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Analysis of The Role of Higher Education in The Development of Pedagogic Competence of Madrasah Teachers Through The Learning of School Garden

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Abstract - The purpose of this study is to describe the role of university in the world of education through the development of pedagogic competence for teachers. The use of the natural environment becomes a learning medium that can improve teacher competency in teaching and developing the creativity and independence of teachers in managing learning. Cultivate students to love the environment and enjoy farming since childhood. This study uses qualitative research. The method used is descriptive. Data collection in this study is through interviews, observation, and documentation studies. The objects in this study are teacher of Madrasah Ibtidaiyah Mathlul Anwar and Misbahul Islam in the district area in the foot of the mountain Salak, Taman Sari sub-district, Bogor Regency. The results of the first study, the role of university in improving pedagogic competence is as a facilitator in socializing the school garden learning model through learning workshops and assisting teachers in developing learning tools and training teaching skills starting from opening to closing learning. Second, pedagogic competence of teachers is increasingly trained in implementing learning planning, implementation and evaluation. Third, school garden is used by teachers as natural laboratories or environment-based learning media. Fourth, providing quality time for teachers and students in togetherness and educating students to appreciate plants, farmers and food more.

Keywords: *Higher Education, Pedagogical Competence, School garden*

1. Introduction

Indonesian education is still in a position that has not been maximized. Based on the Education for All Development Index (EDI), Indonesia ranked 57th out of 115 countries in 2015. In the 2015 United Nations development program's latest report, Indonesia ranked 110th out of 187 countries in the Development Index Humans (HDI) with a number of 0.684. With that number, Indonesia is still lagging behind ASEAN's two neighboring countries, namely Malaysia (ranked 62) and Singapore (ranked 11). And the low quality of Indonesian education was also shown by the Ministry of National Education's Balitbang data that out of 146,052 Basic Education in Indonesia, only eight schools were recognized in the Primary Years Program (PYP) category. So that the participatory role of various groups is needed in improving the quality of education and can accelerate the development of Indonesian human resources.

Therefore, the purpose of education is the foundation of the government's efforts to encourage the achievement of sustainable development goals and objectives in the era of Sustainable Development Goals (SDGs) until 2030 based on the direction of the United Nations Forum which is agreed on August 2, 2015.

Increasing education for the Indonesian people will spur achievement of other goals and objectives in 17 SDGs points, especially to improve Indonesia's human development index. So that it is expected that the role of education can improve Indonesia's competitiveness in supporting SDGs 2030.

One effort that must be done in improving the quality of education is to renew the learning process towards better and more quality in accordance with the objectives of national education. The formulation of educational objectives contained in article 3 of Law No. 20 of 2003 concerning the following national education systems: National education functions to develop the ability and shape of dignified national character and civilization in order to educate the lives of the nation, aiming to develop the potential of students to become faithful and fearful people of God Almighty, healthy, knowledgeable, capable, creative, independent and become a democratic and responsible citizen.

In this regard, in improving the quality of education, the teacher as the main actor implementing the learning process must be the main concern. Because qualified educators will produce quality students as well. Teachers must have competence in carrying out their profession. As explained in Law number 14 of 2005 concerning teachers and lecturers, article 10 paragraph (1) states "teacher competence as referred to in article 8 includes pedagogic competence, personal competence, social competence and professional competence obtained through professional education". And this pedagogic competence is the main capital for teachers in achieving quality education goals, because when teachers have the ability to teach and educate reliable in their field, the implementation of education in schools will run optimally according to targets and targets.

In improving teacher competency, one of the efforts that can be done is through the active role of university in implementing guidance for teachers. This is part of the Tri Dharma of College which includes education, service and research activities. University, especially educational departments, can take on the role of facilitators by holding workshops or training to develop the competence of teachers. One example that has been carried out by the Islamic Religion faculty of Ibn Khaldun University in Bogor is to carry out guidance for partner schools consisting of Private Madrasah Ibtidaiyah located in the regency which are rarely touched by the government's attention, namely the foot of Mount Salak in Taman Sari district, Bogor Regency. The development of teacher's pedagogic competence that has been carried out in the form of research activities and school garden-based learning workshops for teachers. Researchers with educational backgrounds are facilitators in workshops and practice of garden learning in their respective schools. In addition, the team also conducts monitoring and evaluation. This nature-based learning model is actually in line with The Education for Sustainable Development (ESD) program from UNESCO which was launched since 2005. ESD (Siraj-Baltchford, Smith, & Samuelsson, 2010) states that ESD consists of three pillars namely environmental, cultural and economic. ESD environment is one of them related to the sustainability of consumption and production. The aim of using the natural environment to become a learning media can improve the teaching or pedagogical competence of teachers through school garden learning activities.

2. Theory Study

2.1. The Role of University in Education

The existence of University has an important position and function in the development of a society. The process of social policy in the community really manifests itself in a real role that is contained in the Tri Dharma of Higher Education, namely: Dharma education, research, and community service. This is in accordance with Law No. 12 of 2012 article 1 paragraph 9.

From the study of the results of research by Nuryanto (2017) states that the task of higher education helped provide an enlightenment for the academic community and the community. Therefore, higher education must be rationality among the community so that the academic culture of the campus will be established as expected.

According to Soedijarto (2000), higher education, especially universities and institutes, are educational institutions and centers for the development of science and technology. Therefore, the development of university must be truly seen as a strategic national investment effort for the development of national civilization in the era of globalization.

2.2. Teacher's Pedagogic Competence

Competence is the ability to carry out something obtained through education and training (Sahertian, 2000).

Quoted from Cooper states that in general there are four teacher competencies, those are; (1) knowing the knowledge of learning and human behavior, (2) having knowledge and mastering the fields of study he has, (3) having the right attitude about himself, his school, colleagues, and the field of study he has, (4) having teaching skills (Susilowati 2013).

Teachers are not only skilled in conveying teaching materials, but also they must also be able to develop children's personalities, develop children's character, and be able to develop and sharpen children's conscience. This is related to the definition of pedagogics according to Sadulloh (2007), pedagogic is the science that addresses education, namely the science of children's education. So, pedagogic tries to explain the ins and outs of children's education. In addition, pedagogic is the science that studies how to guide children, how education should be faced with students, what is the task of educators in educating children, what is the goal of educating children.

There are several Teacher Competency Indicators. According to government regulation no. 19 of 2005 concerning national education standards that educational staff must have pedagogical competencies include: 1) teacher's understanding of students, 2) design and implementation of learning, 3) evaluation of learning outcomes, and 4) development of students to actualize their various potentials. Coaching carried out by universities to improve teacher's pedagogical competence through school garden-based learning is an innovative effort in learning.

2.3. School Garden Learning

Hamalik (2004: 194) in his theory "Back to Nature" shows how important the influence of nature is on the development of students.

With the school garden, children understand that their original food from the earth and their diet has become healthier. Some studies even show that students are able to influence their family's diet. "Parents say children eat lots of

fruits and vegetables, and they insist on eating vegetables and fruit at home (Peixinho, 2016)

Through the school garden activities can improve students' naturalistic intelligence that they can explore themselves and learn many things from the natural environment. Likewise the results of Marheni's research (2017) that the use of school gardens makes learning more meaningful because students are involved directly so that students can construct their own knowledge, that school gardens can be used as natural laboratories in natural science learning, one of which can improve students' knowledge of the scientific name of plants.

According to Kellert playing in nature, especially in critical periods from childhood, is a very important time in developing creativity, problem solving, intellectual and emotional development (Charles, 2010).

3. Methodology

This study uses qualitative research. Qualitative research is a research aimed at describing and analyzing phenomena, events, social activities, attitudes, beliefs, perceptions, thoughts of individuals individually or in groups (Sukmadinata, 2010: 60). The method used is descriptive. Data collection in this study is through the use of interview guidelines, observation guidelines, and documentation study guidelines that have been compiled and developed.

The objects in this study are teachers and students of partner schools consisting of Private Madrasah Ibtidaiyah in the district areas that are rarely touched by the government's attention, namely the foot of Mount Salak in Taman Sari sub-district, Bogor Regency, which is held from May to August 2018.

Data analysis procedure Milles and Huberman (in Sangit, 2011) suggest that the approach in qualitative data analysis consisted of data reduction, data display, drawing conclusions, and verification, which is carried out in an interactive form with the process of collecting data as a process that continued, repeated, and continues to form a cycle.

As shown in the picture below:

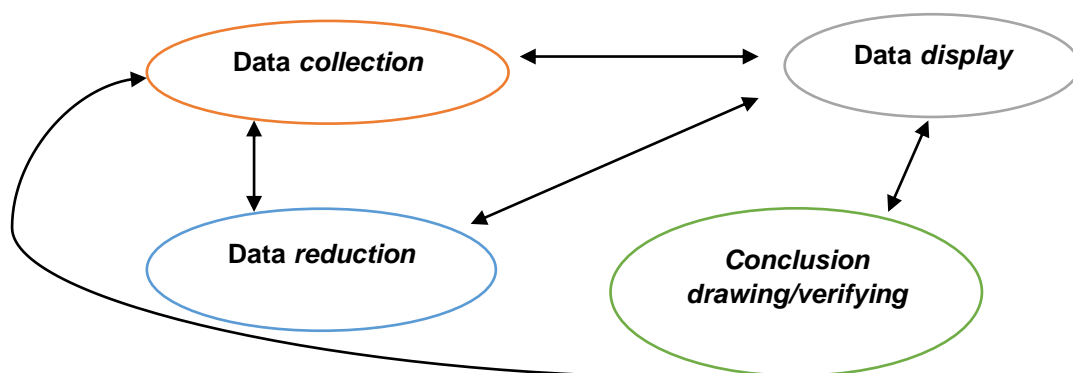


Figure 1. Qualitative data analysis

Source: Miles and Huberman

4. Results and Discussion

4.1. Mathlaul Anwar Private Madrasah Ibtidaiyah

In carrying out the practice of planting school gardens. The school starts planting the seeds of the school garden in the place of planting that has been provided by the Ibn Khaldun University team. Teachers and students are very enthusiastic to start. They cooperate with each other in planting seedlings of school gardens. Children are given a schedule to take turns to look after plants, especially when watering plants. The land which is usually used as a garbage dump and is not maintained, has now become a school garden for students. As shown in the picture below:



Picture 1. MIS Miftahul Anwar

The stages of the learning process carried out by the teacher

Mathlaul Anwar
1) The teacher gives greetings and invites prayer
2) 2. The teacher checks the attendance and attendance of students and then informs the theme to be studied
3) The teacher asks the student questions about the theme being learned, namely caring for living things
4) The teacher invites students outside the classroom to observe the school garden and explain the tools and materials for school gardening
5) The teacher divides students into four groups and assigns each group to plant and care for plants
6) The teacher asks questions with students about the learning that has been learned
7) The teacher evaluates students, then closes learning

4.2. Misbahul Islam Private Madrasah Ibtidaiyah

The planting medium is a period of re-hatching because the previous crop failed due to lack of water and poor maintenance during school holidays. Responding to this, the school principal moved the school garden to a land adjacent to the house. The school principal is more awake and able to get water to water. Distance with school is not too far away so students can still take care of the plants. The seeds planted are water spinach, mustard green, tomatoes, chili and eggplant. As shown in the picture below:



Picture 2. MIS Misbahul Islam

The stages of the learning process carried out by the teacher

Misbahul Islam Private Madrasah Ibtidaiyah

- 1) Giving greetings and praying, then reading short letters together with students
- 2) The teacher checks student attendance and attendance
- 3) Inform the theme to be taught that is "care for living things"
- 4) The teacher asks the students questions about the material to be studied
- 5) The teacher divides students into 3 groups, then tells students to go to the school garden then the teacher explains the types of school gardening tools and materials
- 6) The teacher asks students about the material that has been learned
- 7) The teacher evaluates students, then closes learning

Through the observation results in the process of teaching and learning activities, the results of the study are as follows; *first*, the role of university in improving pedagogic competence is as a facilitator in socializing the school garden learning model through learning workshops and assisting teachers in developing learning tools and training teaching skills starting from opening to closing learning. As shown in the picture below:



Picture 3. Workshop and Learning

This is in accordance with Law No. 12 of 2012 article 1 paragraph 9 that lecturers must carry out the University Three Dharma namely carrying out educational activities, research and dedication and guidance of the competence of teacher is an effort to educate the nation. In addition to government regulations no. 19 of 2005 concerning national education standards that education personnel must have pedagogical competencies including: 1) teacher's understanding of students, 2) design and implementation of learning, 3) evaluation of learning outcomes, and 4) development of students to actualize their various potentials.

Secondly, pedagogic competence of teachers is increasingly trained in implementing learning planning, implementation and evaluation. The teacher must be able to arrange the schedule of school garden activities and compile Learning Implementation Plans and teaching materials, create scenarios or learning steps, make evaluation sheets, and observation sheets that assess student attitudes so that it can be seen to what extent learning achievement and positive character values emerge. This is in accordance with the explanation of Fathurrohman (2007: 13) that teaching and learning activities contain components that consist of goals, teaching materials, learning activities, teaching and learning activities, methods, tools and sources and evaluation.

Third, school gardens are used by teachers as natural laboratories or environment-based learning media in various relevant subjects. This is in accordance with Marheni's statement (2017) that the use of school gardens makes learning more meaningful because students are involved directly so that students can construct their own knowledge, that school gardens can be used as natural laboratories in natural science learning, one of which can improve students' knowledge of the scientific name of plants. *Fourth*, provide quality time for teachers and students in togetherness and educate students to appreciate plants, farmers and food more.

5. Conclusions

The role of universities in improving pedagogic competence is as a facilitator in socializing the school garden learning model through learning workshops and assisting teachers in developing learning tools and training teaching skills starting from opening to closing learning. The natural environment becomes a learning medium that can improve teacher's teaching competency in developing creativity and independence to educate and cultivate students to love the environment and enjoy farming since childhood. Teachers can make school

gardens as natural laboratories or environment-based learning media in various relevant subjects. Provide quality time for teachers and students in togetherness and educate students to appreciate plants, farmers and food more.

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