

Food Additive Learning Based On Home Materials For The Establishment Of Student Character

Nanang Rahman, Agus Abhi Purwoko, Muntari, Haifaturrahmah

Abstract: The purpose of this study is to determine the influence of food additive learning of home materials based on the formation of student characters and increase learning outcomes. The research method used is quasi ekeperimen. The research population of school students are first in the city of Mataram, West Lombok and Central Lombok. The study samples were used in two schools in each city. Research result in the form of improving the character building cares about the environment, responsibility and creative, in the experiment class obtained a standard gain value greater than 0.3, so it belongs to the category "Medium". Improved character building in the experiment class is greater than the control class. This is because the experimental class is taught using a development-result learning device aimed at character building, while in the control class using conventional learning devices. The student's character changes cannot change quickly in a short period of time. Increased student characters in the experiment class and the control class only to the "moderate" category. To be able to embed certain characters in learners, it is necessary to habituate in the form of exercises that take a long time.

Index Terms: Food additive learning, Home Materials, Student Character

1. INTRODUCTION

Additives in food are ingredients that are added to the food so that it can affect the taste of the food. Additives that are widely used in foods are usually ingredients that are safe for the body, but there are some ingredients that are also used as additives in foods which are hazardous substances for the body [1]. Some additives are often misused as additional substances in foods, among others: Formalin as a preservative of noodles, borax as a preservative and make chewy bulb meatballs, as well as rhodamin as a red dye that is often used in tomato sauce and chilli [2]. These problems need education to the students so as to avoid the food containing substances harmful additives. One of the applications of science concept in daily life is on the subject matter additives in foodstuffs. This material is contained in the Class VIII integrated science lesson, on this material students are expected to explain the understanding of food additives, identifying additives in foodstuffs, and side effects of use of additives in foodstuffs Excessive and prevention. With such a content the teacher should be implementing an effective and enjoyable learning model in the classroom so that in addition to the material can be delivered properly can also be applied directly in daily life [3]. To be able to teach additive material on food should use innovative learning tools. Research has been conducted in the development of home materials based additive learning devices, there are substances that are harmful to foods that are often misused such as borax and Formalin [4]. The development of the learning that has been done has not been tested in the process, so it is carried out trials of food additives harmful products based on home materials. The learning device products used in learning are the plan of learning, practical instruction of food additives based on home material and assessment instruments. The trials were do through an experimental activity by using experimentation classes and samples to determine the influence of home materials based additive substances against

the creation of the character of the first school student.

2. METHOD

This type of research is the research of quasi experiments. The quasi-experimental research is a way of looking for causal relationships between two or more variables that are deliberately generated but cannot function fully to control the outer variables affecting the implementation of experiment because it is difficult to get the control group used for research [5]. This research was conducted in 3 areas, namely Mataram, West Lombok, and central Lombok. Design research using Pre-Test Post-Test Control Group Design. The population in this study was all high school students in the 3 districts. In each area taken 2 schools were used as samples of research. For Mataram City used Junior High School on Muhammadiyah Mataram and Junior High School on 6 Mataram, in West Lombok City used Junior High School on 1 Kediri and Junior High School on 2 Labuapi, and in the city of central Lombok used Junior High School on 1 Jonggat and Junior High School on 2 Jonggat. The sampling technique uses a random sampling cluster so that it is obtained in one class (X1) as the experimental class and one class (X2) as the control class [6]. The experimental class was given a treatment with taught additive test lessons with home materials based, while the control class was given conventional learning. The collection of data in this study was conducted using polls and observation sheets on the formation of student characters. For the awarding of the poll, two times the initial test (pre-test) and the final test (post-test). As for the formation of students ' character during the learning process is observed using observation sheets.

3. Result and Discusion

Measurement of student character formation based on poll data and character observation sheets. The actual score earned by learners is the average of both measurements. There are three characters that will be formed in this study: caring for the environment, responsibility and creative. This section will describe the result of each character forming data for the final result and the result of the character observing each time of the meeting. Poll Data and character observation sheets are

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converted into five-scale values. There are three characters formed in this study, which are the characters of environmental care, responsibility and creative. Data of pre-test results and post-test character formation of the control class and experimental classes of poll data and observation sheets, summary of control class character formation data and experimental classes can be seen in the following table 1.

TABLE 1
DATA SUMMARY AVERAGE CHARACTER CREATION CONTROL CLASS AND EXPERIMENT CLASS

Character	Control Class			Experiment class		
	Pre test	Post test	Gain Standar	Pre test	Post test	Gain Standar
Environmentally Caring responsibilities	4,85	6,79	0,37	4,98	7,45	0,49
responsibilities	8,00	10,21	0,31	8,15	11,21	0,44
Creative	5,40	6,52	0,22	5,45	7,13	0,37

Based on a summary of the average character building in table 1, the control class gained a standard gain result of less than 0.3 for creative character formation and, in this case, shows that improved creative character is in the "low ". As for the character of the environment and responsibilities obtained a standard gain value greater than 0.3, so that the increase in character formation belongs to the category of "medium". Determination of the category of character building caring environment in learners is based on five-scale conversion. Based on the character-building data of experimental students, it was obtained that as many as 9 students (29%) "Very good" category, 12 learners (38.7%) Get the "good" category, 9 learners (29%) Get the "good enough" category, and 1 student (3.3%) Get the "less good" category. However, no learners belong to the "very less good" category. As for the data on the character building of the control class, it was obtained that as many as 4 learners (12.9%) "Very good" category, 12 learners (38.7%) Get the "good" category, 14 students (45.1%) Get the "good enough" category, and 1 student (3.3%) Get the "less good" category. However, no learners belong to the "very less good" category. Comparative Diagram of the character building caring environment is shown in Figure 1.

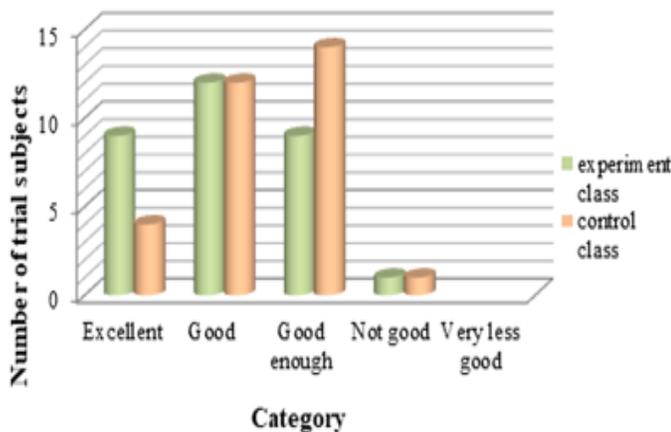


Fig 1. Comparison Diagram of environmental care character formation

Based on the character responsibilities formation data of the experimental class students, it was obtained that as many as 5 students (16.1%) "Very good" category, 20 students (64.5%)

Get the "good" category, 6 learners (19.4%) Get the "good enough" category. However, no learners belong to the "lack of good" and "very less good" categories. As for the data on the character building of the control class, it was obtained that as many as 1 students (3.3%) "Very good" category, 14 learners (45.1%) Get the "good" category, 15 students (48.3%) Get the "good enough" category, and 1 student (3.3%) Get the "less good" category. However, no learners belong to the "very less good" category. The comparison Diagram of character building responsibilities is shown in Figure 2.

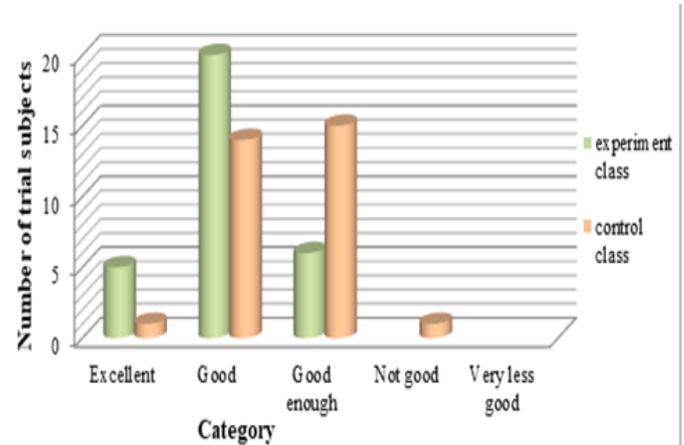


Fig 2. Comparison Diagram of responsibilities character formation

Based on the character creative building data of experimental students, it was obtained that as many as 3 students (9.7%) "Very good" category, 18 learners (58.1%) Get the "good" category, 10 learners (32.2%) Get the "good enough" category. However, no learners belong to the "lack of good" and "very less good" categories. As for the data on the character building of the control class, it was obtained that as many as 1 students (3.3%) "Very good" category, 13 learners (41.9%) Get a "good" category, 13 learners (41.9%) Get the "good enough" category, and 4 learners (12.9%) Get the "less good" category. However, no learners belong to the "very less good" category. Creative character formation comparison diagram shown in Figure 3.

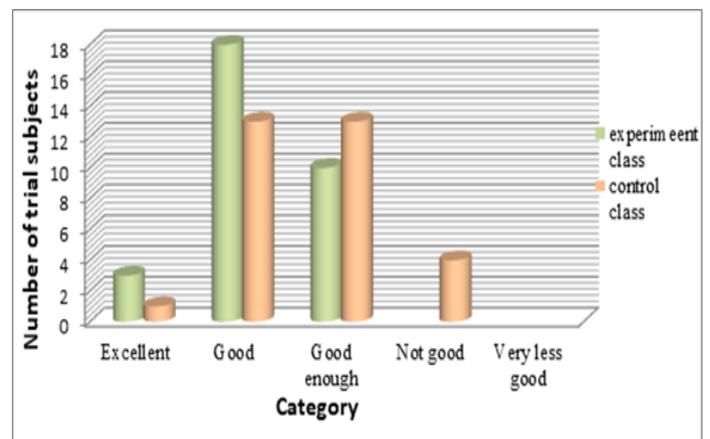


Fig 3. Comparison Diagram of creative character formation

The purpose of this study is to produce a learning device product that can improve learning outcomes and the creation

of students' characters. Improved cognitive learning outcomes of learners can be seen from the standard gain value gained. A summary of the comparison data between the control classes and the experiment classes can be seen in table 2:

TABLE 2
SUMMARY OF COGNITIVE LEARNING RESULTS

	Kelas kontrol			Kelas eksperimen		
	Pre test	Post test	Gain standar	Pre test	Post test	Gain standar
Highest value	62	92	0,83	50	94	0,85
Lowest value	24	70	0,41	18	73	0,51
Average	41.16	78.87	0.62	34.61	82.29	0,72

Based on table 2, it is revealed that the standard gain value for the average control class is 0.62, indicating that increased cognitive abilities belong to the "moderate" category. As for the standard gain value for experimental class average of 0.72, the increase in cognitive abilities belongs to the "high" category. Different levels of change in cognitive abilities of learners are due to differences in the learning devices used. The learning process is said to be successful if learners master the competencies that have been established. Success can be seen from the value gained by learners when compared with the minimum submission criteria. Learners are said to be successful, if they have the same or greater value than the minimum submission criteria value set by the school. The value of the minimum submission criteria stipulated by junior High School in central Lombok, West Lombok and Mataram city is 7.0 Based on the field test results on the experimental class using learning devices that have been developed, the number of students completed by 30 and the one who did not complete as many as 1 student. As for the control class the number of students complete 23 and as much as 8 people are not complete. The field test results Diagram for learners is presented in Figure 4.

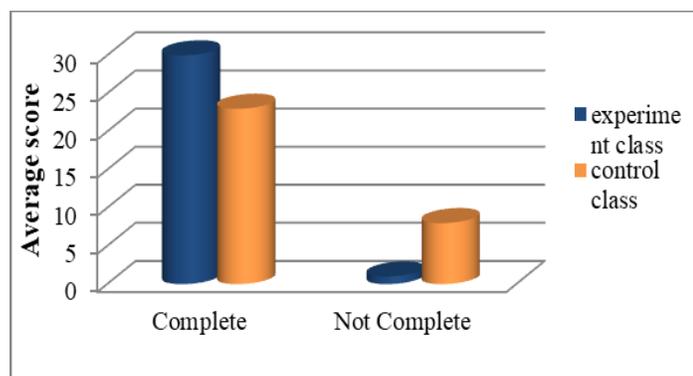


Fig 4. Student Learning Outcomes

Based on the results of the test it appears that students taught with home materials-based learning devices have better belajar results than students who are not set up with learning devices.

4. Conclusion

Based on the results of research that has been done, the research in the form of increased character development of environmental care, responsibility and creative, in the experiment class obtained a standard gain value greater than

0.3, so that includes In the "Medium" category. Improved character building in the experiment class is greater than the control class. This is because the experimental class is taught using a development-result learning device aimed at character building, while in the control class using conventional learning devices. The student's character changes cannot change quickly in a short period of time.

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