Developing Project Based Learning Model as A Learning Tool in Thematic Learning by Using A Scientific Approach to Develop The Attitude of Environmental Care and Creativity For Students in Elementary School

Dalifa¹, Neza Agusdianita²*

¹²Primary Education Study Program, Faculty of Teacher Training and Education, University of Bengkulu, Indonesia

Dalifa.abdullah@gmail.com, neza.agudianita@gmail.com

*Corresponding Author
Received: 9 October 2017, Accepted: 6 November 2017
Published online: 25 February 2018

Abstract: This research aimed to develop Project Based Learning (PjBL) Model in thematic learning by using a scientific approach to develop the attitude of environmental care and creativity for elementary school students. The research was about the developing research to develop product based on needs through the analysis of Curriculum 2013. Based on the result of curriculum analysis, the researcher developed learning tool. The results were about: (1) thematic learning tool with Project Based Learning (PjBL) Model by using a scientific approach to develop the attitude of environmental care and creativity for elementary school students in grade IV and V, and (2) an authentic assessment instrument to assess environmental care and creativity. This research has been generated the product which has been validated in Project Based Learning (PjBL) Model as a learning tool in thematic learning by using a scientific approach to develop the attitude of environmental care and creativity for elementary school students in grade IV and V. The product of this research can be used as the instrument to assess students’ attitude of environmental care and creativity in elementary school.

Keywords: PjBL model; thematic learning; a scientific approach; the attitude of environmental care and creativity.

1. Introduction

Environmental damage is characterized by global warming, pollution, flood, and landslide which are increasingly alarming. Handling efforts through various aspects have been done, but in fact the environmental problems still require serious handling. One of the environmental problems that need more attention is the trash accumulation almost everywhere that is very disturbing health and comfort. Society awareness to handle the trash problem is still low. In case, some trashes can be processed to be something that has a high economic value.

Handling the trash problems can be done through environmental education. Children are educated to throw the trash into the trash bin since their early age. Through environmental education, it will focus on the positive habitual and attitude which is purposed to increase the awareness and to care about the environmental conditions. According to Hamzah (2013), he stated that Environmental Education is not only the knowledge about the environment but also to increase the awareness and to care about the environment [2].

In fact, some schools in Bengkulu still have problem about the trash in their school. Students do not usually throw the trash into the trash bin. Then, the government makes a policy that every school has to provide at least two trash bins which are organic and inorganic. Then, trash can be used as raw material to make a work. The organic trash can be used as raw material of compost fertilizer. Meanwhile, the inorganic trash can be used as raw material to make handicrafts. By learning how to
make a work, the students are expected to increase awareness and to develop their attitude of environmental care.

Curriculum 2013 uses integrative thematic learning by using a scientific approach. Integrative thematic learning is an integrated learning that uses theme to link some subjects in order to give a meaningful experience for the students [3]. The development of the attitude of environmental care and creativity are covered by thematic learning by using Project Based Learning (PjBL) Model. PjBL Model focuses on the students to finish a project. The advantages of this model are: (1) encouraging students to develop and practice their communication skills and (2) engaging students to learn and to get the information, and demonstrating their knowledge and then implementing them in their life [6]. Based on the problem, the researcher identifies the theme, subtheme, basic competency and indicator that include in the attitude of environmental care.

2. Methodology

The type of this research is development and research (R & D) which include a series of activities: (1) model development stage; (2) model validation by experts; (3) model revision based on validation result; (4) model testing on a small scale; (5) revising model based on small-scale assess results; and (6) experimental research [1].

The stage of this development learning model are: (1) mapping of theme and basic competence for grade IV and V which includes the attitude of environmental care and creativity, (2) identifying indicator in each basic competence that includes the attitude of environmental care and creativity, (3) organizing learning model which is: Learning Implementation Plan, Student Activity Sheet; and (4) making an instrument evaluation to assess the attitude of environmental care and creativity for elementary school students in grade IV and V.

3. Result

3.1. Project Based Learning (PjBL) Model as a Learning Tool in Thematic Learning by Using a Scientific Approach

The researcher have developed Project Based Learning (PjBL) Model as a learning tool in thematic learning by using a scientific approach for elementary school students in grade IV and V. For grade IV, the theme is the third theme which focuses about the attitude of living things care. The subtheme is "Let's love the Environment". This uses the subjects such as Civic, Bahasa, Science and SBdP. The basic competencies used are presented in Table 1.

<table>
<thead>
<tr>
<th>Number</th>
<th>Subject</th>
<th>Basic Competency</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Civic</td>
<td>3.2 Understanding the rights and obligations as citizens in daily life in family, school, and society. 4.2 Observing and telling the behavior around family and school from the point of view of Pancasila symbols as a unified whole.</td>
</tr>
<tr>
<td>2</td>
<td>Bahasa</td>
<td>3.4 Gaining the information in adventure story text about natural resources which is helped by teacher and friends by using oral communication in Bahasa and choosing the standard vocabulary. 4.4 Providing an adventure story text about environment and natural resources independently, in oral and written by using Bahasa and choosing the standard vocabulary.</td>
</tr>
<tr>
<td>3</td>
<td>Science</td>
<td>3.7 Describing the relationship between natural resources with the environment, technology, and society. 4.6 Presenting reports about natural resources and their benefit in society.</td>
</tr>
<tr>
<td>4</td>
<td>SBdP</td>
<td>3.2 Knowing the images of natural objects, and collages. 4.2 Creating collage artwork with various materials.</td>
</tr>
</tbody>
</table>

For grade V, the theme is the ninth theme which is about being best friend to our environment. The subtheme is Environmental Preservation. Subjects used are Civic, Bahasa, Science and SBdP. The basic competencies used are presented in Table 2.
Developing Project Based Learning Model as A Learning Tool in Thematic Learning by Using A Scientific Approach to Develop The Attitude of Environmental Care and Creativity For Students in Elementary School

Table 2. Mapping of basic competencies for each subject in grade V.

<table>
<thead>
<tr>
<th>Number</th>
<th>Subject</th>
<th>Basic Competency</th>
</tr>
</thead>
</table>
| 1      | Civic   | 3.2 Understanding the rights of obligations and responsibilities as citizens in daily life in family and school.  
 |         | 4.2 Implementing obligations and enforce rules in the family, and schools. |
| 2      | Bahasa  | 3.1 Gaining information from text book reports about food and food chains, human health, ecosystem balance, as well as the nature and the influence of human activities which is helped by teachers and friends in oral and written by using Bahasa and choosing the standard vocabulary.  
 |         | 4.1 Observing, processing and presenting textbook reports on food and food chains, human health, ecosystem balance, and the nature and influence of human activities independently in oral and written by using Bahasa and choosing the standard vocabulary. |
| 3      | Science | 3.4 Identifying the changes that occur in nature, their relation to the use of natural resources, and the influence of human activities on the balance of the surrounding environment.  
 |         | 4.7 Presenting the results of reports on problems due to disruption of natural balance caused by human activities, and predicting what will happen if the problem is not addressed. |
| 4      | SBdP    | 3.4 Understanding the procedures and work steps in creative work based on the characteristics of the region.  
 |         | 4.14 Forming handicraft work from hard materials. |

The stages of learning activities for Project Based Learning (PjBL) Model in thematic learning by using a scientific approach are presented in Table 3.

Table 3. Stages of Project Based Learning (PjBL) Activities in Thematic Learning by Using a Scientific Approach.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Model Stages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early Activity</td>
<td></td>
</tr>
</tbody>
</table>
| 1st Week Main Activity | 1. Determination of fundamental questions  
 |         | 2. Design project planning  
 |         | 3. Schedule |
| 2nd Week          | 1. Monitoring the students and progress of the project  
 |         | 2. Test results |
| 3rd Week          | 1. Testing the results  
 |         | 2. Evaluating the experience |
| Closing Activity  |              |

3.2. An Instrument for Assessing the Attitude Environmental Care and Creativity for Elementary Students

Instrument of assessment of environmental care attitude and creativity for elementary school students that have been developed in the form of observation sheet and questionnaire of creativity assessment.

4. Discussion

This research develops Project Based Learning (PjBL) Model in thematic learning by using a scientific approach. Thematic learning has several advantages as follows: (1) Giving an interesting experience, teaching and learning activities that are relevant to the child's developmental level and needs. (2) Developing children's thinking skills based on the problem that they face. (3) Growing social skills in cooperation, so they will have the attitude of tolerance, communication and responsive to the other ideas, in other words to respect the other ideas. (4) Presenting activities that are pragmatic based on the problem children usually find in their environment [4].

In thematic learning, it uses a scientific approach. The Scientific Approach in Kemendikbud (2013) has features that are, the projection of the dimensions of observation, reasoning, discovery,
validation and explanation of a truth [4]. Thus, the learning process using a scientific approach must be guided by values, principles or scientific criteria. In the learning process the teacher must prioritize the students' conditions who behave scientifically to be invited to observe, ask, reason, try and form a network.

PjBL is a learning model that emphasizes student-centered learning in a project [6]. Meanwhile, according to Sani (2014) PjBL model is a learning strategy that involves students to work on a project that is useful to solve community or environmental problems [5]. Based on the above understanding, PjBL model is ideally used as a model for learning activities that turn trash into a valuable work. Students are involved to develop projects by using organic trash into compost and non-organic trash into collage or handicraft works of economic value.

The steps of the PjBL model are as follows: 1) determining the basic question (start with the essential question), (2) designing the project plan, (3) arranging a schedule, 4) monitoring the students and progress of the project, (5) assessing the result and (6) evaluating the experience [4].

Through the concept introduction of PLH, it is expected to develop a caring attitude of elementary school students. Winarni (2012) stated attitude is one of the personality elements that must be owned by someone to determine the action and behave towards an object accompanied by feelings, acceptance or rejection [7]. Attitude is a person's psychological response to a particular object either in the form of objects or activities that come from outside. Furthermore, environmental care is an attitude and actions that always try to prevent damage to the surrounding natural environment and develop efforts to repair the existing natural damage.

Students' attitudes toward the trash can be positive or negative. If students are positive about the trash then students will tend to look at the trash as something useful and valuable, so it is expected to emerge an attitude of environmental care in students. Student's attitude toward the trash leads to the creativity growth in making works by the trash which has economic value. Meanwhile, if students are negative then the students will tend to stay away, hate and do not care about the trash around them.

5. Conclusion

Students' attitudes toward the trash can be positive or negative. If students are positive about the trash then students will tend to look at the trash as something useful and valuable, so it is expected to emerge an attitude of environmental care in students. Student's attitude toward the trash leads to the creativity growth in making works by the trash which has economic value. Meanwhile, if students are negative then the students will tend to stay away, hate and do not care about the trash around them.

The conclusions of this research are: (1) producing product which is Project Based Learning (PjBL) Model as a learning tool in thematic learning by using a scientific approach to implement curriculum 2013 essential question), (2) designing the project plan, (3) arranging a schedule, 4) monitoring the students and progress of the project, (5) assessing the result and (6) evaluating the experience [4].

Developing Project Based Learning Model as A Learning Tool in Thematic Learning by Using A Scientific Approach to Develop The Attitude of Environmental Care and Creativity For Students in Elementary School

5. Conclusion

Students' attitudes toward the trash can be positive or negative. If students are positive about the trash then students will tend to look at the trash as something useful and valuable, so it is expected to emerge an attitude of environmental care in students. Student's attitude toward the trash leads to the creativity growth in making works by the trash which has economic value. Meanwhile, if students are negative then the students will tend to stay away, hate and do not care about the trash around them.

The conclusions of this research are: (1) producing product which is Project Based Learning (PjBL) Model as a learning tool in thematic learning by using a scientific approach to implement curriculum 2013 essential question), (2) designing the project plan, (3) arranging a schedule, 4) monitoring the students and progress of the project, (5) assessing the result and (6) evaluating the experience [4].

References