



Garden Based Learning Strategy Instilling Environmental Consciousness in Early Childhood

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Abstract

Serious environmental problems being faced today is the problem of environmental quality degradation. Global natural environment faces an increasing pressure as the exploitation of natural resources is not controlled. Then the awareness is need to be grown to maintain and preserve the environment through education. At school, the knowledge and values of environmental awareness can be introduced to early childhood so that the child's confidence about the value will be getting stronger. Environmental awareness should be developed in early childhood education through appropriate learning strategy. Early childhood is an active learner and learning through concrete case and very happy to be outside the classroom to do activities. Therefore, using garden based learning strategy or outside the classroom learning strategy by using the land or the school garden with the aim of instilling environmental awareness to the children is highly appropriate to be used. The garden based learning aims to develop some life skills and multiple intelligences and to generate the early children's awareness to love the environment.

INTRODUCTION

Serious environmental problems being faced today is the problem of environmental quality degradation. Global natural environment faces an increasing pressure. Consumptive lifestyle has a strong influence. The exploitation of natural resources is not controlled to fill the desires and today's need without thinking of the future generations that will come in the name of development (Susilastri & Rustaman, 2015: 263).

Therefore, environmental awareness on education needs to be grown through appropriate learning strategy and can be started when the child sits in kindergarten, this is explained by Iskandar (2013: 213) that the delivery of environmental material can be given since these children are in kindergarten. While playing, children can be invited to know about a plant or animal. So did with other environmental problems, such as the problem of waste. Knowledge and values about the environment can be introduced to the child so that the child's confidence about the value will be getting stronger.

The *garden based learning* (GBL) strategy is a form of learning management for early childhood which is done outside the classroom. *Garden-based learning* is a learning model which aims to develop some aspects of intelligences and developments for children in kindergarten. Even more, the *garden based learning* strategy aims to sensitize children to love the environment, especially plants that are nearby. By exploring and jump directly to maintain the plants, it will foster the values of awareness of protecting the environment around them.

Through *garden based learning* (GBL) strategy, the values of the child's awareness to keep the natural environment around them until the next development period will grow because the young learner will learn very well and absorb all the information when they are interacting actively with others and the environment instead of being the passive recipients of information. In the learning activity, children are the subject of learning who play the main role in the learning process setting, so that the children are required to be completely active in the physical environment.

In connection with the thing above, Desmond, et al. (2004: 17) explained that the *garden based learning* (GBL) is not only defined as the use of the park or the garden as a teaching tool, but more than that in which the children will find an interesting experience that can make them contribute to ecological literacy and sustainable development. This was confirmed by Woollorton, S &

Marinova, D (2006: 4), Waliczek, T & Zajicek, J (1999: 180) that increasing environmental awareness and concern for the environment is needed in society or education.

However, in the real life, some schools have not utilized their schoolyard to be used as a school garden. There are still some schools which closed the school yard area with paving blocks or cementation. The school teachers or even the elderly guardians of the students thought that learning outside the classroom are not so important and relevant to be implemented and developed in school. They reasoned that it does not contribute significantly to the development and the intelligence of the students.

This condition is also reinforced by some teachers, who reasoned that the activities outside the classroom will only make the child soiled and add the workload of teachers. Plus, the hot weather outside, the special time setting to learn outside the classroom and various other challenges. So, many learning activities done in the classroom, with the presentation of a monotonous learning model so it is oriented to the academic learning. The learning process is no longer in accordance with the characteristics of early childhood learning.

The purpose of writing this article is to explain about the *garden based learning* (GBL) strategy and its components which are interrelated and contained therein, so as to provide solutions and open up horizons of global phenomena related to the environmental degradation issues this time.

RESULTS AND DISCUSSION

Some functions of early childhood education that must be considered according to Mursid (2015: 18) are: first, to develop all the capabilities of the child in accordance with the stages of development; second, to introduce the children to the world around (e.g: a field trip to the safari park, in addition to be able to recognize various animals, it also can recognize a variety of plants and animals as well as to know the difference of hot and cold air); third, to develop the children's socialization; fourth, to introduce the regulation and discipline to the children; fifth, to give the children an opportunity to enjoy playing; sixth, to provide the cultural stimulus in children.

The Explanation above can be interpreted that through a good management of learning environments that will support the development, it will create the children interaction and creativity in learning. Managed learning environment does not have to be always in the classroom, it can also

be done outside the classroom (*outdoor*). By learning outside the classroom, so many benefits that will be gained by the children. One of them is to increase the children's understanding and knowledge about the environment outside the classroom.

Learning Outside the Classroom (*outdoor*)

Talking about the environmental management as a learning resource is not only in the classroom (*in door*) but there is also environmental management of learning outside the classroom (*outdoor*). Learning outside the classroom is a learning process which is designed outside the classroom up in such a way that is tailored to the child's learning characteristics. Wooltorton, S & Marinova, D (2006: 1) considered that children are active learners who extend their physical, cognitive development and social-emotional through play and other first-hand experience in the indoor and outdoor learning environments.

Outdoor activities are an integral part of the early childhood education program. According to the view of an expert who supports this activity, Froebel said that "the educator's role is to observe the natural maturation process of children and provide activities that make them learn what they are prepared to learn when they are ready to learn" (Morrison, 2012: 66).

Froebel considered that children's playground is natural. Children maintain a garden, build water dams, take care of animals, and play a game they do outside the room or *outdoor space*. Besides the children like free air and the area is extensive, outside the classroom activity is much more provides various facilities that can be utilized for the children development.

Keep in mind that learning outside the classroom is important for optimizing the early childhood physical development, the development of social skills and cultural knowledge, emotional development and intellectual development. Learning outside the classroom must meet the safety standards and improve the child's natural characteristics, based on their needs and the most important is it should be fun aesthetically (Maryana ddk., 2013: 109).

This is reinforced by Henniger's opinion (2013: 264) which said that playing outside has a very important role and integral to the better children development. The routine of playing outside is regarded as important for children from birth to the age of eight years to give because it will help the development of stronger muscles.

From the description of the experts above, it can be concluded that learning outside the

classroom provides many benefits to the children. Learning outside the classroom with a happy feeling gives a lot of knowledge to children so it is not only beneficial for physical development but also other aspects of children development. It can be implemented through various activities such as gardening and others.

Garden Based Learning (GBL) Strategy

1. Definition of Garden Based Learning (GBL) Strategy

The idea of combining outdoor place as an integral part of the educational curriculum of children is not a new thing. The philosophy behind the garden-based education is actually an amalgamation of the philosophy behind the experiential education, ecological literacy, environmental awareness and agriculture literacy. In other words, it involves children through the teaching of personal discovery in nature with the concept of learning, in which they learn about the ecological principles that set all of life, and develop a sense of connection with the land (Subramaniam, 2002: 1).

Decade of the last 20 years, "school gardening" has become a national movement. Texas and California state departments of education and university extension programs actively encourage gardening school to provide curriculum and evaluative research (Blair, 2009: 15). Learning strategies based schools that use a garden of some types of plants as a teaching tool that is often referred as the garden-based learning. Started from the mid-1990s, some researchers began to explore the effects of school garden program (Maltese & Zimmerman, 2015: 53).

Expert opinions above can be interpreted that *Garden based learning* is basically a learning strategies that take advantage of the garden as a teaching tool. Garden based learning practice is a global phenomenon that is growing. Desmond, et al. (2004: 17) added that the *Garden Based Learning* (GBL) is not only defined as the use of the park or the garden as a teaching tool, but more than that in which the children find an interesting experience that contribute to ecological literacy and sustainable development.

Maria Montessori (1870-1952) was one of the first educators who recognize that children need experience. She created a certain environment in which the children can build their own knowledge. From her work with children in the city of Rome, Montessori believes that teaching children to work in the garden will direct them to the contemplation of nature intelligent, and moral education. She wrote of Teachers of Eng-

lish, also, who believe that the participation of children in the garden are fertilized as “the first idea of domestic life” (Alexander, et al. 1995: 124).

According to Nimmo, J & Hallett, B (2008: 4) it is different from the world of nature in the woods, garden exist because of human interaction with the plant. The park is a *focal point* for children to develop a lasting relationship with other adults in the outside community, parents and teachers. The survey results from HFSSGH (2012: 2) showed that science is the main subject being taught in the school garden, followed by mathematics, health, language arts, and social studies.

School garden offers educators, community, and especially the students the opportunity to learn, in terms of academic, about the world that represent perspectives than their own, namely, to have an attitude in making continual change, and to acquire the habit of thinking or consciousness that promotes a sense of self in the culture and socially interconnected and rapidly changing planet (Wolsey, T & Lapp, D, 2014: 53).

From all the explanations of experts above, it can be concluded that the *garden based learning* (GBL) includes a program of activities and projects in which the garden is as a basis for integrated learning and is across the disciplines implemented through the activities of interest so as to provide real-world experience so it has a personal meaning both for children, adolescents, adults and the community.

2. Characteristics of *Garden Based Learning* (GBL) Strategy

Many choices of plants that can be grown in a school garden. For example, planting flowers for the park is full of color and beautiful. Then planting a garden of lettuce, tomato, carrot, cucumber and herb. The thing that should be considered is to plant crops that will grow quickly and easily, such as sunflower, pumpkin, beans or tubers. However, it should also consider whether the plants which will be planted grow well in school climate.

Characteristics of school gardens should complete some of the things that have to be considered. First, it requires a place and a good ground in the school's garden, where it can be exposed to sunlight for six hours every day, a place away from the reach of school children. Because maybe school children could trample the park unconsciously while playing or during games or other activities. Second, that the school may not provide a large land for a garden. Maybe the school

will provide a point of land which is rather small, so in dealing with small holdings in school is by making a rectangle garden. Make a garden in a long line of each box can be filled with the two plants in a row. With this idea, all students can reach all the boxes and practice to grow their own plants. This long garden is able to fill in the middle of two lanes or long park (Andi, 2010).

3. Stages of *Garden Based Learning* (GBL) Strategy

Maltese & Zammerman (2015) explains that the school garden consists of four large and two small raised beds surrounded by a small road and fences. In this garden, teachers, students, and parents can plant vegetables such as peas, tomatoes, and carrots. Planting herbs such as basil, and so on. Grow fruit such as blueberries and strawberries. Planting flowers such as zinnias, marigolds, cosmos and maintain the park. Fence lined with internal and external borders of annual plants. One part of the border containing annual plants that are a source of food for local butterflies.

Children's activities that can be performed on the *garden based learning* strategy to plant seeds and observe the growth of the plant is a learning experience that is very interesting and amazing. Here the teacher facilitates the surroundings which are light enough to be used as a mini garden where children can plant flowers and seeds.

Then Mariyana et al. (2013: 38) added that for the safety, the school garden should be fenced off to protect it from animals or from trampled inadvertently. Gardens should be narrow – maybe two feet wide, to minimize the children who want to gardening stepped into the garden (particularly important when the field is muddy). Narrow garden can create a form that is aesthetically pleasing if the garden is parallel with the straight fences or trees are circular.

Here are the tools and equipment that can be provided and used in the garden area for students by Mariyana et al. (2013: 127) some of them are: several sets of garden tools, a wheelbarrow, seeds or plants, access to water, water hose, shovel, hoe or ground fork, bucket and dipper, yarn and wood to give a sign, and a storage area.

The stages of the implementation of *garden based learning* (GBL) can be described through activities in early childhood farming activity in detail in the research Hidayatulloh, M (2012) is as follows:

The first stage

Teachers determine the activities that stand for the core learning. For example, the main ac-

tivity in the RKH (daily activity plan) with Environmental themes can be filled with "Mr. Ahmad Nurturing Field". Teachers here connect the environment as a central theme of the field as a tool to give the concept of gardening. General purpose of this activity is to get the planting of an experience. Suggestions for the implementation of the first step is, at the beginning of the semester, the teacher asked for help from a parent who works as a farmer to voluntarily help children learn in the field (the fields or gardens). Occasionally, they may become informants and participate in the class. In this case, scheduling cycle is necessary. For example, A participated in week-1 for the 1st semester, and at week-3, etc. Meanwhile, the type of media and learning resources that are used for gardening including plants (such as pepper seeds, flower seeds, etc.), a spoon for spading up land, a bucket for watering immediately. While the steps include early learning, core, and an end.

The second stage

With Mr. Ahmad learning arrangements in the field, the activity can be started to be filled by introducing a variety of things in the environment. In this case, Mr. Ahmad's park is an example. The method that can be used here is telling a story, describing the condition of the park at that time. This introduction can stimulate the cognitive development of the children. Furthermore, the method of giving the assignment, in the core activity, the children were asked in groups to plant pepper, flowers, and others. The teacher asks them to use a spoon to dig the ground, while a bucket is used for watering. This activity is essential to develop their physical and mobility. Learning is completed by a story about the teacher propagation of plants and the importance of what they have planted.

The third stage

The last stage stimulates children's social-emotional. In addition to the method "gives the task", there are other methods as an alternative to the provision of agricultural or gardening concept for children. This method includes demonstrations, *catechizing*, dialogue, telling stories, and singing. Demonstration, for example, can be used as a means of maintaining and watering the plants. *Catechizing* is a suitable method for the teachers to ask the children to disclose the origin of rice. Dialog is used to investigate a variety of plants and animals. Story telling is used when teachers stimulate the children's knowledge of where farmers work. It can also be used to notify the propagation of fish or livestock. The teachers can also use singing to stimulate the artistic spirit of children. The song "Lihat Kebunku" is a concrete

example.

The fourth stage

As the final step of the implementation of the concept, in order to maximize the authentic assessment in the learning process and thereafter, teachers have to be active to observe and assess the ability of the children. After seeing the example above, teachers assess children's ability to understand things in their environment. They also able to assess the mobility of children during cultivation or watering, as well as evaluating the response of children or the emotion of the importance of taking care of God's creatures.

In the implementation of the school gardening model it is necessary to note the preparation of teachers before plunging into the garden or park. This relates to the preparation of the action plan which was prepared as RKH, even the security preparations when the children are doing the activity in the garden. The use of tools for gardening, to the design of the garden activities are made as comfortable as possible so that children feel happy to do the activities.

4. The purpose of the Garden Based Learning

The goal of most school garden program shows that garden-based learning is intended to provide meaningful and relevant learning, in a natural context. By moving away from the philosophy that is focused on accountability ratings only, one design to improve learning, there will be further steps to create the ethical development of youth in the garden class (Subramaniam, 2003: 11).

The purpose and benefits of garden-based learning, Mariyana et al. (2013: 127) said that "through gardening activities children will be trained to have an attitude of responsibility and love of nature. Kids can recognize the direct result of his actions. For example, if the children is diligent in watering and maintaining the plant, it will grow and bloom, otherwise if they are lazy in watering the plants, the plants will die. This will be a rewarding experience for the child".

This is explained by Suyadi and Dahlia (2014: 105) that by taking the children to school gardens and farming, such as growing corn, the children will be taught to maintain plants by watering, weeding and fertilizing, and so on. Then it can develop a naturalist intelligence. Not only that, through gardening activities can also elaborated their interpersonal and even musical intelligence. Then added by Mardiana's research results (in Mustaqim, 2012: 4) said that "learning by utilizing the school's garden gets better results

in learning the ecosystem”.

For more details on the benefits of *garden based learning* (GBL) can be seen in the application and use of garden-based learning proposed by Subramaniam (2003: 7-8) namely; Academic skills, personal development, social and moral development, sustainable development, vocational education, Vocational or subsistence skills, ability to live, community development, and food security.

Benefits of the school gardens may include the increasing of motivation to come to school every day to experience planting, caring for, and collect the results. Anxiety that arise from the environmental hazards can be lowered when children have a sense of belonging, a sense of control over their environment, because they are within the park project. (Blair, D. 2009: 15).

The urban environment around the turn of the century, often without the natural surroundings. The proponents of school gardens believe that the lives of children improved with each spent time working and generate production rather than hanging out. Resulting in lower levels of delinquency, beautify the urban environment, and to improve the work ethic (among the immigrant population), and improving health practices (Trelstad in Wolsey, D & Lapp, D, 2014: 54). A survey also showed that parks or gardens are also beneficial to health and address the problem of obesity in children. The survey was conducted by Gardens School of Sonoma County (2012: 3).

Referring to all of the above description it can be seen that there are many benefits as well as the very useful purpose for the future of not only the students but the entire community and even the world will receive the impact of the *garden based learning* strategy. It is inconceivable if we left the gardening activities, no longer grow any dietary needs. If humans only rely on technology for the future, it is conceivable that there will be no food available, food runs out. Even worse in the absence of human consciousness to maintain natural conditions. Then it would appear a condition of a global problems or permanent destruction of the earth.

Cultivating the Early Childhood Environment Awareness Through *Garden Based Learning* (GBL) Strategy

Gardening activities give children the opportunity to practice how to be patience, fostering responsibility, build emotion and empathy. Through an understanding of the process of growing crops, can stimulate children's learning cognitive aspects related to natural phenomena and

the cycle goes on living creatures (Herdianing and Syarief, 2014).

Surya (2007: 103) described that the functions of the park is to create a garden in the kids; everyday environment apart from providing fresh air and views are also useful for children to see the sights with the background of plants due to natural state of relaxation that can be realized with a great view. Green plants and flowers give a sense of life and comfort and increase the knowledge for children.

Not only that, but that the school garden also serves as a natural context for learner-centered pedagogy, enabling educators to develop curriculum that includes all the components necessary for a more meaningful learning outcomes (Subramaniam, 2003: 6). Similar opinion was expressed by Nimmo, J & Hallett, B (2008: 2) that they saw the park as a play environment where children can create a new world that use sensory elements of the natural environment to create drama and fantasy. By the existence of the park, they will be curious and want to investigate various types of plants.

Alexander, et al. (1995: 113) said that all the children respond with a sense of fun to enjoy the presence of the park. Benefits of the garden is used both as a reward for their hard work during the school day as well as a supplement to the curriculum. Children must learn to work as a team to complete all the necessary tasks such as weeding, watering, and fertilizing. They also learned the importance of maintaining and caring for the garden.

Explanation above can be interpreted that through gardening activities using garden based learning in which the activities were conducted children like planting, fertilizing, watering, treat or perhaps harvesting of crops will bring the child's desire to keep the crops they had planted, it is the thing which raises awareness to maintain the natural environment so that future children do not do the destruction of the environment and natural surroundings.

CONCLUSION

Many people are aware that garden-based learning is in order to provide power for the development of children and adults. Apparently many benefits gained by the children through this learning such as helps them to optimize the aspects of child development, instilling the awareness to utilize and conserve the environment in children who eventually useful for the continuity and safety of the earth globally.

It can be seen that there are many benefits as well as the very useful purpose for the future, not only for the students but also the entire community and even the world will receive the impact of the *garden based learning* (BGL) strategy. It is inconceivable if human left the gardening activities, no longer grow any dietary needs. If humans only rely on technology for a future, it is conceivable that there will be no food available, food runs out, the issue of health or nutrition. Even worse in the absence of human consciousness to maintain natural conditions. Then it would appear a condition of a global problems or permanent destruction of the earth.

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