



EFFECTIVENESS OF SIMULATIONS FOR THE DEVELOPMENT OF THE PHYSICS MATERIALS IN CRISTAL PRIVATE SENIOR HIGH GERAL DILI

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ABSTRACT

Simulation means to pretend or only copy the behavior or the only copy of behavior. Simulation means the method that presents learning knowledge and uses the case copy to understand a concept, principle, and skills. The researcher used the quantitative research method that focuses on action research in the classroom. The population of this study is 200 grade 11 students of the Natural Science of Cristal Senior High School. Purposive sampling was utilized to determine the classroom. The class is composed of 22 students 12 females and 10 males. The technical data collected is questionnaire and direct observation. The secondary data is collected through documentation. The data analysis was using technical a quantitative discrete analysis. The result of the research showed the value of 62,25-82,25% of the 12 people obtained 55%. This means that utilizing the Simulation Method in the development of the fisheries material is effective. Therefore, each teacher should use the simulation method in conveying the learning material in the classroom.

INTRODUCTION

Timor-Leste is a country that needs to develop quality human resources in all sectors to meet the needs of the country in this era of globalization (Costa et al., 2019).

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An effort to create quality human resources, through education, because education is an important source of life for each individual and contributes to the national development process, education must be of quality, and quality should begin with the learning process to develop the knowledge and skills of the person (Jamaluddin, 2016).

According to the scholars Sudrajat and Hendra (2012: 63), the simulation comes from the word simulated. It means to pretend or also from the word simulation that is only copied by the behaviors. A purposive act is a simulation which means a method that presents learning knowledge with the use of a copy of the situation to understand a concept, principle, or skill (Da Costa et al., 2019).

The development of Science and Technology is currently influencing the aspects of the life of our people. Education is an effort to develop the lives of a country, the development of a country, in the form of quality human resources. The quality of human resources defends the quality of education, education is an important factor in nation-building because the development of the education area influences other areas (Li et al., 2020).

Physical materials are a branch of science and technology and are based on the branch of other sciences. Physical Science is often implemented in concerts in other sciences, and it is an experimental science used to obtain its standards and principles concerning natural or environmental phenomena, standards concerning theories known as the theory of the fisheries. The development of a physics theory that develops quickly, quickly, and sustainably to discern future phenomena.

LITERATURE REVIEW

The foundation of the theory developed by this research is based on being a reference to strengthen the explanation of the problem that the writer has written research or search for the form that the theory needs to be developed in this research is as follows:

According to the schoolers Sudrjat & Hendra (2012: 63), the simulation is represented by the word "Simulate" which has a meaning of pretend, As well as "Simulation" which means a copy of the purpose or a deed, such as a method of teaching the simulation means a method of presenting the study knowledge and using a copy of the site to understand a concert, principle or ability (Kantola, et al. 2017).

The scholar, Hasibuan & Moedjiona (1986: 27), believes that simulation is a

method of copying or a pretend to act, From the fact that simulation means to pretend or make pretend. Simulation Meanwhile, it is only a copy of a false behavior. According to the scholar, Saud (2005: 129), simulation is a reduplication or a visualization of the characteristics of a system.

Based on the ideas of the two scholars, research formulated that the simulation method is an effort of the teacher to show the way and the process of learning. This process stimulates students' imagination of mentioning the topic. While the student's imagination is working on the proper topic; it will enable the student to understand the content of the material. Therefore, the simulation method of teaching and learning becomes a favorable method to stimulate and motivate the student.

According to the scholar Tanredja et.al. (2014: 2), defined the method of simulation is: (1) See his skills with a professional character as well as daily life. (2) Acquire knowledge of a concept or a principle. (3) Training to solve problems. (4) Increase knowledge and activities in the learning process. (5) Provide learning motivation to the students. (6) Training students to work together in group situations. (7) Create the creativity of the students. (8) Training the students to understand and respect the opinion and objectives of others (Moon & Ke, 2020; Neumann & Lotzmann, 2015).

METHOD

The researcher used a quantitative method focused on access to classroom action research (Eğmir et al., 2017). The method used to obtain data to use to analyze data. It is because classroom action research has the capacity (Clifford, 2018). The capacity to approach and the procedures that have the right effect improve and increase the professionalism of teachers in the classroom learning process. The research used data collection methods by the questionnaire. The research instrument was using the theory of Skala Likert. To complete the data researcher utilized the documentation approach as well. The technical analysis of the data used by the researcher is a quantitative descriptive analysis. This approach uses the formula:

$N =$

Here:

$N = \text{Percentage (\%)}$,

$F = \text{Total score per question}$

$n = \text{Total Score of all of the questions.}$

With the following criteria of value:

81,25% < = N < 100% well understood.

62,25% < = N < 81,25% understand.

43,75% < = N < 62,25% understands enough.

25% < = N < 62,25% did not understand.

00% < = N < 25% does not understand it too.

RESULT AND DISCUSSIONS

Result

This research was conducted at Cristal Private Senior High School. The population of this study is 200 grade 11 students of the Natural Science of Cristal Senior High School. Purposive sampling was utilized to determine the classroom. The class is composed of 22 students 12 females and 10 males.

They with 22 students with a sample. The results of the use of the method of simulation for the development of fishing materials show that the grade: 10 in the 3rd semester of classroom students understood as well as the results of the analysis of data show that there has been a real development in fishing materials. The following is shown in figure 1.

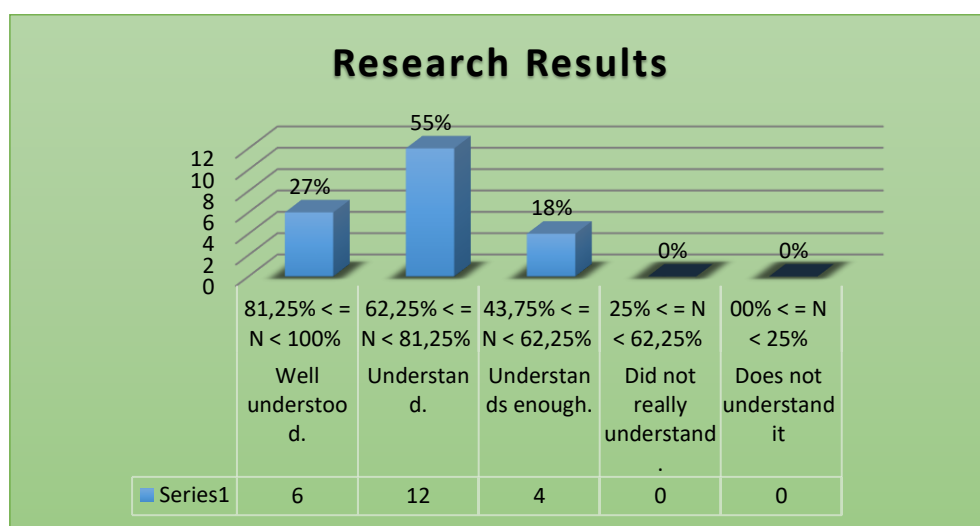


Figure 1: Research Results

Discussions

The requirements for the capacity of the students through the use of the Simulation for the development of the physics materials exceed the hierarchy that has

the student's capacity, This research has five requirements: better understanding, better understanding, better understanding, less understanding, and less understanding (Akinyode & Khan, 2018). The clearest outcome seen in the graph of the outcome, the value obtained from the research conducted by the writer based on the value obtained from these five requirements shows that there is a Cristal Private Senior High School. This school was established in 1984. From that moment till now the school consistent with its mission to provide opportunities for each Timorese child to study. Through this research, the researcher is currently a teacher at mentioning school.

This facilitates the researcher to implement simulation methods in the teaching and learning process. The researcher analyzed the capacity of the student. The researcher used the Simulation Method for the development of physics materials (Rakotoasimbola & Blili, 2019). The result of the analysis showed that 55% of the students understood the material. This explanation means that Cristal Private Senior High School can use this method in the classroom (Randomized et al., 2018). The school year 2022 showed that there is a development in the area of physics when the teacher uses a simulation method (Frandsen & Lehn-Christiansen, 2020). The data-based of simulation contained various information. The researcher uses testing. This allowed students to fill out the questionnaires (Carvalho Do Carmo et al., 2020). Those results indicated that it is valid

CONCLUSIONS

Based on the results shown by the students, the development of the physics materials has been done to a better future dream, the results of the capacity and understanding when the teacher uses a method of simulation to develop the physics materials in the classroom learning process that is more comprehensive and valuable = 81,25-100% of 6 persons with 27%, understanding with the value = 62,25-82,25% of 12 persons with 55%, Understanding with the value of 43,75-62,25% of 4 persons with 18%, Understanding with the value of 25-43,75% and Understanding with the value of 00-25% with 0%, Based on the results, students can adapt to teachers using simulation methods through learning processes in the development of how to prepare themselves well to create or develop something new in their future lives.

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