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**PENERAPAN LKPD BERBASIS LINGKUNGAN UNTUK MENINGKATKAN KETERAMPILAN BERPIKIR KRITIS PESERTA DIDIK SMAN 3 ENREKANG**

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***Abstract –*** *The research is a quasi-experimental study. The learning model as the independent variable and dependent variable is the critical thinking skills of students in learning physics. The population in this study were all students of class XI MIPA, and selected by purposive sampling so that XI MIPA I was the experimental class and XI MIPA II was the control class. Based on descriptive statistical analysis ie, (1) the average critical thinking skills for the pretest experimental class are in the high category, the posttest experimental class is in the high category, the pretest control class is in the sufficient category and the posttest control class is in the high category, (2) there is an increase in participants critical thinking skills students use an environment based LKPD strategy at SMAN 3 Enrekang, (3) there is an increase in students critical thinking skills using ordinary LKPD, (4) there are differences in the use of environment based LKPD where the* $P\_{value}$ *obtained is 0,15 smaller than α 0,05.*

***Keywords:****learning strategies, environment, critical thinking skills.*

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# INTRODUCTION

I. INTRODUCTION

 Education is one of the factors of national development that functions as an effort to improve the quality of human life. Education can produce quality human resources. competitive and highly competitive. A simple process that describes the interaction of educational elements can be clearly seen in the learning process that occurs in institutions formal education, specifically in the classroom. Educators teach science and skill scores to students. People who are directly and indirectly involved must realize that the future of the nation is largely determined by the quality of education implemented. Various efforts in order to improve the quality of education are always carried out, adjusted to the development of the situation and conditions that occur (Mukminin, 2014:1).

 Education in the era of globalization is expected to produce human resources who have complete competencies or commonly called 21st century competencies. One of the characteristics that mark 21st century education is the increasingly interconnected world of science and technology. Education must consider various things such as graduate competence, educational content/content, as well as the learning process. Various countries in the world are trying to formulate the characteristics of the 21st century. According to Trilling & Fadel (2009: 50) there are a number of basics of 21st century learning, one of which is critical thinking and problem solving skills, namely skills that are able to think critically, laterally and systematically, especially in the context of problem solving. Critical thinking skills include observing, analyzing, proposing hypotheses, asking questions, exploring and selecting relevant factual information in solving everyday problems.

 Education of the 21st century by some experts (Beyer, 1995; Angelo, 1995; Facione, 2006) states that critical thinking is a sense that used the criteria to disk the quality of something, from the simplest activities such as normal daily activities to compile the conclusion of a writing used by a person to evaluate validation according to the questions, ideas, arguments, and research. Critical thinking is a power and energy source in a social life and personal person, which can be earned from the human interaction with the environment.

 Environmental-based learning is one of the activities that can develop critical thinking skills, because it can create an interesting learning process, and is more creative and not monotonous. LKPD is an activity sheet for the learning process to find science concepts either through theory, demonstration, or investigation accompanied by clear instructions and work procedures. The purpose of the LKPD is to train thinking skills and science process skills in completing tasks according to the learning indicators to be achieved, so that the mindset of these students can improve (Firdaus.2018:26-40). LKPD by several experts (Agustina, 2019; Rahmatillah, 2017) stated that LKPD is a teaching material that contains a more focused, structured guide for students to carry out problem solving activities.

 According to Prastowo (2012: 205) in preparing LKPD, there are several conditions that must be met by educators. Educators must be careful, and have adequate knowledge and skills to be able to make good LKPD. An LKPD must meet the criteria relating to whether or not the basic competencies are mastered and understood by students. According to Purnamasari in (Hendro Darmodjo and Jenny R. E Kaligis (1992: 2)) states that the preparation of a good LKPD must have three important requirements, namely didactic requirements, construction requirements, and technical requirements. There are several steps in the preparation of the LKPD, namely curriculum analysis, competency analysis, determining the title of the LKPD, and writing the LKPD Depdiknas (2008). From this theory, information is obtained that LKPD is very important for students where in compiling a good LKPD must use the conditions. According to Toharuddin (2019), the objectives of preparing LKPD are: (1) strengthening and supporting learning objectives and achievement of indicators, as well as basic competencies and competency standards that are formulated, and (2) helping students to achieve learning objectives. Based on this description, the authors designed a study with the title **"Implementation of Environmental-Based LKPD to Improve Critical Thinking Skills of Students of SMAN 3 Enrekang"**

# METHODS

This research includes quasi-experimental research, which is a type of research that has a control class, but cannot fully function to control external variables that affect the implementation of the experiment (Sugiyono, 2019). The research design used was a pretest-posttest control group design. The research design can be seen as follows:

**Table 1.** Research Design

|  |  |  |
| --- | --- | --- |
| **Pre-test** | **Treatment** | **Post-test** |
| **O₁** | **X** | **O₂** |
| **O₃** | **-** | **O₄** |

*Source*: (Sugiyono, 2019).

The population in this study were all students of class XI MIPA SMAN 3 Enrekang which consisted of seven classes. The sample of this research was conducted by purposive sampling. The analysis technique used is descriptive statistics and inferential statistics. Descriptive statistics include the presentation of tables, diagrams, average scores, highest scores, lowest scores, and standard deviations for the average class percentage and data presentation in graphical form. While inferential statistics include prerequisite tests, hypothesis testing.

# RESULTS AND DISCUSSION

The results of the pretest descriptive statistical analysis of students' critical thinking skills in the experimental class (XI MIPA 1) can be seen in Figure 1, namely the percentage of students' critical thinking skills scores in the experimental and control classes as follows.

sThe percentage of students' critical thinking skills pretest scores showed that the experimental class was mostly in the sufficient category with a percentage of 46.88%. The posttest of students' critical thinking skills showed that students were in the high category with a percentage of 75%. The percentage of students' critical thinking skills pretest scores showed that the control class was in the sufficient category with a percentage of 50%. The posttest of students' critical thinking skills is in the high category with a percentage of 71.87%.

**Table 2.** Test Results Paired Simple Test.

Table 2, the results of statistical tests using the t test, obtained treatment 1 $P\_{value}$>$0,05$ treatment 2 obtained $P\_{value}$>$0,05$ and treatment 3 obtained $P\_{value}$>$0,05$ which means Ho is rejected and H1 is accepted, which means the use of environmental-based LKPD is effective to improve critical thinking skills of students of SMAN 3 Enrekang.

The results of statistical tests using the independent simple test statistical test obtained $P\_{value}$>$0,05$ treatment, which means Ho is rejected and H1 is accepted, which means that there are differences in the use of environment-based LKPD and ordinary LKPD to improve critical thinking skills of SMAN 3 Enrekang students.

**Table 3.** Normalized Gain Score



Table 3 shows the n-gain scores which are included in the high, medium and low categories. In the high category, the experimental class has 7 students and the control class has 4 students. The medium category in the experimental class has 15 students and the control class has 10 students. The low category of the experimental class has 11 students and the control class has 18 students. While the average N-gain score in the experimental class is 0.43 and the average N-Gain score for the control class is 0.36. So the data obtained is that there is an increase in students' critical thinking skills without using environmental-based LKPD and using LKPD. environment based.

The results of the analysis of the experimental class and the control class can be seen that there is an increase in critical thinking skills in the experimental class, both pretest and posttest, compared to the control class. The low score obtained by the control class is due to the fact that students do not have prior knowledge of a concept, so it is difficult to relate one concept to another (Ivie, 2001).

As stated by Docktor & Mestre (2014) students when they come to a class do not actually bring empty knowledge or empty minds, but they have fragmented knowledge, so students have difficulty when relating a concept to one another. In addition, study habits are also a factor because students are more likely to feel comfortable with the teacher's explanation without further questioning and cause students' critical thinking skills to not develop.

From some of these opinions, it can be seen that critical thinking skills factors such as physical conditions, learning methods and interactions between students and educators can affect students' critical thinking skills. Educators must use learning methods so that students can easily understand the lessons delivered. One of the methods used by researchers is environmental-based LKPD.

Based on the analysis of the experimental class and the control class, it can be concluded that there is an increase in students' critical thinking skills using environment-based LKPD and ordinary LKPD. There is an increase in students' critical thinking skills due to several factors. One of them is learning using environmental-based worksheets that make students play an active role in the learning process. In this case, students are active in asking, answering, and active in group learning. The use of environment-based LKPD really supports the improvement of students' critical thinking skills because the LKPD contains conditions that exist in the environment that students often encounter everyday, both from the school environment and where they live. The use of environment-based LKPD is easy to understand because the materials used are found in everyday life and can motivate in doing practicum, the potential and problems are actually shown.

Furthermore, the differences in critical thinking skills of SMAN 3 Enrekang students using environmental-based LKPD. This is because the use of environmental-based LKPD teachers carry out the learning process by forming students into several groups. Furthermore, the teacher gives freedom to students to think, look for references from various sources and collect data that has been obtained and conduct trials of completion of the ideas that have been obtained so that students will be more active, enthusiastic and motivated to go directly to solving problems in the process. the learning.

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