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Effectiveness of Realia Media: A Case Study in SMP Negeri 1 Likupang Barat as a Partner in KKN-PPM Program

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Abstract. Communities in Talise Island face various problems, indeed children which has an impact on the high level of school dropouts. Children after school must help the work of parents who generally work as traditional farmers, breeder, or fishermen. Other factors that influence the dropout rate are the learning process and infrastructure which can be said is below national standards. To help alleviate the problems, an activity called *Kuliah Kerja Nyata – Pembelajaran Pemberdayaan Masyarakat* (KKN-PPM) has been carried out to reduce the number of school dropouts. The real steps taken are to optimize the utilization of existing infrastructure of *SMP Negeri 1 Likungan Barat* which has a land area of about 2 hectares for livestock farming and revitalize the learning process in schools by applying learning media suitable for the situation and conditions. Through this KKN-PPM activity, college students from the educational study program have implemented media realia in the learning process. Realia media are assistive devices or real objects that are used as teaching materials that can be presented in classrooms or observed directly according to their location outside the classroom. This article will describe the effectiveness of using realia media in *SMP Negeri 1 Likupang Barat*.

1. Introduction

SMP Negeri 1 Likupang Barat is located in Tambun Village (Talise Island), Likupang Barat Subdistrict, Minahasa Utara Regency (Figure 1). According to school's Dapodik (Data Pokok Pendidikan, Basic Education Data) as of November 2018, this school has 10 teachers (5 male and 5 female), 1 education staff (1 female), and 72 students (32 male and 40 female, spread in 3 grade: 7th grade = 24 students; 8th grade = 30 students; and 9th grade = 18 students). This school has implemented the K13 curriculum and was last accredited in 2010 with "A" ranking [1].

According to the results of the initial observations relating to the *Kuliah Kerja Nyata-Pembelajaran Pemberdayaan Masyarakat* (KKN-PPM, Student Study Service-Community Learning and Empowerment, a concept of linking academic study with the practical experience of community service [2]) activities carried out by a team from Institute for Research and Community Service (LPPM), State University of Manado (UNIMA), school's achievement of Standard of Facilities and Infrastructure, and Standard of Educator and Staff is classified as lower than the other six standards of National Education Standards. In addition to internal school problems related to achieving the standards, this school also face external problems like high level of poverty and low economic income of the surrounding community which has an impact on the high number of dropouts and those who

cannot continue at a higher level, also the low learning achievement of children. Children as students lack the opportunity to study at home after school because they have to help parents to work.

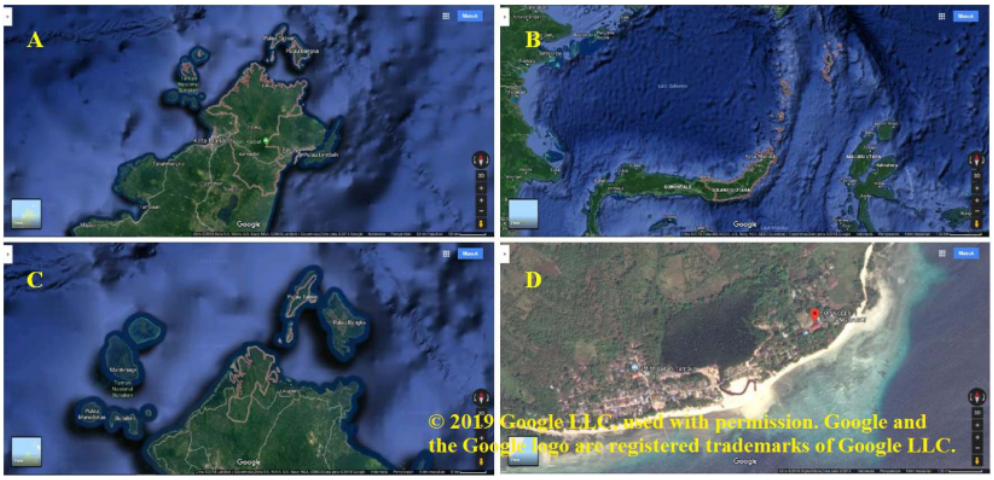

Figure 1. Location of *SMP Negeri 1 Likupang Barat* in the map of: A) North Sulawesi Province; B) North Minahasa Regency; C) Likupang Barat Subdistrict; and D) Tambun Village.

Community of Talise Island generally works as fishermen, farmers, breeders, laborers, artisans, and government employees (called Aparatur Sipil Negara or ASN, most of them are teachers) [3]. As fishermen, people on this island can only go to sea half of the year due to the geographical location which is directly facing the Pacific Ocean. The rest of the time turned to being a farmer or rancher. The low economic income of this village community is closely related to the low productivity of agricultural, livestock and fisheries. On the other hand, Talise Island has potential resources such as extensive agricultural land. In fact, SMP Negeri 1 Likupang Timur has a land area of 2 hectares which can be utilized for developing food and livestock business. Utilization of these resouces beside being able to help poor children and support the improvement of learning facilities and infrastructure, it can also be a nature learning laboratory resource for teachers and students.

Starting from the complex problems faced by the people of Talise Island, the team from LPPM UNIMA was called to provide problem solving through KKN-PPM activities funded by the Directorate of Research and Community Service (DRPM), Directorate General of Research and Development Strengthening, Ministry of Research, Technology, and Higher Education, Republic of Indonesia. The solution is in the form of empowerment for students of SMP Negeri 1 Likupang Barat through real learning using media realia in an effort to improve knowledge, attitudes, and practical skills related to some material in the subject of Natural Sciences (IPA). Aside from being a real learning, the solution also provides economic value as well as a model of character education for students.

One of the goals of science education is to develop students' interest in science and technology. Good understanding and retention by students of science and technology depends on the use of effective learning aids [4]. Realia media is tangible media of real life objects used in classroom learning by teachers to improve student understanding [5]. As a source of learning, media realia can not only be used in the classroom, but also outside the classroom by inviting students to make direct observations at the location of the real object [6]. Based on the literature review conducted, media realia is generally used in English subjects with the intention that students can describe an object or compose vocabulary according to real physical characteristics [5, 7-9]. Realia media are also used in Mathematics [6, 10-13], Natural Sciences [14-17], Biology [4, 18-19], Thematic [20], and interdisciplinary concepts [21], even in the field of agricultural vocational [22-24].

Most of the references reviewed reported a higher level of effectiveness of media realia compared to other media when applied in learning. The research within the framework of the KKN-PPM program aims to see the effectiveness of the use of realia media in science subjects, especially topics relevant to the KKN-PPM program target (increased productivity of integrated livestock farming) for 7th grade students at SMP Negeri 1 Likupang Barat.

2. Methods

2.1. Research Design

This study uses a quantitative descriptive approach with the aim of comparing the effectiveness of the use of realia media with other media such as images or without media in science subjects, material: 1) Science objects and observations; 2) Classification of Objects; and 3) Classification of Living Beings, at *SMP Negeri 1 Likupang Barat*. The population of this study was all students of 7th grade. This study uses a purposive sampling technique, with a sample of the entire population. The 7th grade students who were sampled numbered 24 people, consisting of 10 men and 14 women, with a range of ages 13-15 years. The study was conducted in the first semester of the 2018-2019 school year, during the months of August - September.

2.2. Instrument and data collection

The instruments used in this study include: syllabus, RPP, Student Activity Sheet, and science process skills assessment rubrics whose main purpose is to confirm the effectiveness of media reality compared to other media. Before the instrument was developed, data in the form of resources around the school area that could potentially be used as a medium of realia in junior high school science learning were mapped first through observation activities. The results of the mapping of potential resources were then adjusted to some of the VII grade junior high school science subjects contained in the student books that implemented the 2013 Curriculum [25].

To examine the effectiveness of realia media, 24th grade students numbering 24 people were divided into four groups (six people in one group) taking into account the proportion of sex and age. The four groups formed are differentiated based on the type of media, which consists of: 1) without media assistance; 2) the media in the form of verbal explanations of the teacher; 3) media in the form of images; and 4) media realia. After taking each material with each media, each student assessed the ability of science processes using the assessment rubric. The final value of the science process skills of each student will be analyzed to determine the effectiveness of each media.

3. Results and discussion

3.1. Sumber daya sekitar sekolah yang berpotensi sebagai media realia

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