

PBL (PROBLEM-BASED LEARNING) METHOD BY USING “KAMISHIBAI” AS A MEDIA TO LEARN ENVIRONMENTAL EDUCATION FOR CHILDREN AND TO BUILD CAPACITY FOR TEACHERS

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ABSTRACT

One key to achieve success learning is the selection of appropriate teaching methods. A teacher should decide correct learning methods to use, in accordance with the theme of learning that will be given to the student. Appropriate teaching methods can enhance student understanding of content. Environmental education lessons have grown rapidly in many countries in the new millennium (Hart 2007), unlike the other education. However, many writers still appear to believe that many schools are failing to prepare the student to absorb knowledge of EE (Walsche 2008; Winter 2007). PBL method with *kamishibai* media seems better suited for EE, because it encourages the student. PBL method with *kamishibai* media is to invite the student to think to look at the problem and to solve problems based on experience. For an elementary student, PBL method using media images *kamishibai* is easier. It is because the student can make up a story that contains the introduction, theory, problem-solving, and using images. Miles and Huberman's qualitative analysis technique was employed as data collection technique in this research. The data is retrieved through the interview, questionnaire, observations, and photographs with qualitative data analysis, data reduction, data presentation, and conclusion. The techniques were aimed to reveal semantic relationships among variables. This research used interview methods and experimental research methods involving 15 teachers and 500 students from 5 cities in Indonesia. The research shows that the use of PBL method with *kamishibai* media in elementary level enable students to have creative thinking skills in solving environmental problem around them. This research shows that PBL method greatly assists teachers and students in environmental education lesson. It is expected that this approach will help students to improve their competence.

KEYWORD:

Kamishibai, Environmental Education, Learning Method

1. INTRODUCTION

Human is inseparable from nature that, as a source of life, continues to be studied. However, nature often becomes an object of exploitation by humans to fulfill their needs. Further, it leads to damages caused by destructive habits. The main problem currently seems to find a way to maintain natural resources, amidst efforts to gain wealth and welfare of human beings. In recent years, through a treaty, the international community has agreed upon implementing the concept of Sustainable Development (SD). Along with changes in environmental conditions, the concept of sustainable education takes precedence within the concept of development. As a form of sustainable education, Education for Sustainable Development (ESD) is believed to be able to address issues of environmental damages. Generally, if we are able to balance the degree of interaction between human and nature into a harmony, we do not have to worry about environmental damages. The lingering question is how human beings can play a role in

harmonizing themselves with nature. The answer to this question is environmental education that can shape a generation to understand the wisdom of nature and is friendly to the environment.

An important factor in achieving success in the management of environment is Environmental Education (EE). EE is an essential means of shaping human resources that can implement the concept of sustainable development on this earth, like a candle in the dark. As an effort to improve knowledge, understanding, and awareness of the natural environment, EE needs time and process as it is unable to reverse the damaged environment instantly.

In Sweden¹ the ESD concept has been tested to 2413 students at sixth, ninth, and twelfth grades from 51 schools across the country. The data is differentiated based on certified and non-certified schools. In both types of school, students are instructed in ESD. The result shows that ESD plays a key role in paving the way for a sustainable future. Nagoya, a historic city in the development of education, has also experimented

with *kamishibai* (story cards) in schools as a means of instruction to teach EE. The result shows that the use of *Kamishibai* is more effective in primary schools. This study aims to combine the ESD concept with *kamishibai* as a means of instructing EE. The use of this medium is expected to result in a longer lasting impression in students' minds.

Education has various meanings. One of them is the experience of learning in various environments that go on for a lifetime and gives positive impact to the development of an individual². One EE programs that concern the abundance of garbage, forest logging, air pollution, and global warming is carried out by Miyagi University in collaboration with JICA and JOCV (Japan Overseas Cooperation Volunteers). Members of JOCV placed in developing countries employ *kamishibai* as a learning medium, and the medium itself is part of the learning material. *Kamishibai* is considered more effective and contributive in supporting EE subjects.

Kamishibai consists of stories in pictures with multiple uses. It is arranged based on a plot and designed to enhance imagination by enriching developed words and ideas. For JOCV members, *kamishibai* is helpful since it is easy to be made and its flexibility with multiple themes. The pictures can be either selected from readily available stocks or self-drawn. A technique used by the JOCV members is by taking pictures of environmental issues in a certain environment, making it easier and more familiar for the people to learn and to create stories. Its casualness, with the object of observation, makes the solution easy to be found. This reflects a success in the mission of environmental education through the support of a learning medium that people easily understand. These people are expected to lead a more environmentally friendly and are expected to pass on their knowledge of the environment to the next generation³.

The Faculty of Education of Shinshu University, in cooperation with Nagano Junior High School, manages courses of natural history and earth sustainability. The courses aim to give students understanding about nature history, environmental damages, and solution or prevention for damages as our obligation to continue lives on Earth. After various discussions and debates, it is

agreed that in order to instruct EE in the context of natural history, an easy medium is required. Thus, *kamishibai* is selected for its effectiveness. This study employs *kamishibai* method with pictures of changes in natural history. Students are given pictures in certain order and are instructed to compose a story from the pictures. This activity is further continued with a discussion, question-and-answer, and questionnaire completion⁴.

From the three results of *kamishibai* use as a learning medium, this study performed experiments by using *kamishibai* that is arranged in order by students based on their creativity after observing pictures. Each picture tells its own story, also a part of a longer plot. Success in learning is determined, among others, by the ability of a teacher in preparing materials for an interesting presentation, ways to attract students' attention to induce curiosity and will of learning. In the process of environmental education, sometimes, some aims were not achieved due to teacher's inability in preparing an attractive presentation.

Based on the idea, this study concerns whether the teacher's ability in teaching environmental education by using *kamishibai* can create an encouraging learning atmosphere that will further shape the students to be able to think critically and analytically about environmental issues of their surroundings.

HISTORY OF *KAMISHIBAI*

Kamishibai has been utilized since the Edo period. It was first modified from narrative pictures originating from the Netherlands. At that time, it was called *Nozokikarakuri*. It consisted of a picture 1.8 meters tall, in a box with a lens. By looking through the lens, one would be able to see the picture move and tell a story. *Nozokikarakuri* became very well known and popular among children. Around two hundred years ago, the picture was transformed into transfer pictures developed by Vaudeville, by using a small wooden box, sheets of pictures, and light from a lamp. Children gathered while listening to the tales of the pictures' sheets. These pictures were produced in large quantity in the Meiji period, with diverse techniques and drawings. The pictures made their way to popularity in the field of education in this period, as a means of transferring knowledge to children.

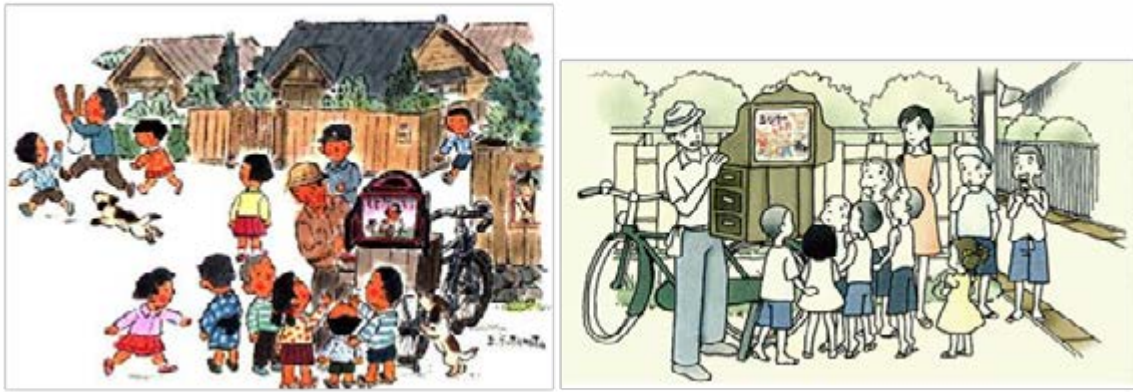


Figure 1: Children hearing about *Kamishibai* story

<http://kamishibai.net/>

In the Edo kingdom period, sellers of cookies and sweets went around from one village to another bringing *kamishibai*. To attract the attention of children, a seller would tell interesting stories while offering merchandises. Besides having marketing skills, a seller was also required to master storytelling, ability to tell interesting stories using *kamishibai*. The *kamishibai* was created as an attractive and colorful as possible. When telling a story using *kamishibai*, a seller should also be able to imitate different voices. Children would laugh or feel sad or happy understanding stories. Mastering storytelling using *kamishibai* was not easy an easy thing to achieve. A seller is also required to be able to communicate with people from various social classes, in hopes of finding interesting stories to tell. At that time, food sellers with *kamishibai* were children's favorites. They would go from one village to another. *Kamishibai* tells stories of wars, kingdoms, and cities rendered for children. Stories of heroic knights, emperors, and samurais dominate the cards. They become a medium for transferring legends of utmost moral values to children.

In an educational study, Kurahasi Sosan (1882-1955), a pioneering figure in instituting daycare for children, experimented with *kamishibai* for the children in the daycare. The latest survey states that *kamishibai* are is a highly influential and effective media for of telling stories to for children. What is told through these narrative pictures will remain embedded in a child's mind until they become reach adults adulthood. The latest study results by Yone Imai Kristus (1897-1968) states that the usage of *kamishibai* as a learning medium

of information in learning in the field of education shows more positive results.

Nowadays, *kamishibai* is utilized as a learning medium at school at almost every level, mostly at primary schools level. The usage of *kamishibai* is also popular among kindergarten children, especially when the teachers use *kamishibai* to tell stories of Japanese knights. Students at higher levels of education usually create their own *kamishibai* drawings, telling stories of certain issues topics. A teacher's skills to make as interesting *kamishibai* as possible depends on the teacher's ability to attract attention from the students. If the students are attracted, they will pay attention to the stories told by teachers. The students will then absorb and store the stories in their memories, where the stories remain until they grow up as reach adulthood. Hence, it is important for a teacher to excel at communicating the stories to the children.

Environmental education can be a tedious subject. Students often have difficulties in imagining environmental damages and pollution, since they usually take present environmental conditions for granted. For example, dirty and polluted rivers and streets are commonly seen as normal. If the environmental education can be presented more attractively, the study objectives will be more easily achieved.

METHODOLOGY OF THE STUDY

The *kamishibai* is tested in five cities: Medan, Bandung, Batu, Malang, and Bandar Lampung. This experiment was conducted on by involving fifth graders at state primary schools.

Students were in groups of five, composing stories from provided cards. The cards are chosen arbitrarily and arranged according to the agreement among the group members. The stories were then composed of the arrangement and presented in front of the class. The audiences were allowed to ask questions. The session was then continued with interviews with the observing students and teachers. This study performed experiments with picture cards, each containing a story. The students can freely arrange the pictures based on their understanding or on group agreement. In a usual *kamishibai* activity, the order of the pictures is usually predetermined by the author of the story. However, in this study, students were asked to determine the order according to group agreement, which consisted

of determining the identification of the issue, the analysis of the issue, solution, and conclusion. This activity was intended for the children to be able to adopt a perspective in facing environmental issues. After determining the order, each group presents the story in front of the class. Other participants were allowed to comment on the story told by the presenting group.

RESULT

Teamwork and discussion motivate students to state their opinions on and knowledge of EE. From the narrative pictures given to the students, below are the results of students' composition. From sixteen pictures (six groups, 5 students per group), fifteen groups chose the pictures of a middle-aged man throwing garbage into the river, making the river dirty.

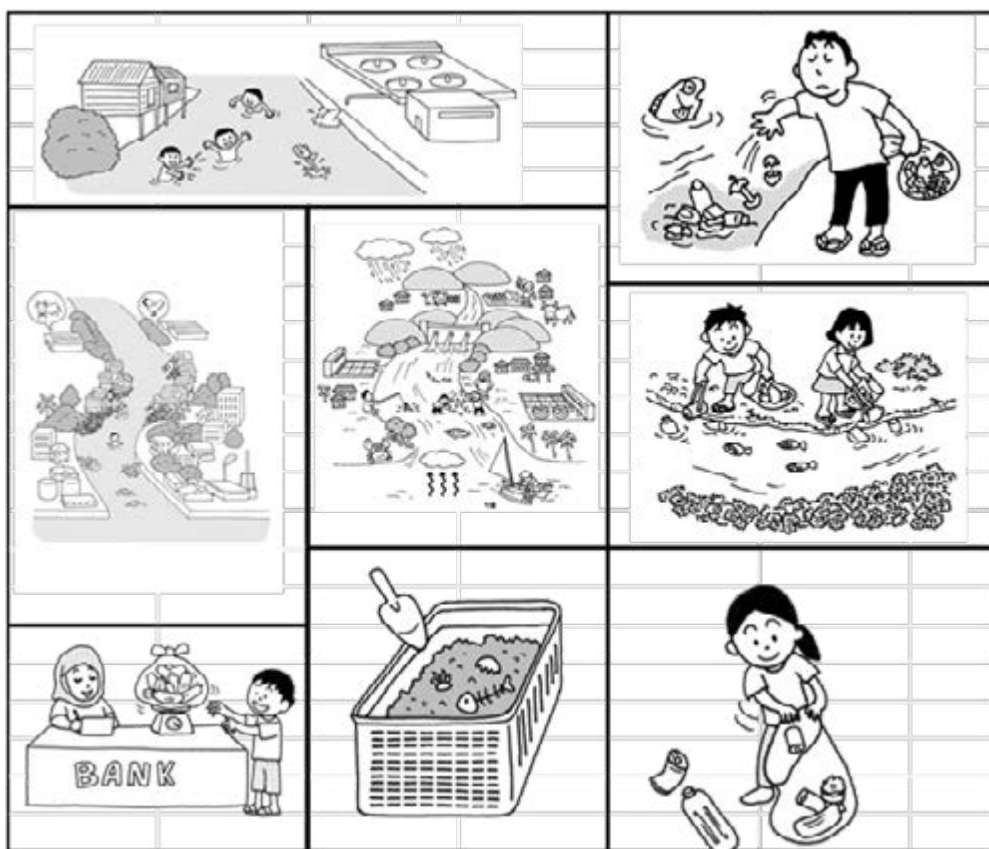


Figure 3. *Kamishibai* Card

Seeing the condition of the river, people become aware of the garbage issue. They pick up the garbage from the river and build garbage bank.

The river becomes clean and the people can take advantage of the clean river.



Figure 4. Student make story from Kamishiba








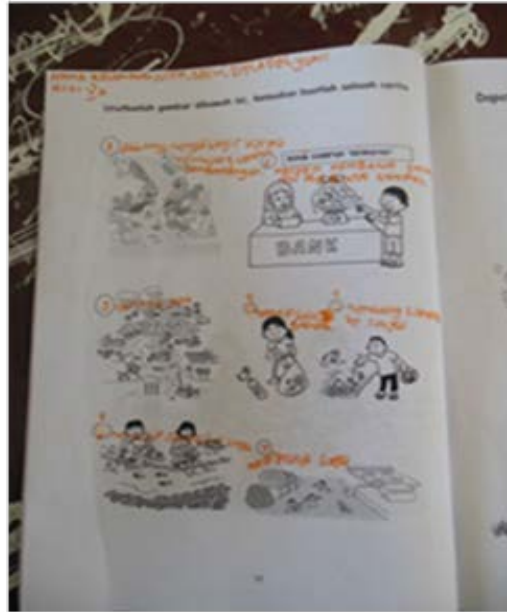
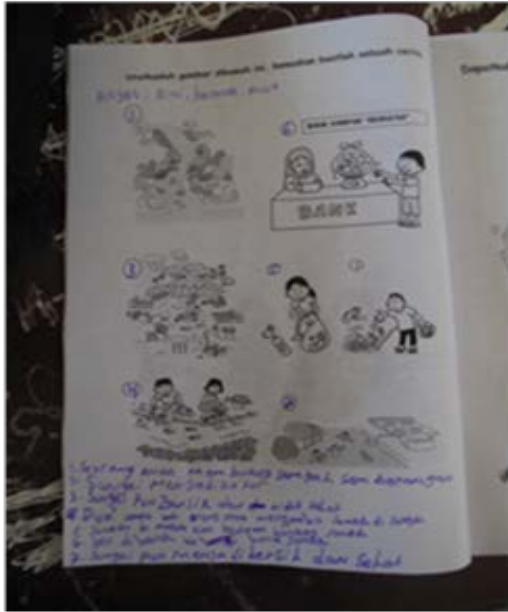
15 Groups put this picture on the no 1	9 Groups put this picture on the no 2	5 Groups put this picture on the no 3	8 Groups put this picture on the no 4
			
8 Groups put this picture on the no 5	10 Groups put this picture on the no 6	13 Groups put this picture on the no 7	  
			<p>1. Hari ini matahari bersinar terang. Semua orang senang sekali. Mereka semua sedang bermain-main di lapangan.</p> <p>2. Kemudian mereka semua di ajak ke 5. Untuk melihat dan mendengar cerita. Mereka semua sangat senang dan tertarik.</p> <p>3. Kemudian mereka semua di ajak ke 6. Untuk melihat dan mendengar cerita. Mereka semua sangat senang dan tertarik.</p> <p>4. Kemudian mereka semua di ajak ke 7. Untuk melihat dan mendengar cerita. Mereka semua sangat senang dan tertarik.</p> <p>5. Kemudian mereka semua di ajak ke 8. Untuk melihat dan mendengar cerita. Mereka semua sangat senang dan tertarik.</p> <p>6. Kemudian mereka semua di ajak ke 9. Untuk melihat dan mendengar cerita. Mereka semua sangat senang dan tertarik.</p> <p>7. Kemudian mereka semua di ajak ke 10. Untuk melihat dan mendengar cerita. Mereka semua sangat senang dan tertarik.</p> <p>8. Kemudian mereka semua di ajak ke 11. Untuk melihat dan mendengar cerita. Mereka semua sangat senang dan tertarik.</p> <p>9. Kemudian mereka semua di ajak ke 12. Untuk melihat dan mendengar cerita. Mereka semua sangat senang dan tertarik.</p> <p>10. Kemudian mereka semua di ajak ke 13. Untuk melihat dan mendengar cerita. Mereka semua sangat senang dan tertarik.</p>

Figure 5. Average the student make *kamishibai* story

CONCLUSION AND FUTURE STUDY



ESD that focuses on EE as its reference in sustainable learning is more likely to succeed whenever it is supported by assistive learning media. One of these media is *kamishibai*. Learning media such as *kamishibai* and other visuals are best utilized in combination to complete one another, with the help of other materials, such as photographs of our surroundings or everyday environmental issues. This will, in turn, create learning themes students familiar with. A notable significance of *kamishibai* in the learning process is its emphasis on cooperation in teamwork when discussing environmental issues⁶. This study aims to enable the students to play a role in planning their learning experience and give them opportunities to make decisions and accept the consequences of their decisions. They are also expected to connect their awareness of the environment with their knowledge and skills in order to solve problems and clarify values at each age level. *Kamishibai* can also assist students to discover symptoms and causes of environmental issues, with emphasis on the complexity of environmental issues, thus calling for critical thinking and problem-solving skills. Students can also utilize various learning environments and approaches in studying the environment with the emphasis on the students' changing mindset. The results indicate that the usage of *kamishibai* has a great impact on learning, and it can be continued to a future study on the degree of knowledge and mindset change obtained through learning EE using *kamishibai*. The employed method can be calculation method with text mining.

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