

# Improvement of Natural Intelligence For Kindergarten Through Discovery Learning

## (Case Study by Using Artificial Environment)

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**Abstract**— This study aims to know is there Increase of naturalistic intelligence owned kindergarten's students by using teaching methods of discovery learning supported by the use of learning resources that directly represent of intentionally natural environment to be set by investigators as a learning resource of artificial environment, this research is classroom action research with qualitative approach. The findings of the research Showed that there is a significant improvement over the naturalistic intelligence on students who follow learning through discovery learning method by utilizing the artificial environment of learning resources.

**Keywords**— *naturalistic intelligence; kindergartens's students; discovery learning method*

### I. INTRODUCTION

Early childhood education aims to help children lay the groundwork towards the development of attitudes, knowledge, skills and creativity needed in the child adjust to the environment and to the growth and subsequent development (PP No. 27/1990 article 3).

The purpose implies that early childhood education focuses on developing the whole dimension of children intelligence are implemented in the form of attitudes, knowledge, skills and intellect. Thus the principle of early childhood learning is collaborative should not only focus on one aspect development only, but oriented towards the development of all aspects of children development.

Supports the statement above, Agustin, M describes the consequences of the principles of collaborative learning in the learning process, teachers should be able to give freedom to the child in learning activities and stimulate the child to develop one or several specific intelligence from the plural intelligence so that the ability of children more capable and skilled[1].

By knowing the theory of multiple intelligences provides the opportunity for teachers and parents to develop innovative teaching strategies are relatively new in the world of education, particularly in Indonesia. Various potential

intelligence is often known as multiple intelligences or a multiple intelligence. According to Howard Gardner plural intelligence character is the ability to solve problems or produce products that are made in one or more cultures. This intelligence explain how individuals use their intelligence to solve problems and produce something. This approach is a tool that is used to view the human mind operate their environment, whether related to concrete objects and abstract.

The plural of the eight intelligences one of them is the environmental intelligence that is the understanding of nature, which includes the ability to identify and classify the differences and similarities between the characteristics of the species, both flora and fauna, such as plants, animals and other living environments, and able to interact effectively with nature.

Environmental intelligence has a very large role in life. Knowledge of children about nature, animals, and plants can deliver them to various strategic professions, such as veterinarians, agricultural engineers, agriculture, forestry, marine, pharmacists, geodesy, geography and environmental experts.

The teacher as facilitator and motivator also need to touch the environmental intelligence held by a subsidiary. Because of the base potential that has a child would have a stronger and emerge with a touch or attention from educators. If all the intelligence of children can be touched with the optimal balance will take teaching and learning will be more effective.

Previously researchers regarding plural intelligence owned by children, one of them is environmental intelligence implies that the it has not been touched by the good, the researchers suggest that teachers should develop learning methods to be able to touch all aspects of intelligence, more specifically discovery learning model by leveraging artificial environment resources as learning media is adapted by learning techniques that can facilitate teachers in improving the environmental intelligence for kindergarten children.

Starting from problem in classroom, the result of observations primarily related to environmental intelligence for kindergarten age children, was in fact showing a different

condition from multiple intelligence theory owned by children. This was experienced in kindergarten Aisyiyah 29 Padang, here children have problems in developing environmental intelligence. This condition is indicated by the number of kindergarten children are still difficult to dispose of waste in place, maintaining the cleanliness class, still reluctant to wash their hands, act less concerned with pets in schools, has not shown any sensitivity to the surrounding environment such as loving plants in the school yard. As a result the plants around the school a lot of damage because of being, plucked, even untreated.

Based on the problems described above, it requires special handling in learning activities so that these barriers will not negatively impact to a child's in their interaction with the environment in the future. Therefore, this study focused on improving the environmental intelligence of children ages kindergarten through discovery learning model by utilizing the artificial environment of learning resources. The purpose of this study were 1) to determine the efforts that have been made of teachers in improving the environment intelligence of kindergarten before being applied learning model discovery with learning resources artificial environment, 2) Improving the understanding of the learning model application discovery with learning resources of artificial environment in developing environmental intelligence at TK Aisyiyah 29 students in Padang, 3) Knowing how much of an increase in the child's environment intelligence after the implementation of discovery learning model with the artificial environment of learning resources in kindergarten of Aisyiyah 29 Padang.

## II. METHOD

This study is intended to improve and enhance the learning process as well as the teachers that have been implemented to overcome the problems that occur in the field (in kindergarten). Therefore this study using explorative research[2]. Using the explorative research is conducted focus to discovery of ideas and insights about the learning model of discovery learning process in improving children naturalistic intelligence. This research was conducted in kindergarten Aisyiyah 29 in Tanjung Aur Balai gadang Koto Tengah subdistrict, of Padang. Researchers chose this location because the kindergarten of Aisyiyah 29 Padang is already has a facility that can support the development of multiple intelligences, one of which is the environment where the environmental intelligence and the evaluation results are not yet apparent. The subjects of the study were a group B Galaxy in kindergarten Aisyiyah 29 Padang, amounting to 25 female children and 7 male. Data obtained from the results of the final evaluation was analyzed qualitatively by breaking, compare, categorize and develop a systematic manner. The development of research instruments in this research is observation, interview and documentation study.

## III. RESULT AND DISCUSSION

Discovery learning methods by utilizing learning resources of artificial environment provided can make learning boring in the classroom into learning interesting and fun for children, allowing the children to add his/her experience to direct contact with natural objects, and can increase a sense of

empathy towards fellow beings created by God almighty one. Direct experience will facilitate the child understand the concepts being taught such as by Hamalik that a concept can be long remembered than a series of words, a concept will be understood if it is obtained by direct experience and found themselves, thus solving process occurs problems that exist within the child process itself[3].

Environmental relationship with the customs are very closely connected in a society, customs or habits will affect the environment around the children then we have to do as a parent or teacher can instill good habits for them in order to be able to interact effectively with their natural environment from an early age so that children capable of maintaining the environment is beautiful, cherish and appreciate all the natural objects around it and can use it wisely.

Various Activities and Events, which referred to the activity of any acts which are designed by teachers to facilitate students' learning activities such as discussions, demonstrations, simulations, experiment, and so forth. Environment or setting, is anything that can allow students to learn. For example, schools, libraries, laboratories, parks, school canteens, and so forth.

The process of learning process is an activity curriculum implement an educational institution, in order to influence their students in achieving educational goals that have been set. The purpose of education is essentially deliver protégé lead to changes not only behavior but also intellectual, moral and social order to be able to live independently as an individual and social being. In achieving these objectives child interacting with a learning environment that is set by teachers through the teaching process.

Learning environment is organized by teachers includes teaching objectives, teaching materials, teaching methodologies, teaching assessment. These elements, commonly known by the components of teaching. Teaching goal is the formulation of the expected capabilities of students after a variety of learning experiences.

According Sudjana & Rival, the teaching material is a set of scientific material that consists of facts, concepts, principles, generalizations of a knowledge that comes from can curriculum and can facilities the achievement of teaching purposes[4]. Teaching methodologies are the methods and techniques is used by teachers having the interaction with the students so that teaching materials up to the students, so that children master the teaching objectives.

In teaching methodology there are two aspects that most stand out the teaching methods and teaching aids including learning resources as a tool to teach. The evaluation is a tool to measure or determine the level of teaching purposes implementation. Then the position of media and learning resources as a tool in teaching methodology as one of the components of the learning environment is set by the teacher.

Judging from its role in helping and enhance the teaching process, for example a simple poster that can arouse the importance of maintaining a clean environment will be much more valuable than a movie about cope with a picture of a clean city, for the purpose of teaching the attitudes of students

towards environmental cleanliness. Then the use of media and learning resources is very dependent on the purpose of teaching, teaching materials, access to media and learning resources are needed as well as the ability of teachers to use them in the teaching process.

The use of media and teaching resources closely related to the stage of thinking that because through the media and teaching resources and abstract things can be constructed, and for complex things can be simplified.

Outside the classroom teacher can pose to the actual environment, observed them in conjunction with the learning process, it is more meaningful due to the students are faced with the events and circumstances that are actually naturally, so more real, more factual and truth more accountable. Bring students out of the classroom in the context of learning activities are not limited by time that is not always take a long time. Many of the benefits derived from activities to study the environment in the process of learning, among others[5]:

1. Learning more interesting and not boring child, so the child will be more motivated to learn. The meaning of learning will be more meaningful because children are faced with natural the situation and the real situation.
2. The materials can be studied richer and more factual so that the truth is more accurate.
3. Children's learning activities is more comprehensive and more active because it can be done in various ways such as observing, ask questions or interviews, to prove or demonstrate, examine the facts, and others.
4. Learning resources become richer because the environment that can be learned can be varied as social environment, natural environment, built environment, and others.
5. Children can understand and appreciate other aspects of life in the environment, so as to form a personal familiar with the life around it, and can foster a love of the environment.

Therefore, the surrounding environment should be optimized as a medium of teaching and more of it can be used as a number of students' learning. Several of study field that can be learned at school almost give significant effect to the environment such as social science, natural science, language, arts, crafts, sports, health, population, ecology, and others.

The natural environment in respect of premises all things that are natural such as the geographical situation, climate, temperature, season, rainfall, flora, fauna, natural resources (water, forests, soil, rocks, etc.). The natural environment appropriately used for natural science fields of study. Aspects of the natural environment above can be studied directly by students, given the nature of the relatively fixed nature of symptoms unlike in the social environment, it will be easier to learn the child. Kids can observe and record definitively, can observe the changes that occur include the process and so on. Other symptoms that can be learned is damage the natural environment including the causal factors such as erosion, deforestation, pollution of water, soil, air, and so on.

By studying the natural environment is expected of the students can better understand the subject matter in school as well as to foster a love of nature, to preserve and maintain the

awareness of the environment, participate in tackling environmental damage and pollution as well as keep the preservation of natural resources for the ability of human life. Either individually or students group can perform learning activities are like to observe, ask others, to prove themselves or give it a try. They will get something valuable out of learning activities that are easy to find the learning experience in their daily lives.

Artificial environment or the cultural environment that had made or built by humans for specific purposes that are beneficial to human life. Artificial environment, among others irrigation, dams, gardens, zoos, plantation, afforestation, and power plants. Kids can learn the artificial environment from any kind of aspects factor such as process, utilization, function, maintenance, supportability, as well as other aspects relating to the development and benefit of man and society in general. Artificial environment can be associated with the interests of various fields of science in education.

Third learning environment can be utilized educational institutions in the learning process, through careful planning by studies teachers either individually or collectively. The use of deliberately prepared learning environment for children in achieving learning goals. Technical use of the learning environment should be placed as a medium and as a learning resource in conjunction with instructional materials that relevant. Thus the environment can serve to enrich the teaching materials, enlighten knowledge principles and concepts learned in the field of study and bias used as a learning lab students.

Environmental intelligence is closely linked with natural science that originated from human curiosity greatly to the objects around him as to why the plant can be enlarged, why rock when put into water, drowning, objects falling down, the sun rises in the morning, moon and stars appear at night, even want to know about himself, why feel hungry and sick[6].

Curiosity in humans different from other creatures. The ability to react to the kind of environment is not owned by other creatures. With a curiosity that makes human exploration to meet your transport fee and accommodation. Human activities ranging observation or observation of objects in the vicinity. As in the movement of living beings are objects such as rocks, soil, rivers or wind, water and air even single-celled animals that move from one place to another, the movement is not on his own but merely a result of the influence of natural eternal. In addition to holding the observation then also do the thinking process. After learning across various phenomena that were around then people start thinking about why it is so, what caused it and so forth. This trend seems to last in the wild in order to maintain the sustainability of life.

#### *A. Values of the Environment as a Learning Resource*

Environment that exists around children is one of learning resources that can be optimized for the achievement of the process and result quality education for early childhood. Environment provides a variety of things that can be learned children. Number of learning resources available in this environment is not limited to, though generally not been

deliberately designed for educational purposes. Environmental learning resources will further enrich the knowledge of children because they are learning is not limited by the four walls of the classroom. Other than that the truth is more accurate, because the child can experience firsthand and be able to optimize their potential of the five senses to communicate with the environment.

Use of the environment allows the meaningful learning process (meaningfull learning) because children are confronted with the actual circumstances and situations. This will fulfill the principle of concreteness in the study as one of the principles of early childhood education. The use of the environment as a learning resource will encourage the appreciation of the values or aspects of life in the environment. Awareness of the importance of the environment in life can be implanted in children from an early age, so that young adults can be maintained consciousness.

#### *B. The Use of The Environment Can Be Appealing to Children*

Possible learning activities will be more attractive to children because of the environment providing learning resources are very diverse and plenty of choice. The penchant to learn from an early age is the basic capital that are necessary in order to set up community learning (learning Sociétés) and human resources in the future. Utilization of environment fosters student learning activities (learning activities) is further improved. Use of the method or methods that varies is the demands and needs that must be met in early childhood education.

Environment is a learning resource that is enriching and appealing to kids and any neighborhood can be a fun in the children place, so many values and benefits that can be gained from the environment as a learning resource in early childhood education and almost all of theme activities can Learning from the environment. However needed creativity and innovative spirit of the teachers to be able to use the environment as a learning resource[7].

If at the time classroom teacher about the child introduced by the animal, using a child's environment will be able to gain more experience. In such environments utilization teachers can bring the activities usually done in the classroom to the outdoors in this environment. But if the teacher tells the story in the classroom, the nuances that occur in the classroom will not be as naturally as it does if teachers encourage children to use the environment.

Utilizing the surrounding environment by bringing the children to observe the environment will increase the balance in learning activities. It means learning not only in the classroom but also outside the classroom in this regard the environment as a learning resource that is very influential on the development of physical, social skills, and cultural, emotional and intellectual development.

Environment in general provide a challenge to be passed by the children. Utilization will allow the child to develop a positive self-esteem. Confidence possessed by children towards themselves and others developed through real life experiences. The neighborhood itself provides facilities for

children to get a real life experience. Children learn through direct interaction with objects or ideas. Utilizing environment is basically to explain certain concepts naturally. The concept is known and understood the child in the classroom it will be more pronounced when teachers lead children to see a real concept that exist in the surrounding environment.

Teachers must have the knowledge, ability, and skill in developing a child's learning by using the environment as a source of learning. Usually children seriously if they find something very attractive to him. When the teacher saw it give guidance to the child by way asks what is being observed. Using the environment as a learning resource actually provide alternative approaches in teaching children. This caused an alternative and very much selection of learning resources, the learning environment utilizing learning activities will be centered on the child.

Provide questions to encourage their children to make sense of the things they have experienced and seen. Open-ended questions will encourage the child to reveal things that he observed independently in accordance with the language skills.

Teachers do not always know the answers to the childrens' questions. Teachers who know the different things of children will foster trust him. Kids feel to have people who can become a place to ask about things that they can not solve. Children will have a high confidence to teachers who want to help in every way. Conversely, if the teacher does not know a lot of things will lead to lack of confidence to him because every time they ask something the children does not receive a clear and satisfactory answer. This can be overcome by the discovery learning model that is all a question of children and child keingintauan will automatically get through the learning child or children find answers from the direct experience. This will make learning more meaningful.

#### IV. CONCLUSION

Innovation and creativity of educators in the use of learning resources are proven to improve students' multiple intelligences. Utilization of this increasingly positive effect is supported by the discovery learning model to enhance the naturalistic intelligence for early childhood students. This research report concludes that overall, discovery learning model by using learning resources artificial environment is better the establishment of students' environmentally behavior. For those students who have a high level of naturalist intelligence, discovery learning methods by using artificial environment are very effective and led to children's' intelligence of their surrounding natural environment. As for students who have a lower level of environmental intelligence, discovery learning methods can increase their concern for preserving the environment and motivate them to love their environment.

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