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Development of environmental professional behavior based on natural school study case natural school of Universe (SOU), Indonesia

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ABSTRACT

This research is Research & Development study is a method used to produce certain products, and test the validity, practicality and effectiveness of the product. To obtain additional data interviews were conducted to find out the behavior in the transformation of dominant factors, namely naturalists, humanists, and altruists that have been carried out by principals, school committees, curriculum coordinators, moral teachers, school committees and students, individually or in groups and how interaction behavior at the SoU Nature School. The results of the research conducted is the development of pro-curriculum environment-based behavior development School of Nature, SoU Nature School by integrating curriculum with structured experience, so that what students get in nature is developed by thematic methods (Spider Web) and Project Based Learning (PBL) , with the Mapping of Student Talent, Cultivation, Moral, Extra-Curricular, Leadership Training and Business Internships.

***Key words**: Adiwiyata, Social, Ecology, Economics.*

Introduction

Environmental damage in Indonesia in the last few decades has become increasingly alarming. The environment which is defined as anything that influences the development of human life directly or indirectly, which includes the natural environment and social environment, the biotic or abiotic environment, the damage is increasingly increasing (Nurfajriani *et al*., 2018).

The environmental damage has a very significant impact on the inferior quality of human life (quality of life) on earth because of the increased risk of natural disasters due to the deterioration process or the declining quality of the environment. This deterioration of the environment is marked by the loss of land, water, air resources, extinction of wild flora and fauna, and damage to ecosystems (Sardjono, 2011).

Whereas in some literature explained about the environment which consists of three elements, namely: biological elements (biotic), physical elements (abiotic), and socio-cultural elements. Environmental damage includes damage to these three elements. Concerns about natural damage that seem to be routine disasters that occur every year occur everywhere such as: floods, landslides, abrasion, forest fires, weather and climate, which are uncertain in ozone holes, and global warming. Environmental degradation will threaten the survival of human beings and other living things (Uitto *et al*., 2015).

Recognizing this critical environmental damage, starting from 2004, the High-Level Threat Panel, Challenges and Change of the United Nations (UN), included environmental degradation as one of the ten threats to humanity. Then in 2012, the World Risk Report released by the German Alliance for Development Works (Alliance), the United Nations University Institute for Environment and Human Security (UNU-EHS) and The Nature Conservancy (TNC) stated that environmental damage was one of the important factors that determine the level of disaster risk in an area (Scannell *et al.*, 2010).

Many studies conclude that two factors cause environmental damage, namely natural factors and human factors. Factors of natural events include: volcanic eruptions, earthquakes, hurricanes, etc. While the human factor is all human activities that explore and exploit nature without taking into account the ecosystem and the balance of nature. In other words, all human activities either directly or indirectly have an impact on environmental life, such as: illegal logging or deforestation, poaching, destruction of mangrove forests, swamp forest landfill for settlements, garbage disposal at random places, development in the area river flow, etc. If examined further, disasters such as floods, abrasion, forest fires, and landslides can occur due to human intervention as well. Therefore, it can be concluded that human factors are the main factors causing environmental damage (Binedikta, 2014).

To be able to make people aware early on of the importance of preserving the environment, their perceptions of nature and their environment and being able to pro-environment behavior, the strategic policy is through education. Educational institutions are an effective place in instilling students' understanding and awareness of various things about the natural environment and social environment interaction that interact in the educational curriculum and learning methods that are theoretically and empirically tested to be used as a guide (Ramus and Killmer, 2007).

The implementation of environment-based schools is carried out in three strategic steps. First, in the curricular field, environmental learning is carried out in an integrated manner with existing subjects. In this case teachers and schools are required to be good at packaging learning with understanding and learning experiences that are applicable (Chiras and Daniel, 1991). Second, the extracurricular field is directed towards the formation of students' concern for environmental preservation through environmental counseling activities and environmental work competitions. Third, the field of school environment management is through: (1) utilization and arrangement of school land into natural laboratories such as gardens and medicinal plants, solicitation for saving energy and water, recycling of waste through the process of reduce, reuse, and recycle, (2) management of the social environment in the form of habitual positive real behaviors including discipline, cooperation, caring, honesty, and respecting local wisdom (Binedikta, 2014).

Although it has lasted more than 10 years, environmental education carried out by formal educational institutions that are expected to be a solution to the occurrence of environmental good or at least eliminate environmental damage, has not shown results, both to the community and to the environment (Helmi *et al.*, 2018). In fact what happens is the opposite, the emergence of various environmental problems that are rooted in human behavior. The reality of the ineffectiveness of the results of environmental education is recognized by the State. He clearly stated that the materials and methods of implementing environmental education were not applicable, lacking in support of solving environmental problems faced in their respective regions (Idrus and Novia, 2018).

Therefore, an assessment of the implementation of environmental education learning so far is very necessary, in the sense that it is necessary to study the learning strategies and the provision of learning experiences for students in order to find alternative forms of learning models that are considered to be more effective than before. The requirement to review the implementation of environmental education was also emphasized by Soemarwoto (2001) who stated that environmental education from elementary schools to tertiary institutions needed to be reviewed so that learning materials could be internalized and gave birth to people who behaved and behaved kindly towards the environment.

To reposition and reconstruct environmental education so that outputs and outcomes can shape the learner's personality complete with caring and environmentally friendly characters. The realization of students who are increasingly integrated with nature and increasingly understand the function of nature in human life and know and want to care for the environment in order to maintain balance (Stern, 2000). In addition, environmental education can

awaken students early to be environmentally friendly, so that environmental destruction can be avoided. Another question that also needs to be answered is how to develop an environment-based curriculum by interacting and accommodating environmental education in curricular and extracurricular activities in order to build awareness of students and other school members towards environmental preservation efforts (Nahadi *et al*., 2014)

Several models of environmental education exist from elementary to tertiary levels in the form of Population and Environmental Education (PKLH), Environmental Education (PLH), Environmental Cultivated Schools (SBL), Green Schools, and this end Adiwiyata school development, which is developed by the government through the collaboration of the ministry of environment and the national ministry of education (Binedikta, 2014).

One of them is the Ciganjur Nature School or better known as the School of Universe in 2004 by the School of Nature Conceptor: Lendo Novo. School of Universe Located in Parung, Bogor — 18 Km south of Jakarta, has a vision: "accompanying every human child to become a" leader "on earth and give" grace "to all of nature."

Materials and Methods

Study site

Sekolah Alam School of Universe (popularly known as SoU Nature School which is Jl. Raya Parung No. 314 KM.43, Pemagarsari, Parung, Bogor, West Java 16330, about 18 kilometers south of Jakarta. The school began with the establishment of the Ciganjur Nature School in 1998 by Lendo Novo, also the founder of the Bintaro Nature School described above.

The SoU Nature School has a unique and beautiful building that describes the identity of the natural school. As shown in Figure 1 below:

The School of Universe, founded in 2004, is a continuation and development of the Ciganjur Nature School. This school consists of several educational sites ranging from Playgroups, Kindergartens, elementary and secondary education levels. This school is led by Ahmad Subki, S.Pd. I, as the principal and assisted by Andri Lesmana as the vice-principal. The number of teachers is 12 people and is assisted by educational and non-educational staff as much as 2 people. Students in the 2018/2019 school year were recorded as many as 41 people, consisting of 3 races. The school's assets consist of 9330 M hectares of land, and 5 offices, and 3 study rooms. From the area of land that the School of Universe complies with the provisions contained in the National Education Standards (SNP), schools that have Students 15-32 and have 3 classes and buildings have a land area of 3504 m^2.

Methods

The research and development approach is seen as appropriate because the aim is to produce products in the form of effective learning media according to real conditions and needs in the environment where students and schools live.

To obtain data, interviews were conducted to find out the behavior in the transformation of dominant factors, namely naturalists, humanists, and altruists that have been carried out by principals, school committees, curriculum coordinators, moral teachers, school committees and students, individually or in groups and how behavior interacts in SoU Nature School.

Results

Based on the results of observations made in the field that the application through exemplary methods, habituation, awareness, rules and consequences accompanied by the development of EQ (Emotional Quotient) and SQ (Spiritual Quotient)

Source: Research Document

Fig. 1. School of the School of Universe from various sides

through mentoring and outbound activities with the aim of children having aqidah that is straight, vibrant, worshiping properly, being able to recognize his potential, being able to find his life map, and being responsible for the choices he made, has not been done to the fullest.

The expected outcome of the logic curriculum is that children have good logical thinking, looking at the natural environment into learning media with action learning and discussion methods.

Based on the results of observations made in the field that the application through structured learning and integrated project-based learning (Project Based Learning) is intended so that students are able or accustomed to observing natural phenomena, recording data, conducting experiments, forming theories and mastering mathematics, language and speech, thought power and logic to support their unique talents, has not been done well.

The expected outcome in the Leadership curriculum is to make children have strong leadership traits. Based on the results of observations made in the field that the application through exemplary methods, habituation, awareness, rules and consequences accompanied by the development of EQ (Emotional Quotient) and SQ (Spiritual Quotient) through mentoring and outbound activities with the aim of children having aqidah that is straight, vibrant, worshiping properly , being able to recognize his potential, being able to find his life map, and being responsible for the choices he made, has not been done to the fullest.

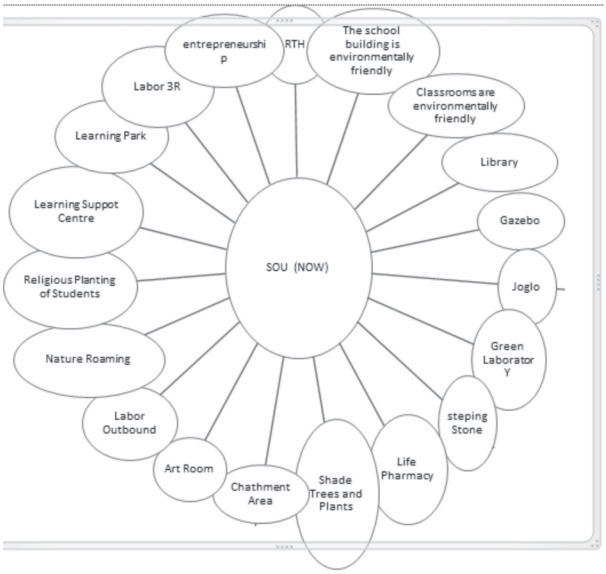

Fig. 2. Model of Pro Environment Behavior based on the School of Nature School of Universe (SoU)

The expected outcome in the Enterpreneursh curriculum is that children have the ability to live independently and be accustomed to getting things done with hard and lawful work. Based on the results of observations made in the field that the application through practical activities, internships, and business projects, it is expected that students are ready to build independence according to their age development. Lifeskill ability is designed to support the ability of independence with the ultimate goal of producing entrepreneurs who have noble character, not yet well implemented.

Discussion

Nature School of the Universe (SoU). Adjusting to the provisions in management theory, namely the planning stage; (1) formulating the vision and mission of the Bintaro Alam School and the School of Universe (SoU). Vision and Mission are arranged in accordance with curriculum development that reflects the natural school that contains (morals, logic, leadership and business). To achieve this, pro-environment aspects that have been mapped such as school buildings, libraries are directed to achieve the vision and mission of the natural school.

Determination of the structure and content of natural school programs or curricula that contain (morals, logic, leadership and business) are also directed so that every aspect included in the mapping of pro-environment is well structured in measurable learning programs, such as Outbound activities, Art Rooms Nature roaming and garden learning. Curriculum development is a process of planning and compiling curriculum so that the resulting curriculum can be a teaching material and reference used to achieve educational goals. Curriculum development is based on the foundation and principles adopted by the school.

As explained earlier that the output of Sabin education and the SoU Nature School is to become a Muslim human being who lives a life sourced from the Koran and the Sunnah in totality (kaffah) in life in this world. Because the two schools that were the objects of this study were public schools, they had to adopt the curriculum set by the Ministry of Education and Culture (Depdikbud).

Based on the results of an interview with Yudi Suryadi (Yudi October 26, 2018), it was revealed that curriculum development in Sabin refers to the

competency standards set by the Ministry of Education and Culture and integrates them with structured experience. The scope and content of the major components of the Sabin curriculum are Akhlaqul Kharimah, logic, leadership, and business.

Yudi Suryadi further explained that Akhlaqul Karimah was taught not only in the classroom but also through exemplary development of Emotional Quotient (EQ) and Spiritual Quotient (SQ) which were always integrated with the universe. Sabin believes in the importance of emotional intelligence in sustaining human survival and success in carrying out his duties as caliph on the surface of the earth.

In curriculum development, Sabin starts from the view and understanding of emotional intelligence in Islam is an inner and outer concept contained in Islamic teachings. According to the Qur'anic instructions that every creation of God, such as plants, animals, water, air, soil, etc., has a soul. This implies that there is the nature of mercy and power of God that is behind the creation as well as all that has a soul and emotions. Therefore, Sabin's students have been made aware from the beginning to plant a love for the universe, especially for the objects of God's creation. Learners have been made aware, if these objects are treated gently, compassion and wholehearted attention, these objects will provide benefits to those who do it. Conversely, if you act violently towards God's creation such as cutting trees blindly, destroying animal habitats, polluting water, polluting the air and so on, then all objects that are hurt will act violently towards humans.

Emotional intelligence is associated with praiseworthy attitudes that emerge from heart and aql, namely friendly attitude, compassion, empathy, fear of making mistakes, faith, moral encouragement, cooperation, can adopt, communicate and be attentive and caring for fellow creatures of god, not only humans but also the flora and fauna covered by the ecosystem.

Conceptual model of natural school development, construction researchers based on leadership and management, natural school standard requirements and national education standards, curriculum development and teaching materials, pro-environment based learning processes and analysis of the impact of student awareness on the environment. The preparation of the curriculum is a very important stage that will determine the successful implementation of pro-environment education. In general it can be understood that the curriculum objectives are "what must be achieved which is a guideline that must be recognized, and how to do the curriculum (Atmodiwirio, 2002). Atmodiwirio (2002) explained the stages in the preparation of the education curriculum include: (1) reviewing needs analysis or analyzing needs, (2) determining objectives to be achieved, (3) determining the content or key areas of study, (4) determining the method to be used, and (4) evaluation.

Learning objectives consist of three domains according to the types of abilities reflected in the curriculum, namely: (1) cognitive domains, those that focus on students' thinking abilities, (2) psychomotor domains that focus on the skills to carry out physical movements, (3) domains affective which focuses on the ability of attitude.

Reviewing the results of the study, the School of Nature School of the Universe (SoU) has a unique curriculum model that is pro-environment. The Alam Bintaro School has an integrated curriculum development model with structured experience, so that what students get in nature is developed by thematic methods (Spider Web) and Project Based Learning (PBL).

The curriculum development model at the School of Universe (SoU) refers to the competency standards set by the Ministry of Education and Culture and makes nature a learning medium in the context of forming children's logical thinking and character. The specificity of the School of Universe (SoU) School curriculum lies in the method of developing potential and learners. To find out what is unique about the School of Universe (SoU) curriculum.

Then the curriculum development model above was developed on the learning model or delivery of teaching materials to students at the School of Nature. The School of Universe has a unique model or cons that is very different from ordinary public schools that they call the 'spider web' teaching system. According to Ahmad Subekti, Principal of the School of Nature School of Universe, spider web is a game where all participants must move from one side to another through a giant spider web with the help of other participants. This 'spider web' teaching model will make students sensitive, as well as open in listening to problems and seeking total solutions. At all levels of education, the curriculum and classification of the learning process are 'flexible', always adapted to the mental and unique development and talents of each student. The curricu-

lum contains four major components, namely: (1) moral development with exemplary concepts, (2) developing logic with the action learning method 'learning with nature', (3) developing leadership traits, with the 'outbound training method, (4) mental development business or entrepreneurship, with the apprenticeship method or 'learn from experts' (learn from maestro).

Especially at the secondary education level, the curriculum is developed in an integrated manner between the basic curriculum (basic curriculum) with the curriculum of life needs (Lifeskill Curriculum) with a portion of 50:50. This means that 50% of curriculum content is the basic curriculum while the other 50% contains curriculum needs for life or life skills, as shown in the picture below.

Conclusion

The development of pro-curriculum based behavior development in the School of Nature, School of Nature SoU by integrating the curriculum with structured experience, so that what students get in nature is developed by thematic methods (Spider Web) and Project Based Learning (PBL), with Mapping Student Talent, Cultivation of Morals, Logic, Extra-Curricular, Leadership Training and Business Internship

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