

Utilization Of Environment As A Learning Media Or Natural Science Study In Junior High Schools

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Abstract: The research was conducted to describe the environment of school utilization as a science learning media, and to describe the effectiveness of it in several dimensions, such as (1) the students' understanding (2) critical behavior to environmental conditions (3) caring behavior to the environment (4) students' learning motivation (5) the efficient use of media for teachers. The design of this research was descriptive qualitative research. Moreover, the subjects of this research were the seventh-grade students and the teachers included in the natural science teachers' forum (MGMP) in Kerinci regency. The result showed the students and the teachers had given a positive response to the environment of school utilization as a science learning media. Meanwhile, the obstacles faced are (1) the lack of the mastery and techniques of the concepts in the utilization of the environment, and (2) the difficulty in regulating the learning process time.

Index Terms: Environment, Learning Media, Natural Science

1. INTRODUCTION

Learning is a process of interaction and exchange of information between educators and students. So that the information conveyed by educators can be well received, learning media are needed. According to Naz and Akbar (2008), the media is a means to convey content to students in order to achieve effective instruction. The learning media are materials, tools or techniques used to make the process of educational communication interactions between teachers and students take place efficiently and efficiently [1]. So that the use of media in learning is needed to optimize the process of communication and transfer of knowledge between teachers and students. The utilization of media can motivate and increase student interest in learning. The use of instructional media can increase new desires and interests, and also generate stimulation and motivation for learning activities [2]. Even the use of media can bring psychological influence on students. This automatically provides a description of the necessity for every teacher to utilize all resources to be a source of learning. However, there are many problems faced by teachers when they have to use the media for learning. To create good learning media, creativity, and more motivation are needed. That is because of the limited resources that can be used as learning media. Sometimes, the learning media that have been prepared are not in the optimal conditions, for examples lack of numbers and components, not optimally good quality, and also they are not easily accessible. So some teachers assume that the use of media in learning will add a

burden to the teachers' work [3]. In order for learning to achieve optimal results, the media used must be adjusted to the needs. The media used in learning should be 'friendly' for the cognitive development (brain) of students because the human brain relies on many external stimuli for learning [4]. Besides, the experience gained by students from the media used can influence their critical behaviors. In essence, there are many types of learning media, one of them is the environment.

"Alam takambang jadi guru" is a Minang proverb which means that nature stores many phenomena that contain knowledge and learning resources for humans. Utilization of the natural environment as a learning media can benefit anyone, including teachers and students. The use of the environment as a learning context has begun since the United Nations Educational, Scientific, and Cultural Organizations conducted a Conference in Yugoslavia, in 1975 which agreed to studies of education integrated with the environment [5]. There are several advantages when teachers use the environment as a learning context (1) fostering critical thinking behaviors (2) fostering an attitude of environmental care (3) fostering an understanding of the material being taught because learning involving environmental contexts can be classified as meaningful learning [5]. In addition, the use of media sources from the environment also has the nature of effectiveness. Educators do not have to bother preparing artificial media to support the learning process, because the environment or nature can be concrete media for students to understand the topic of learning, especially science learning. By making real use of everything in the natural environment can facilitate the learning process that is taking place through the five senses [6]. Junior High Schools (SMP) in Kerinci regency are spread in various locations. Schools in the vicinity of densely populated settlements, use the school garden as one of the science learning media. Whereas schools far from densely populated settlements are usually bordered by community gardens, customary forests, and natural attractions. This border has the potential to be used as a learning medium, especially science. Like the SMP 4 Kerinci which is bordered with the fields of Hiang Lestari Village residents. The teacher uses the plants in the field to explain science especially on the topic of plant classification. In learning science, students often complain about difficulties in understanding the topic. In addition, science learning is also considered as monotonous and boring. The use of the natural environment around

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schools has actually been done by teachers, but the results are not effective. Another case reported that learning styles and students' understanding of concepts towards learning by utilizing the environment around the school are significantly better than students who participate in conventional learning [7]. The use of the environment around schools in learning allows students to learn directly natural phenomena based on their own observations [8]. Based on these phenomena, this study was conducted to describe the effects of the utilization of the environment around the school as a media for natural science learning and find out the obstacles faced by teachers in the utilization, especially for teachers who are members of the natural science teachers forum (MGMP) of Kerinci regency, Jambi Province.

METHOD

This research is descriptive qualitative research. The study was conducted on science teachers who are members of the MGMP learn about "Utilization of the environment around the school as a learning media". The sample in this study were science teachers and class VII students who were learning about plants. Research data collection techniques are carried out through questionnaires, observations, and interviews. The data obtained were then analyzed through 3 stages, namely data reduction, data presentation, and drawing conclusions. To guarantee the validity of the data, triangulation techniques were used.

RESULT AND DISCUSSION

Based on the results of questionnaire analysis and interviews, it was showed that the utilization of the natural environment around schools by natural science teachers in Kerinci Regency has been carried out, but the intensity was still very rare. This is because the teacher is not accustomed to doing it. There are many considerations and preparations that must be done, so that science teachers still tend to do learning in class using the lecture method. The steps were taken by the teacher in utilizing the surrounding environment as learning media are planning, implementation and follow-up. The planning stage consists of 6 steps, namely (1) the teacher determined the competency and learning objectives to be achieved. This determination is carried out specifically so as to facilitate the assessment of learning outcomes; (2) the teacher determined the object be studied based on the suitability of the resources around the environment. For example, the teacher uses the environment to explain the classification of Spermatophyta, (3) the teacher formulates learning methods or activities that will be carried out during the learning process; (4) the teacher prepares technical matters, such as permission to hold activities in outside of school, rules for students and learning instruments; (5) the teacher divides students into groups; and (6) the teacher pre-responds to determine the level of students' attitudes/abilities. At this planning stage, the teacher also arranges the time allocation and considers the distance between the location and the school. The implementation phase that the teacher did consists of several steps, namely (1) explaining about the learning location (2) mentioning the rules of learning process; (3) instructing students to gather based on their own group (4) explaining the goals and competencies to be achieved; (5) delivering the learning material using plants around the location as media. At this stage, the teacher showed the morphological characteristics of the roots, stems, and leaves of Angiospermae, (6) giving the

opportunity to students to ask questions; and (7) instructing each group to look for Angiospermae that consists of monocotyl and dicotyl plants based on the explanation given. Students then wrote down the findings and results of their group discussions. At the next meeting, the teacher did a follow up by asking a group of students to report and present the results of previous learning. Furthermore, the teacher gave tests and questionnaires to students to find out the learning outcomes or changes in student behavior towards the material that has been delivered and also the use of the environment by the teacher. Based on the pre-respond and post-respond it was showed that the utilization of the environment as a learning media can increase students' understanding of the topic (Table 1). The same results were also reported by last reserch that the use of the school environment as a learning resource for the classification of living things could improve student learning outcomes [9]. In addition, the results of other research showed that the use of the environment in learning science had a significant and positive impact on academic achievement and students' learning interest [10].

Table 1
Students and Teachers mean score

No	Indicators	Instrument	Ideal Score	Means score	Respondent
1.	Learning outcome	Test	100	83	Students
2.	Critical thinking on Environment	Questionnaire	87	80	Students
3.	Caring on environment	Questionnaire	70	63	Students
4.	Learning motivation	Questionnaire	80	76	Students
5	The efficiency of media preparing	Questionnaire	80	76	Teachers

The results of interviews showed that by utilizing the surrounding environment in natural science learning, students become more interested. Students could see directly the objects being discussed. It could increase students' curiosity so the students become more active and not bored, and the learning process became more effective [10]. Utilizing the environment as a direct object in studying Angiosperm, provides a direct and natural experience for students. Students' memories of the material presented can be stored for a long term because students receive information by finding out themselves and witnessing the real theory they get from books. In addition, the environment as a learning media can foster the students' critical thinking and careless to the environment (Table 1). Students become more active in exploring their curiosity about how to recognize Angiosperms plants based on their characteristics and classification. In addition, the beauty of plant diversity that students see directly through the diversity of plants creates a sense of wonder so that it can foster a sense of caring. According to [9], the surrounding natural environment is rich in science. students can gain their own knowledge through direct observation into the natural surroundings and that knowledge is embedded in the minds of students in the long term. The use of the environment as a media makes students more communicative because objects and events that exist in students' environments are usually easily digested by students when compared to the media designed [11]. The results also showed that the teacher's time in preparing learning media became more efficient because there was no need to create artificial

media. So that the teachers' time in preparing the learning instruments can be allocated to the other preparation parts. The suitability of learning materials with natural surroundings as a media makes it easier for preparing the learning process. There are a number of obstacles faced by the natural science teachers in Kerinci when utilizing the environment as a learning media, including (1) the allocation of time is not appropriate between implementation and planning; (2) the teacher is lack on paying attention to technical matters, such as the steps of the activity while in the field; (3) the teachers don't have sufficient insight and skills of the utilizing the environment as a learning media. While delivering material, the teachers still focusing on the material contained in the worksheet; and (5) the coordination between teachers and students are not effective. The other research results also mentioned that difficulties in conditioning students and required a lot of time in the learning process while utilizing the environment as a source of learning science. The obstacles that arise indicate that the teachers are not fully ready to carry out learning outside the classroom, so that not all stages of planning can be realized [12].

CONCLUSION

The teacher carries out three steps in utilizing the environment as a learning media, namely planning, implementation, and evaluation. the teacher did not do all of the parts in those steps. The teachers and students give positive responses to all observed indicators. To minimize the obstacles faced in the implementation of learning, teachers must understand the concepts of learning and learning techniques outside the classroom.

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