

Development of Electronic Modules (E-Module) Based on Cultural Ethnoscience of Cirebon to Improve the Character of Cultural Love

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ABSTRACT

This study is about the development of e-module as a science teaching material associated with the culture of Cirebon in an effort to improve the character of cultural love that focuses on the typical food of Cirebon. The purpose of this study was to determine the feasibility and effectiveness of this e-module. The method used in this study is Research and Development (R&D) with ADDIE model. Small-scale research subjects in Sdn Kanggraksan with 15 students and large-scale in SDN Kedungkrisik with 30 students. The results of the feasibility test of the media expert 0.839 and the material expert 0.889, which means that both are of the opinion that they are very valid. While the results of the effectiveness test results normality $0.069 > 0.05$, homogeneity test $0.875 > 0.05$, test $t_{0.000} < 0.05$, and test N-Gain $0.757 > 0.7$ which means there is a very high impact.

Keywords: E-module, Ethnoscience, Culture Cirebon

INTRODUCTION

Indonesia today has a lot of cultural characteristics in each region that become the wealth of the region. One of them is Cirebon which is part of a city district in West Java that has a culture that is very famous and has been preserved for generations to this day. The variety of Indigenous culture of Cirebon is a lot of types that can be seen from the customs, traditions, and local arts are diverse. In addition to culture, there are also culinary

and historical places that are very dear if not known and loved by the people themselves.

The results of the questionnaire given to 176 students as many as 95.5% of students know the culture of Cirebon, especially Cirebon specialties, knowledge of the types of Cirebon specialties is still very minimal or lack of knowledge, as many as 74.4% of Cirebon specialties are easy to find in some places, especially in the middle of the city but minimal on the outskirts, as many as 90.3% have eaten Cirebon specialties and 9.7% have never, as many as 96.02% interest in Cirebon specialties is high because of the different flavors, almost 75.57% or about 133 students who said that there is still no module that connects local culture with lessons at school, as many as 23.86% of students who do not invite to eat Cirebon specialties, as many as 59.66% of students have never posted Cirebon specialties, 69.9% of teachers have associated local culture lessons, 96.02% feel proud of Cirebon culture, 55.68% of students have never made Cirebon specialties, 44.89% have never visited Cirebon specialties.

In addition to the questionnaire, the researchers also conducted interviews with teachers and some students with the conclusion that there are gaps that are found, namely the lack of independent learning resources that are practical, flexible and can be read at any time when conditions after the pandemic are like now, the teaching and learning system is monotonous, lacking

variety and less interesting so that students become bored, not interested in learning. Learning is more synonymous with reading, memorizing, lecturing, taking notes, and remembering subject matter so that there is a process of knowledge transfer from teacher to student. The learning that is implemented is not in accordance with the type of material, which aims to instill and increase awareness of the value of respect for students and local cultural wisdom. The problem will be cultural rejection (Baker & Taylor, 1995). Previous research Septiani & Listiyani (2021) was the developer of an ethnoscience e-module on herbal medicine containing chemicals. The average skor result is 4.5, which means it is very feasible to use for independent learning. In addition, other research (Apriliastuti et al., 2022) on Balinese ethnoscience teaching materials with results of 86.5% readability, 96% practicality, 90% material, and 95% presentation of categories is very valid. Based on the description, it is necessary to research on the development of E-module cultural ethnoscience Cirebon as an effort to instill the character of love of local culture. So the title was chosen “development of electronic module (e-module) based Ethnoscience Cirebon culture to improve the character of cultural love”.

LITERATURE REVIEW

1. E-module

According to (Fisnani et al., 2020) said that e-module comes from two basic words, namely e - and module, E stands for the word electronic which means electronic aids that can be used in the form of mobile phones, computers, or others and module means student independent learning materials whose manufacture is systematic, directed, continuous and in accordance with the curriculum in the learning unit. According to said that the module is a tool or means of independent learning of students in achieving certain competencies that are arranged systematically by using interactive language consisting of learning instructions,

discussion of material, exercises, and evaluation.

The benefits of e-modules are to facilitate student learning, increase learning motivation if the e-module is made as attractive as possible, empower scientific literacy, and improve student learning outcomes (Wulandari et al., 2021). The preparation of e-modules must have the right characteristics, namely Self-instructional, Self-contained, Stand alone, adaptive, User friendly, and consistency (Febriani & Kustiyono, 2022).

2. Ethnoscience

Ethnoscience according to (Septiani & Listiyani, 2021b) etymologically derived from Greek and Latin, namely ethnos and Scientia. Ethnos has the meaning of nation and scientia means knowledge, so it can be concluded that ethnoscience is knowledge that is owned by a particular social group or tribe. Sturtevant (Winarti, 2018) defines ethnoscience as a system of knowledge and cognition typical of a given culture. The definition focuses on the knowledge system of a typical local culture owned by the region itself that is not owned by other regions as a use of different definitions between the paradigm of ethnoscience and cultural anthropology paradigm.

3. Karakter cinta budaya

Coon defines character as a subjective assessment of a person's personality related to personality attributes that can or cannot be accepted by society. Cultural values have a major influence on increasing pro-environmental behavior that has a positive impact on the growth of community love (Irawan et al., 2022).

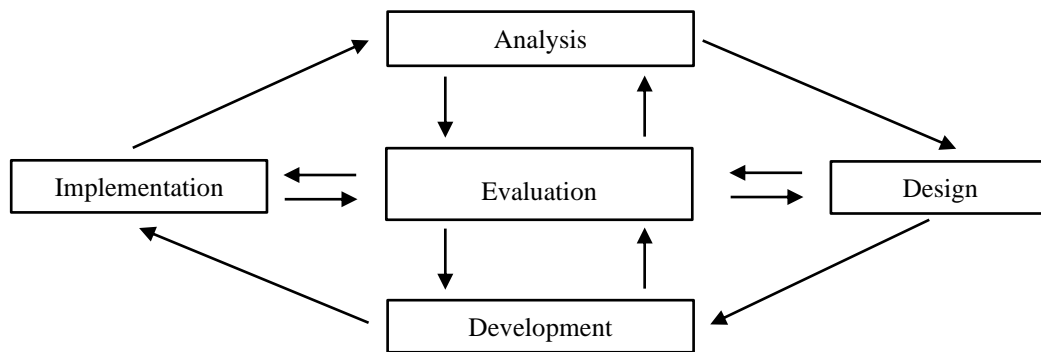
The application of the right cultural character will be felt by students and teachers through open innovation in actively participating in following a process in approaching existing cultural aspects (Mathrani & Ibrahim, 2022). Cultural character there are three stages of human response and action, namely culture as a source of language, balanced cultural language as the main goal, and interpreting

jokes to ensure laughter in the target language (Mohebbi, 2023).

MATERIALS & METHODS

The research used in this study is research development or research and development (R & D) with ADDIE model (Molenda, 2003). ADDIE according to Febriani & Kustiyono (2022) is an acronym that refers to the main processes, namely Analysis, Design, Development, Implementation, and

Evaluation. Meanwhile, according to (Nadiyah & Faaizah, 2015) said that ADDIE Model compared to other models is very complete and rational, so this model is suitable to be developed in a product. The evaluation stages are product utilization assessment, preparation of product utilization evaluation results, and assessing product utilization (Azmi Zakiyah, 2022). ADDIE stages are presented by researchers as follows:



The subjects of the study were carried out in Class IV of SDN Kanggraksan as a small-scale test with a total of 15 students and SDN Kedungkrisik as a large-scale test with a total of 30 students of control class and experimental class. As a validation test conducted on media and material experts with an analysis data used in the effectiveness test is by Aiken's formula as follows (Islami, Tri, et al., 2020).

$$V = \frac{\sum s}{[n(c-1)]}$$

Description:

Symbol Description

s = r-lo

lo = lowest validity rating number (in this case = 1)

c = highest validity rating number (in this case = 4)

r = number given by an assessor.

n = number of raters

The Data obtained is then entered into the following score criteria.

Criteria	Interval
Very Valid	0,81 – 1,00
Quite Valid	0,61 – 0,80
Less Valid	0,41 – 0,60
Invalid	0,21 – 0,40
Very Invalid	0 – 0,20

After the data is valid, the next step is to analyze the test results of the control class and experimental class with normality test, homogeneity Test, t-test and N-Gain.

RESULT

Expert Validation Results

Expert validation is carried out by four people who have competence in the field of different levels, namely lecturers and class teachers who are driving teachers. Feasibility test results using Aiken's formula as follows.

Item	Assessor				S1	S2	S3	S4	Σ s	V	Description
	I	II	III	IV							
Members Of the Media	56	64	62	62	42	50	48	48	188	0.839	Very Valid
Material Expert	64	78	72	79	48	62	56	63	57	0.889	Very Valid

Based on these results, it can be concluded that this e-module according to media experts and material experts is categorized as very valid due to the acquisition of scores of 0.839

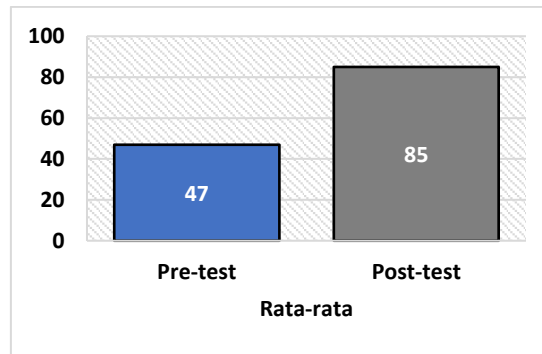
and 0.889 which fall into the score range of 0.81 – 1.00. While the calculation with the presentation formula is as follows.

Item	Penilai				f	n	P	Description
	I	II	III	IV				
Members Of the Media	56	64	62	62	244	280	87	very good
Material Expert	64	78	72	79	293	320	92	very good

The Data gives an idea that as a whole according to media experts and material experts E-module Cirebon culture is very good with a percentage value of 87% and 92% of the four aspects of the feasibility of content, presentation feasibility, linguistic feasibility, and contextual assessment.

Eligibility Test Results

Feasibility tests are conducted in small classes first with the aim of obtaining information whether this product is feasible and can be done on a larger scale in terms of readability and implementation. The following Diagram is the result of a small-scale feasibility test.



The results can be concluded that the experimental class of small-scale initial test obtained scores with an average of 47 and the final Test with an average of 85 thus an increase in the experimental class an average of 38. These results can certainly be concluded that the use of e-module

development has a good impact on students in receiving learning related to Science and culture of Cirebon. Next is the normality test to assess the distribution of data on a group of data or variables, whether the distribution of data is normally distributed or not. The result is as follows.

Tests of Normality						
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pre-Test	.205	15	.091	.882	15	.052
Post-Test	.207	15	.084	.917	15	.175

The results obtained from these data significance is $0.052 > 0.05$ in the initial test and $0.175 > 0.05$ in the final Test. So it can be concluded that the data is normal both initial

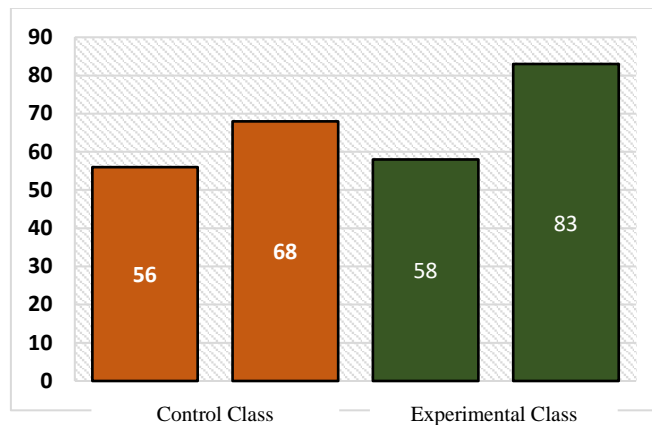
tests and final tests. Next is the homogeneity test using one-Way ANOVA test. Obtained the following results.

Test of Homogeneity of Variance					
		Levene Statistic	df1	df2	Sig.
E-module learning outcomes	Based on Mean	.427	1	28	.519
	Based on Median	.144	1	28	.707
	Based on Median and with adjusted df	.144	1	27.346	.707
	Based on trimmed mean	.427	1	28	.519

Homogeneity test of final test data or posttest of control class and experimental class with significant $0.519 > 0.05$. So it can be concluded that the control class with experimental class on a small scale has the same variant and no religion and can be tested on a larger scale.

Effectiveness Test Results

The steps taken are the same as during small-scale tests, namely by conducting initial tests and final tests in each control class and experimental class. The results of this large-scale test can be seen in the following diagram.



In the control class the initial test with an average of 56 and the final Test with an average of 68 thus the increase in the control class an average of 12. While in the experimental class, the initial test obtained scores with an average of 58 and the final Test with an average of 83, thus increasing

the experimental class by an average of 25. These results can certainly be concluded that the use of e-module development has a good impact on students in receiving learning related to science and culture of Cirebon. Next is the pretest normality test results as follows.

Tests of Normality Pree tTst						
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Control Class	.157	30	.056	.943	30	.107
Experimental Class	.151	30	.079	.951	30	.175

The use of Kolmogorov - Smirnov test helps SPSS Statistics 23 in calculating the normality test from the initial test data of the control class and experimental class with the results obtained significance of $0.056 > 0.05$ in the control class and $0.079 > 0.05$ in the

experimental class. So it can be concluded that the data is normal. In addition to the pretest test is also done after the test normality in post-test. The result is as follows.

Tests of Normality Post Test						
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Control Class	.151	30	.077	.957	30	.259
Experimental Class	.153	30	.069	.911	30	.016

The results of large-scale posttest normality test from table 4.25 can be concluded that the results of significance is greater than the specified scale value of $0.077 > 0.05$ in the

control class and in the experimental class of $0.069 > 0.05$. The Data can be concluded that the test of normality in post-test Control and experimental classes including normal. Once

obtained the next normal is to comply with the homogeneity test results and the results as follows.

Test of Homogeneity of Variance					
		Levene Statistic	df1	df2	Sig.
E-module results	Based on Mean	.025	1	58	.875
	Based on Median	.024	1	58	.878
	Based on Median and with adjusted df	.024	1	57.160	.878
	Based on trimmed mean	.025	1	58	.875

The significance value of homogeneity test of final test data or posttest control class and experimental class with significant $0.875 > 0.05$. So it can be concluded that the control class with the experimental class has the same variant and not religious. Next

is the T test to obtain the truth or falsity of the hypothesis which states that between two mean samples taken at random from the same population, there is no significant difference. The T-test results are as follows.

		Paired Differences				t	df	Sig. (2-tailed)	
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower		Upper			
Pair 1	Pre Tes – Post Tes	-25.000	17.171	3.135	-31.412	-18.588	-7.975	29	.000

Based on these data the results of GIS. (2-tailed) t test is $0.000 < 0.05$ meaning there is a difference in the effect of good grades for students significantly before and after during

the development of E-module Cirebon culture. After the T test is completed the next is the N-Gain test the results are as follows.

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
NGain	30	.33	1.00	.7575	.22142
Valid N (listwise)	30				

Based on these data, it can be concluded that the distribution of scores is included in the medium category with a value of $0.757 > 0.7$. So that this E-module is declared feasible because it enters into a high category in the N-Gain Test.

CONCLUSION

Feasibility of E-module based on cultural ethnoscience Cirebon community to improve the character of love culture with the results of the analysis of the validity of the media expert is very valid with the value of validation is 0.839 and the test results of the material expert included in the criteria is very valid with the value of Vaiken is 0.889. While the calculation with the formula of percentage and skor concluded validity test media expert has been very good on this e-module with a p value is 87 and according to

the expert material E-module Cirebon culture is very good with a percentage value of 92%. The effectiveness of E-module development based on cultural ethnoscience of Cirebon society to improve the character of cultural love can be seen from the results of normality test $0.069 > 0.05$, homogeneity test $0.875 > 0.05$, t0.000 < 0.05, and N-Gain Test $0.757 > 0.7$ which means there is a very high impact.

Declaration by Authors

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