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USE OF APPLICATION BASED MODULE ON ADDITIVE AND ADDICTIVE MATERIALS FOR LEARNING ACTIVITIES DURING PANDEMIC COVID -19

(Study at a Student of Junior High School Muhammadiyah 1 Sleman)

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Abstract: The use of modules as a medium for learning at the school level is commonly used. The module serves to assist educators in delivering material. Therefore, the module must have good quality in terms of material and design so that students can more easily understand the material presented. At this time, the module is expected to be able to help students understand the material, because during the Covid-19 pandemic, students were asked to do learning activities at home. The material is delivered by the teacher online through the WhatsApp group during the learning hours. This study examines the material additives and addictive substances delivered to class VIII students. The object of this research is the VIII grade students of junior high school Muhammadiyah 1 Sleman which consists of three classes. The purpose of this study was to determine the level of students' understanding of additives and addictive substances.
Keywords: learning, additives and addictive substances, COVID-19

Running Title: Application Based Module For Learning During Pandemic

INTRODUCTION

Learning is an activity that aims to convey and understand someone's knowledge. The learning process takes a long time. The teacher learning process requires media to convey material. During the Covid-19 virus pandemic all learning activities were carried out online or boldly. Therefore it is the right media organization to convey material. The material to be delivered by the teacher is additives and addictive substances.

Additives are additives that are deliberately mixed into food and drinks with the aim of improving the appearance, adding flavor, texture, and also so that the food or drink can be stored for a long time (Kulsum *et all*, 2019). While an addictive substance is a substance that can cause dependence and can endanger health, this is indicated by changes in attitude, physiological and cognitive changes (Nurlila dan La Fua, 2017).

Addictive abuse has increased every year, as stated by the National Narcotics Agency (BNN). The data available on the BNN states that in 2007-2011 there were a. 138,475 cases. In 2015, there were 4.3 million people who committed addictive substance abuse. Then in 2016 the number increased to 5.4 million people. Furthermore, in b. 2017 the number increased quite a lot, namely to 8.1 million people (Harbia *et all*, 2018; Nurlila and Fua, 2017). The dangers arising from the use of addictive substances include dependency / dependence or addiction, and in the long run can cause death (Dwitiyanti *et all*, 2019).

Meanwhile, the abuse of additives in the community will have an impact on health problems in the form of brain nerve disease, cancer, liver function disorders, and Chinese Restaurant Syndrome (CRS) (Pratama *et all*, 2017; Azis dan Akolo, 2019; Setyasi *et all*, 2013; Prasetyaningsih *et all*, 2018).

Based on the description above, this study aims to understand students about additive and addictive material through online learning using power point media.

MATERIALS AND METHODS

Study area

This research is a type of experimental research with a pretest and posttest research design without control group design. This research was conducted at SMP Muhammadiyah 1 Sleman in September 2020.

Procedures

The population in the study were all students in grade 8, totaling 78 students. In this study all students were given material using Power point media (PPT) then for the pretest and postest questions using the media "google forms". The independent variable in this study is additives and addictive substances, while the dependent variable is the knowledge of students of SMP Muhammadiyah 1 Sleman about additives and addictive substances. The operational variable definition in this study is:

Health education about the use of additives and addicts is an effort to reveal the dangers of using additives and addictive substances in everyday life using power point media.

Knowledge about the dangers of additives and addictive substances is the level of knowledge of the respondents both before and after giving teaching which includes the definition of addictive and addictive substances, the kinds of additives and additives and the impact of additives and additives on health.

The instrument used in this study was multiple choice questions which consisted of 25 questions and each question had a score of 4 if the answer was correct. However, if the answer is wrong then the score is zero. So that if all the answers are correct, the total score is 100. The data obtained were then analyzed using univariate analysis to explain the characteristics of the respondents and their

level of knowledge about additive and addictive substances. There are 3 categories used in the univariate analysis, namely: good (if the score is between 76- 100), moderate (if the score is between 56-75), and poor (if the score is ≤ 55). In this study also used bivariate analysis to determine the effect of teaching this material on the level of student knowledge by using the T-test.

RESULTS AND DISCUSSION

Respondent Characteristics

Respondent characteristic data can be seen in table 1.

Univariate Analysis

Data from the pretest and posttest results to measure the level of students' knowledge on additive and addictive material can be observed in table 2.

Bivariate Analysis

The results of the bivariate analysis can be seen in table 3.Then the results of the power point media analysis are presented in table 4.

Analysis of the Media Used

In table 1 it can be seen that the maximum age is 13 years, as many as 34 students (43.589%). Whereas for the category of gender the most were male students as many as 48 students (61.538%), while the number of female students was less, namely 30 students (38.461%). Respondents in class 8B and class 8C were almost the same, namely 28 and 27 students. Meanwhile, class 8A has a smaller number, only 23 students.

Table 1. Respondent Characteristics

Description	Category	Students	Percentage (%)
Age	12	1	1,282
	13	34	43,589
	14	24	30,769
	15	15	19,230
	16	3	3,846
	17	1	1,282
	Total	78	100
Gender	Male	48	61,538
	Female	30	38,461
	Total	78	100
Class	VIII A	23	29,487
	VIII B	28	35,897
	VIII C	27	34,615
	Total	78	100

Source: primary data

Table 2. Results pre-test and post-test

Knowledge	Pre-Test		Post-Test	
	Students	Percentage (%)	Students	Percentage (%)
Well	0	0	2	2,56
Enough	12	15,38	22	28,20
Less	66	84,61	54	69,23
Amount	78	100	78	100

Source: primary data

Table 3. Analysis of the pre-test and post-test values.

Knowledge	*Mean*	*t-test*	*p*	Decision
Pre-Test	29,8228	-232	0,040	H0 denied
Post-Test	30,7342			

Source: primary data

Table 4. Results of media evaluation of additives and addictive substances

Description	SS/SM	S/M	TS/TM	Amount
Picture	12	44	1	57
Language	12	42	3	57
Theory	10	41	6	57
Color	12	40	5	57
No comments				21
AL				78

Source: primary data

Information: SS/SM: very like / very easy; S/M: like / easy ; TS/TM: don't like it /it's not easy

Table 1. Illustrates that the character of the probandus varies widely in terms of age and gender. Probandus in this study were at most 13 years old and when viewed from the existing data, the dominant gender was male, as many as 48 students.

In table 2. Explains that the knowledge of the respondents about additive and addictive substances before being given the material and after being given an explanation of additive and addictive substances. From the table it can be seen that power point media can help students understand additive and addictive substances. After being given an explanation, there were 2 students who had good knowledge, and most students generally had a low level of knowledge.

In table 3. It can be seen from the results of statistical tests using the T-test that the value of $p = 0.040 \leq \alpha = 0.05$ in the use of power points as a learning medium can be seen. This shows that H0 is rejected, which means that there is a significant effect on the provision of teaching using power point media.

Table 4 shows that respondents prefer media that are visual in nature because it can help them better understand the material provided. Most of them like the pictures and language presented in Power Points.

CONCLUSIONS

Based on the results of the research that has been done, it can be concluded that education has an effect on students' knowledge of additive and addictive substances and delivery using power point media can help students learn during the Covid-19 pandemic.

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