

# *E-Module* Development Using Flip PDF Corporate Edition Based on Jember Local Wisdom for Learning Theme 7 The Beauty of Diversity in My Country for Class IV Students at SDN Kepatihan 01 Jember

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**Abstract:** *Teaching materials is important in learning activities. The textbooks that are currently used are still general in nature so students experience difficulties because the material contained in the teaching book is not around their lives, it is necessary to develop local wisdom-based textbooks in the area where they live, with an attractive appearance to facilitate students in understand material. The purpose of the research is to describe the development process and determine the effectiveness of the e-module. The development model used is Research and Development (R&D) Borg and Gall which consists of 10 stages, this research these stages can be summarized into 8 steps, namely preliminary research, planning, product development, design validation, product revision, use testing, product revisions, and effectiveness testing. Data collection methods include interviews, questionnaires, and tests. The results of e-module development products have an influence on learning outcomes. The results of the calculation of the external relative effectiveness test are 42% with a moderate effectiveness category. The results of the student response questionnaire showed an average of 80.8 with the category that e-modules based on local wisdom were effectively used in learning in grade IV Elementary School.*

**Keywords:** e-modules, local wisdom; Jember local wisdom

## INTRODUCTION

The 2013 curriculum learning is designed to develop student competencies, namely the competence of attitudes, knowledge and skills. The three domains of competence are integrated in thematic learning approach. Learning in class IV semester 1 has 5 themes, namely theme 1. The Beauty of Togetherness, theme 2. Always Saving Energy, theme 3. Caring for Living Creatures, theme 4. Various Jobs, theme 5. My Hero. In semester 2 there are 4 themes, namely theme 6. My ideals, theme 7 The Beauty of the Diversity of My Country, theme 8. Where I Live, theme 9. Healthy and Nutritious Food.

Theme 7 The Beauty of Diversity in My Country is related to diversity in Indonesia. In this theme, there are 3 sub-themes and each of them consists of 6 lessons, one of which is sub-theme 2 about the beauty of the cultural diversity of my country. In sub-theme 2 explains about cultural diversity in Indonesia related to ethnicity, traditional dances, traditional houses, traditional clothes, arts, and musical instruments. This sub-theme is an important subject to introduce Indonesian culture to students.

Learning activities in the classroom use student books as the main teaching material. According to [Ministry of Education and Culture, \(2013\)](#) "Student's book is a book intended for students which is used as a guide for learning activities to facilitate students in mastering certain competencies". Based on research conducted by [Su'udiah, Degeng & Kuswandi \(2016:25\)](#) states that the characteristics of teaching materials in form of textbooks and worksheets are less contextual, because the materials need to be linked to the environment around students with the aim that contextual learning can be achieved, because

books from the government have material that discusses areas is not around their lives

The development of teaching materials needs to integrate local wisdom according to the area where students live. Teaching materials are all materials in the form to information, tools, or everything in the form of text that can be used in learning and arranged systematically which contains a variety of competencies to be achieved by students, for example, textbooks, modules, handouts, worksheets, mockups, teaching materials. interactive audio and teaching materials ([Prastowo, 2015](#)).

The development of e-modules based on Jember's local wisdom will facilitate learning because these teaching materials are developed innovatively using flip PDF corporate edition. Electronic teaching materials are teaching materials that are classified as interactive teaching materials, because there is a combination of text, images, and animations and user control is needed in utilizing these electronic teaching materials ([Jazuli et al., 2017:49](#)).

The development of e-modules flip PDF corporate edition can make the electronic book display more attractive. The application was chosen because it can be combined with a variety of images, videos, audio, and links to make it easier for students to understand local wisdom material. Materials related to local Jember wisdom contained in the e-module include Jember batik, lahbako dance, patrol music and tak-butaaan. The local wisdom material was chosen to introduce Jember's local wisdom around students through the learning process using e-modules.

## RESEARCH METHODS

This type of research is development research. Development research is research that aims to produce a product, and test the evaluation of the validity of the product that has been developed (Sugiyono, 2019:396).

The development of e-modules based on Jember's local wisdom refers to the Borg and Gall development model. Development research has many variations of steps, but the various variations of these steps can be summarized into 8 namely, (1) preliminary research, (2) product development planning, (3) product design development, (4) product design validation, (5) product design revisions, (6) usage trials, (7) product design revisions, and (8) Borg and Gall effectiveness trials (Masyhud, 2016:222).

This research was implemented at SDN Kepatihan 01 Jember in the first semester of the 2021/2022 academic year. The reason for choosing this school is that research using e-modules based on Jember's local wisdom has never been used in learning activities, and teaching materials related to learning local wisdom only use student books, so additional teaching materials in the form of e-modules are needed.

The homogeneity test was carried out based on the mid-semester 1 assessment score, it can be determined that the subjects of this study were students of class IV A and IV B. Class IV A as the experimental class and class IV B as the control class.

Data collection methods are the methods used by researchers in collecting data. While the data collection instrument is a tool used to facilitate researchers in collecting data. The methods and instruments of data collection in this development research are as follows:

1. Interview

Interviews were conducted to obtain information based on the questions given to the informants. The instrument used in this method is an interview guide.

2. Questionnaire

The questionnaire in this study was conducted to obtain an assessment from the validator and use trials, and was used to determine student responses.

3. Test

The test is used to measure student learning outcomes after learning using e-modules.

4. Documentation

The documentation in this study is in the form of data on the names and numbers of fourth grade students who are used as research subjects, data on student scores, and photos of the implementation of activities. The instrument used is a documentation guide.

Data analysis technique used to process the data that has been obtained are as follows.

1. Product Validation Result Data Analysis

The e-module development must be validated by the validator. The formula used is as follows.

$$Valpro = \frac{srt}{smt} \times 100$$

Description:

Valpro = Product Validation

*Srt* = Real score achieved

*Smt* = Maximum score that can be achieved.

The results of the product validation analysis were then confirmed with the product validity criteria.

Table 1. Expert Validation Criteria

| Scoring Criteria | Product Eligibility Category |
|------------------|------------------------------|
| 81.00 - 100      | Very Worthy                  |
| 61.00 – 80.99    | Worthy                       |
| 41.00 – 60.99    | Decent enough                |
| 21.00 – 40.99    | less worthy                  |
| 0 – 20.99        | Very Less Worthy             |

Source: Mashud (2021:317)

2. Test the Differences in the Effectiveness of Learning Outcomes

The difference in the effectiveness of learning outcomes using the e-module is seen based on the independent sample t-test using the following formula.

$$t = \frac{M2 - M1}{\sqrt{\frac{\sum x1^2 + x2^2}{N(N - 1)}}$$

Description:

*M1*= group average value X1 (experimental group)

*M2*= Average value of X2 group (control group)

*X-1*= Deviation of each x1 value from the average x1

*X-2* = Deviation of each x2 value from the mean x2

*N* = Number of subjects/research samples

3. Realative Effectiveness (ER) Test

The relative effectiveness test aims to determine the level of effectiveness of the new product used. The following is the formula for relative effectiveness (ER).

$$ER = \frac{MX2 - MX1}{\left(\frac{MX1 + MX2}{2}\right)} \times 100\%$$

Description :

*ER* = Relative effectiveness rate

*MX1* =Average value before using e-module

*MX2* =Average value after using e-module

The results of the calculation of relative effectiveness are then interpreted in the following table.

Table 2. Interpretation Criteria for Relative Effectiveness Test

| Relative Effectiveness Test Results | Effectiveness category  |
|-------------------------------------|-------------------------|
| 81.00% - 100%                       | Very high effectiveness |
| 61.00% - 80.00%                     | High effectiveness      |
| 41.00% - 60.99%                     | Medium effectiveness    |
| 21.00% - 40.99%                     | Low effectiveness       |
| 0% - 20.99%                         | Very low effectiveness  |

Source : (Masyhud, 2021)

4. Test effectiveness through student responses

Student responses are needed to measure the effectiveness of using e-modules. Student response questionnaires were analyzed using the following formula.

$$Sas = \left( \frac{st}{smt} \times 100 \right)$$

Description:

Sas = Student questionnaire scores

St = Score achieved

Smt = Maximum score that can be achieved

The results of the calculation of student response questionnaires are then interpreted based on table 3 below.

Table 3 Product Effectiveness Criteria Based on Student Questionnaire Results

| Score range   | Effectiveness Category |
|---------------|------------------------|
| 81.00 – 100   | Very effective         |
| 71.00- 80.99  | Effective              |
| 61.00 – 70.99 | Effective enough       |
| 41.00 – 60.99 | Less effective         |
| 0 – 40.99     | Very Less Effective    |

Source: Mashud (2021:280)

## RESEARCH FINDINGS AND DISCUSSION

This research was implemented on fourth grade students of SDN Kepatihan 01 Jember in the 2021/2022 academic year. This research consists of 8 stages of development as follows.

### 1. Preliminary research stage

Preliminary research was conducted to obtain information in conducting development research. The results obtained are as follows:

- Based on reading activities of relevant research journals, data that supports development research are obtained.
- Based on the results of visits to several places carried out to obtain information about local wisdom of Jember.
- Based on the results of interviews with fourth grade teachers, so far the teaching materials used in theme 7 have not been based on Jember's local wisdom.

### 2. Product development planning

The development planning stage includes activities to formulate titles, research problems, research objectives and benefits, and literature review. Planning activities are also related to planning the content of e-modules as well as illustrations and completeness of e-modules, such as instructions for using e-modules, practice tests, and preparation of learning outcomes tests.

### 3. Initial product design development

Design development is carried out to produce e-module products. The design development carried out is making cover and layout designs, determining titles, making introductions, e-module characters, and contents that are integrated with 7 sub-theme 2 themes.

### 4. Initial product design validation

Product design validation is done by asking for an assessment from 3 validators, namely linguists, media experts, and material experts. Design validation is done by providing an instrument sheet. Aspects assessed on the

instrument sheet are the appropriateness of content, language, presentation, and graphics.

### 5. Initial product design revision

Product design revisions were carried out in accordance with the assessments given by three validators in the form of suggestions and input on the questionnaire sheet.

### 6. Trial use

The use trial was implemented at SDN Kepatihan 03 by providing students with material that was in accordance with the e-module through a zoom meeting and filling out a usage trial questionnaire. The questionnaire was returned before the effectiveness test.

### 7. Revision product development

Revision of development products is carried out based on the feedback obtained after trial use. It is known that each point in the questionnaire has a percentage above 80%, so no revision is needed and the product can be tested at the next stage, namely the effectiveness trial stage.

### 8. Product effectiveness trial

The effectiveness test was carried out in two different classes, namely class IVA and class IVB. Class IVA is an experimental class with learning using e-modules and class IV B is a control class with learning using thematic books. The test is given on the last day when students finish studying the e-module based on Jember's local wisdom.

The results of the validation data analysis by 3 validators got a score of 85 and include in the category of very feasible and ready to be used in learning.

After testing the effectiveness of the experimental class and control class. Data analysis was performed using the independent sampling t-test formula. Based on the results of the t-test calculation using SPSS, it shows that the empirical 't' with a df of 58 at a significance level of 0.05 is 1.671. It is known that the empirical 't' value is greater than the t-table value (16,404>1,671) or can be seen based on the sig (2-tailed) on the SPSS calculation results of more than 0.05. It can be concluded that classes using e-modules have better results than classes using old products.

The test for calculating the relative effectiveness obtained a result of 42% which is included in the moderate effectiveness category. Thus, it can be concluded that the test results between the experimental class using e-modules based on local wisdom are 42% more effective than the control class learning outcomes that do not use e-module products based on local wisdom Jember.

The effectiveness test through student responses obtained the average overall score for each aspect was 80.8 and was included in the effective category. It can be concluded that the use of *e-module* based on local wisdom Jember is effectively used in learning in grade IV Elementary School.

Research on the development of e-modules based on Jember's local wisdom has been accordance with the objectives of the researcher. This is known based on the difference in the results of the learning test after using the e-module in the experimental class and the results of the learning test in the control class

Student learning outcomes in the experimental class are in line with the positive responses given during the learning process. The positive response of students in learning is also in accordance with the results of the completed student response questionnaire. This is supported by the opinion and results of research conducted by Mahardika (2021) that the use of e-modules is very effective in online learning and can increase student learning enthusiasm.

The obstacle faced by researchers in researching the development of e-modules based on local wisdom in Jember is the stability of the internet network used by students. The solution to this problem is to distribute e-modules to students who have problems in the form of PDF files.

Based on the explanation above, it can be concluded that the e-module based on local wisdom of Jember is very feasible to be used in the learning process and has an influence on student learning outcomes.

## CONCLUSION

Learning local wisdom is important to introducing local culture to students. The development of interesting teaching materials is one way that teachers can integrate local wisdom in the surrounding environment into learning materials. So that an effort is needed for teachers to integrate these materials through interesting teaching materials.

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