

Analysis Of The Need For Contextual Teaching And Learning (Ctl) Based Learning Module For Ecological Materials And Environmental Changes

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Abstract – This study aims to analyze the need for developing a biology learning module with a Contextual Teaching and Learning (CTL) approach, which is specialized in ecology and environmental change. The learning module is structured so that it can improve concept mastery, train students' ability to analyze and be able to apply their knowledge to real life, and help students to be able to reflect on their learning independently. The research method used is a qualitative method. The data were obtained using a questionnaire and analyzed descriptively. The research subjects included 68 students of class XI IPA at SMAN 1 Pagai Utara Selatan, SMAN 1 Pagai Selatan, and SMAN 2 Sikakap. The results of the research and discussion show that the development of a CTL-based learning module on ecology and environmental change material needs to be done to help students understand concepts and reflect on their learning independently, and can apply their knowledge into everyday life.

Keywords – Modul, *Contextual Teaching and Learning* (CTL).

I. INTRODUCTION

School education is an activity or interaction that occurs between teachers and students which aims to create a change for these students both in terms of cognitive, affective and psychomotor. According to Rismawati (2016), education is a vehicle to improve and develop the quality of human resources. One of the efforts made to improve the quality of education is by implementing a curriculum, educational system and various methods and teaching materials used in learning.

The teaching materials in question can be written or unwritten teaching materials (Amri, 2010). One of them is written teaching materials in the form of modules. The module is a printed teaching material that is arranged in a specific structure that allows students to learn independently. Through learning with this module, students are expected to be able to learn without guidance from teachers or other educators (Prastowo, 2012). Modules must describe the basic competencies to be achieved by students, presented in good, interesting language, equipped with illustrations (Majid, 2013) and specially designed modules in the form of textbooks

intended for students to study independently and in groups of Susilo et al. 2016). Target characteristics are adjusted to the environment, abilities, interests, and backgrounds of students (Faridah, 2014).

Based on the interview, it was known that the teaching materials used were not able to help students to explore and connect the phenomena that occurred in the surrounding environment, the teaching materials did not motivate students to respond to the meaning contained in the material presented, so there was no interactive communication between modules and students and learning resources were still insufficient from the number of students.

One of the biology learning materials in the 2013 curriculum was ecology and environmental change, which was a learning material that was directly related to the everyday environment.

The material could be more meaningful, easier to understand by students if the material is directly applied in the daily environment of students. One learning approach that is appropriate to apply to this material is the contextual teaching and learning approach. Sanjaya (2009) stated that contextual teaching and learning is a learning approach that emphasizes the process of full involvement of students to be able to find the material being studied and relate it to real life situations so as to encourage students to be able to apply it in their lives.

In accordance with the opinion of Suryawati (2018), where contextual teaching and learning can encourage students to have a more positive attitude in learning science. When students can relate these concepts, they have learned in real life situations, it means that they have entered the context that was learned to the actual situation and transformed it as a life experience.

With this contextual teaching and learning approach, presumably it can improve memory, activeness of students, and understanding in learning biology which in turn can increase the effectiveness of student learning outcomes.

Considering that the main problem in this research is teaching materials, in this research an analysis of need will be carried out, the results of which will be used as the basis for developing a learning module based on contextual teaching and learning (CTL) on ecology and environmental change.

II. METHOD

This research was conducted at SMAN 1 Pagai Utara Selatan, SMAN 1 Pagai Selatan, and SMAN 2 Sikakap. The research subjects were 68 students of class X. Science who had studied ecology and environmental changes.

Data collection used an open questionnaire with a total of 13 question items. Data analysis was carried out in a descriptive qualitative manner which included data collection, data analysis, data presentation and drawing conclusions.

III. RESULTS AND DISCUSSION

The data from the questionnaire analysis of the needs and problems of class X IPA students are presented in the following table:

Table 1. Results of the Questionnaire Analysis of Students' Needs and Problems

No	Questions	Quantity	%
1	Interest in ecological material and environmental change		
	a. Interested	61	89,70
	b. Uninterested	7	10,29
2	Implementation of learning		
	a. Lecture	55	89,00
		0	0
	b. Discussion	13	11,00
		0	0

No	Questions	Quantity	%
	c. Lectures and discussions d. Others		
4	Observe the surrounding environment (school / home) directly a. Ever b. Never	15 48	22,05 70,58
5	Using teaching materials a. Exist b. Non exist	52 9	76,47 13,23
6	Teaching materials used a. Textbook b. Module c. LDS / LKPD d. Photocopy Sheet e. Others....	51 45 0 0 0	77,25 65,00 0 0 0
7	Bahan ajar yang digunakan sesuai dengan semua topik dan mencakup indikator materi a. Ya b. Tidak	19 49	27,94 72,05
8	Teaching materials help understand the concept of the material a. Able a. b. Unable	22 42	32,35 61,76
9	The teaching materials used can build their own knowledge a. Able b. Unable	27 40	39,27 58,82
10	Teaching materials are directed to be able to dig knowledge about the material		

No	Questions	Quantity	%
	a. Able	9	13,23
	b. Unable	59	86,76
11	Apply these materials in everyday life		
	a. Yes	19	27,94
	b. Not yet	51	75,00
12	The teaching materials have presented questions related to ecology and environmental changes		
	a. Yes	7	17,64
	b. Not yet	61	89,70
13	Make a self-evaluation of the material that has been understood		
	a. Yes	13	19,11
	b. Not yet	55	80,88

From table 1 it can be seen that 89.70% of students are interested in ecological material and environmental changes. However, 61.76% of students stated that they could not understand the application of this material in their daily life.

Based on interviews conducted with three biology teachers at SMAN 1 Pagai Utara Selatan, SMAN 2 Sikakap and SMAN 1 Pagai Selatan, it was found that the ecological learning process and environmental changes that took place had combined several learning methods and models. However, in the learning process students are not invited to be directly involved with the environment, and learning does not relate to theories or concepts of science on ecological material and environmental changes in everyday life, due to insufficient learning time to bring students directly involved with the environment. This is in line with the results of student questionnaires, where 89% of students revealed that during the learning process ecology and environmental changes used the lecture method, and 11% of students revealed that during the learning process using the lecture and discussion method.

In addition, 75% of students revealed that in the learning process students had not applied their knowledge to ecological material and environmental changes in their daily life.

Judging from the teaching materials used by students at school, the teaching materials have not been seen to link ecological material and environmental changes to the surrounding environment. ecology and environmental change. This is caused by several things such as: the material presented is too much, the language of the books used is difficult to understand, many terms are confusing, the absence / lack of clear pictures to support understanding of the material. In addition, students revealed that 58.82% of the teaching materials had not been able to direct students to build their own knowledge.

Then on the question about learning evaluation, 80.88% of students have never made a self-evaluation of the material they are learning which results in students being less able to reflect on their learning independently.

The results of this discussion indicate that it is necessary to develop a CTL-based learning module that focuses on ecology and environmental changes. By developing a learning module using the CTL approach, it can really help students to be able to apply their knowledge to the environment and connect it to real life situations so as to encourage students to be able to apply it in Suryawati's life (2018).

IV. CONCLUSION

From the data analysis that has been carried out, it is concluded that students are still difficult to apply ecological material and environmental changes in real life, the learning process is still discussing and analyzing problems or issues related to the material due to limited learning time, the teaching materials used do not provide examples of problems. -problems or issues in environmental change material, and most students never evaluate or reflect on their learning. Therefore, Contextual Teaching and Learning (CTL) based learning modules on ecology and environmental change material need to be developed to help students understand concepts independently, train students' analytical skills and be able to apply their knowledge in real life, and can reflect on the learning process independently.

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