reliant). Opening to receive outside help but it is non-binding and it does not undermine the principle of independence that actually becomes power, such as teaching and learning methods, media used, logistics resources, funding and customs that originated from the local community. Initial education is an important foundation for putting thinking systems and attitudes developed since the children understand the potential and the problems and the reality of life for the future supply. So, kindergarten is trying to create space for children and communities to freely experiment, explore and express the various findings of knowledge by utilizing the surrounding environment as a medium of learning. Emphasizing the child with nature can help develop the full potential of the child by giving them the freedom to explore their abilities and teach them from the outset to love nature and the environment around them.

Kindergarten Nature as a Laboratory "School of Life" focuses on basic human needs namely; Food, Health, Environment and Social Culture. Therefore, by taking the theme as a perspective that can be developed in the process of daily learning. The school implements a learning model based on a learning system with nature as its main laboratory that is fun for students and teachers. Laboratory of life where the relationship of human interaction with nature is woven and assembled in the reality of life (daily). Thus, it makes a place that can enrich the awareness and love of all the human beings involved in it in nature. Finally reinforce our position in nature and our functions and duties in guarding it.

The main foundations in the principles of this school are sustainability, such as building design, game models, facilities and infrastructure, office administration, to learning processes and curricula. Building design tailored to the needs and

development of the era. For the selection of game models tailored to the stage of development and needs of children. While facilities and infrastructure is equipped and adapted to the standards. Then, the administration of the office is adapted to the policy of the school.

One of the curriculum references in this school is the service curriculum, with the strengthening of environmentally-friendly curriculum. It is revealed in the vision that the mind is smoothing mind. So, not only educate children to be smart in cognitive, but also educate the character of the child to become a person who has good morale in the future. Through learning activities in nature, not only apply activities that can develop cognitive children, but also to develop other children by not forgetting to apply good religious morals taught from an early age.

This institution has a superior program that has opened new student enrolment for playgroup, kindergarten, to primary school. Extracurricular held in this institution that is dancing, music / vocal, art, English, cooking, breeding and gardening. Then, this institute also provides psychology that is presented in twice a month. Conducting dental check-ups within three months. Providing paediatricians who are imported once a month. Moreover, in every activity always provide snack, juice, and lunch.

The requirement to become a student here is not complicated and complicated, the main parent of the students following the dialogue with the organizers before they finally agree on the various principal requirements that must be followed by the parents / guardians of the students. Kindergarten also has a parent forum which is a means of communication to build relationships between parents, teachers and organizers to gain a shared understanding of the learning process undertaken by children, parents, and teachers and all personnel involved. Therefore, the parent forum is actually also a means of sharing experiences of each parent and teacher related to child development and parent involvement in the learning process both at school and at home respectively.

## V. CONCLUSION

Nature provides possibilities and challenges for children to explore their own abilities. Children feel more comfortable in the natural environment and their knowledge of nature increases. With learning activities that bring children closer to nature, children are more free and able to explore abilities so that knowledge and experience quickly increases. Introducing children with nature also has a positive effect in the long run, because children will appreciate and preserve nature.

Natural kindergartens are the same as other institutions that have eight educational standards, which are standards of child development achievement standards, content standards, process standards, assessment standards, educator standards and education personnel, management standards, equipment and infrastructure standards, and financing standards. However, the difference, among them lies in the standard contents, processes, facilities and infrastructure. The standard of content which includes the curriculum of the school of nature applied is the curriculum of the service but the strengthening of the curriculum is environmentally friendly. Learning activities are done in nature, so the child really introduced and brought closer to nature. In the learning process, the media used also from natural materials.

#### IMPLICATIONS AND LIMITATIONS

Limitations of the study mainly on relatively small sample sizes. Future research can be conducted with larger and more diverse samples to fully understand the key role and actual benefits of early childhood natural education. In the next research can be conducted research that examines the education of early childhood based on natural with other purposes.

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