



Development of *Flipbook*-Based Modules on Animal Life Cycle Material for 4th Grade Students of Besowo 4 Elementary School

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Abstract

This research is motivated by the results of observations that have been made in class IV SDN Besowo 4 Kediri Regency. The lack of variation in teaching animal life cycle material to 4th grade students. This can make students quickly bored and less interested in learning the learning material. The purpose of the study was to determine the validity, practicality, and effectiveness of the flipbook-based module on animal life cycle material. In this study using the ADDIE development model which includes five stages, namely: Analysis Stage, Design Stage, Development Stage, Implementation Stage, Evaluation Stage. The conclusion of the research results of the flipbook-based module on animal life cycle material for 4th grade students of SDN Besowo 4 Kediri Regency was declared very valid through the validation stage carried out by the flipbook-based module validation of 93% and from the material validation obtained a percentage of 86% which was declared very valid and very usable. To find out the effectiveness of the flipbook-based module can be seen from the results of the evaluation questions, the average value of the evaluation questions in the broad trial of 90% has exceeded the predetermined KKM. Thus, it can be concluded that flipbook-based modules are effectively used in learning.

Keywords: Module, Flipbook, Science, Animal Life Cycle

Introduction

Education is an important part of everyone's life, especially to develop their potential and improve their quality of life. According to Yusuf, "education is a process of continuous adjustment at every level that adds skills to one's growth". Education takes place in a conscious and planned state and can create conducive learning conditions. Education is carried out in the school environment, but can also be done outside the school environment, for example at home or in other places that support learning. Education is also an important factor in developing a quality young generation. To achieve this, the use of effective and interesting learning media that makes it easier for students to understand learning materials.

Learning media according to (Surayya, 2012) "is a tool that is able to assist the teaching and learning process and serves to clarify the meaning of the message or information conveyed, so as to achieve the planned learning objectives". Andi Prastowo (2016: 295) reveals that "Learning media is everything in the form of tools that are in the surrounding environment, which are useful to help and facilitate the delivery of information during the process of teaching and learning activities, so that learning can be fulfilled as planned and run effectively and efficiently". It can be concluded that learning media is a tool that can help the teaching and learning process and facilitate the delivery of information during the process of teaching and learning activities so that learning can be fulfilled as planned and run effectively and efficiently.

One type of learning media that can be used is a flipbook-based module. Flipbook-based modules allow students to access information more easily and interactively, allowing them to learn independently. The module presents images, text and animations in one place to help students understand the topic. Flipbook-based modules make it easier for students to learn more interesting and interactive learning content.

Science is a subject that studies events occurring in nature. Science lessons in elementary school contain material about natural information science that is close to the lives of elementary school students. Students are expected to know and know natural knowledge in their daily lives. According to Suyoso "IPA (Natural Science), IPA is a branch of science that studies nature and everything in it, both inanimate and living objects. This field includes several sub-fields such as physics, biology, and chemistry". In the animal life cycle material is one of the important materials to learn. This material is usually taught to 4th grade students.

But in reality, learning the life cycle of animals still uses conventional methods such as textbooks and pictures on the blackboard are still used to learn the life cycle of animals. This can make students feel bored and less interested in learning the material. The use of flipbook-based modules is a more interesting and interactive option for grade 4 learning material about the animal life cycle.

Researchers believe that by developing a flipbook-based learning module on grade 4 animal life cycle material can increase the effectiveness of learning. By using flipbook-based modules that are more interactive and interesting, it is hoped that students will be more interested and motivated to learn. In addition, flipbook-based modules can also help teachers in teaching because they can facilitate learning and provide more interesting learning.

Methods

The research method used is the R&D (Research and Development) research

method. The development model used is the ADDIE development model consisting of five stages, namely: At the analysis stage. Design stage. Development stage. Implementation stage. The last stage is evaluation.

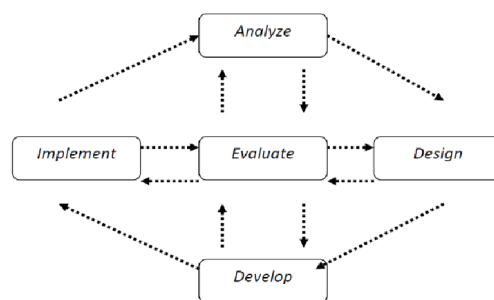


Figure 1 Stages of the ADDIE Model (Tegeh & Kirna, 2013)

The research time was June 22, 2023, and for the research site at SDN Besowo 4. The target or target is grade 4 SDN Besowo 4 which consists of 24 students. The research subjects for this study were students. Data collection instruments are: observation, interviews, documentation, and questionnaires. For the questionnaire used by researchers, namely: questionnaires of media experts and material experts, teacher response questionnaires, and student response questionnaires. researchers use data analysis techniques to calculate validity, practicality, and effectiveness in *flipbook*-based modules.

1. Calculating the validity score results obtained from the flipbook-based module expert validators and material expert validators on the module with the following formula:
Flipbook-based module expert validity formula

$$Va = \frac{Tse}{Tsh} \times 100\%$$

Description:

Va: Validity of the expert
Tse: Total Empirical Score
(assessment results from validators)

- Tsh: Total Expected Maximum Score
2. Material expert validity formula on the module

$$Va = \frac{Tse}{Tsh} \times 100\%$$

Description:

Va: Validity of the expert
Tse: Total Empirical Score (assessment results from validators)

Tsh: Total Expected Maximum Score

3. Calculating the results of the practicality score obtained from the results of the teacher response questionnaire and student response with the following formula:

- a. Teacher response questionnaire formula

$$Krg = \frac{Tse}{Tsh} \times 100\%$$

Description:

Krg: Teacher Response Practicality

Tse: Total Empirical Score

Tsh: Total Expected Maximum Score

- b. Student response questionnaire formula

$$Krs = \frac{Tse}{Tsh} \times 100\%$$

Description:

Kras: Practicality of Student Response

Tse: Total Empirical Score (assessment results from validators)

Tsh: Total Expected Maximum Score

4. Calculating the results of the effectiveness score obtained from the limited trial and broad trial evaluation questions. The following are the steps for analyzing effectiveness data according to (Ridwan, 2013) as follows:

- a. Calculating the score of the results of the evaluation question or post test
- b. Calculate the score using the following formula:

$$\text{Individual Test Score} = \frac{\text{Number of correct answer scores}}{\text{maximum number of scores}} \times 100\%$$

- c. Calculating the average student test results in one class using the following formula:

$$\text{Average value} = \frac{\text{sum of student test scores}}{\text{total number of students}} \times 100\%$$

Results and Discussion

1. Field Study Results

From the results of the field study, it can be interpreted that during the learning process, the teacher only uses the Student Book. This can be in line with the results of work analysis and needs analysis, so that a flipbook-based module can be developed. With the flipbook-based module, it is hoped that it will make it easier for teachers to explain the material, and students can understand the material taught by the teacher. Flipbook-based modules can be said to be suitable for use if the module has met the valid criteria based on the results of validation by media experts, and material experts.

2. Results of Validity on Flipbook-Based Modules

a. Flipbook-Based Module Validation Test Results

The validation test was conducted to determine the validity of the flipbook-based module on animal life cycle material. This media validation was carried out on May 26, 2023. The results of validation by media experts. The results of the Flipbook module validation, obtained a percentage of 93%. The percentage score of the flipbook-based module can be

categorized as very valid and can be used.

b. Results of Material Validation Test on Module

Validation by material experts was carried out to determine the validity of animal life cycle material in flipbook-based modules. Material validation was carried out on May 31, 2023. The results of the material validation obtained a percentage of 86%. The percentage score of the material on the module is categorized as very valid and can be used.

3. Practicality Results on Flipbook-Based Module

a. Teacher's Response

The results of the teacher's response were carried out to find out how practical the Flipbook-Based Module was for students. The results of the teacher response questionnaire conducted by the 4th grade teacher of SDN Besowo 4, obtained a percentage of 91%.

b. Student's Response

The student response questionnaire was used to measure student responses in the use of flipbook-based modules conducted by 4th grade students of SDN Besowo 4. The results of the student response questionnaire obtained a percentage of 92%.

4. Effectiveness Results on Flipbook-Based Modules

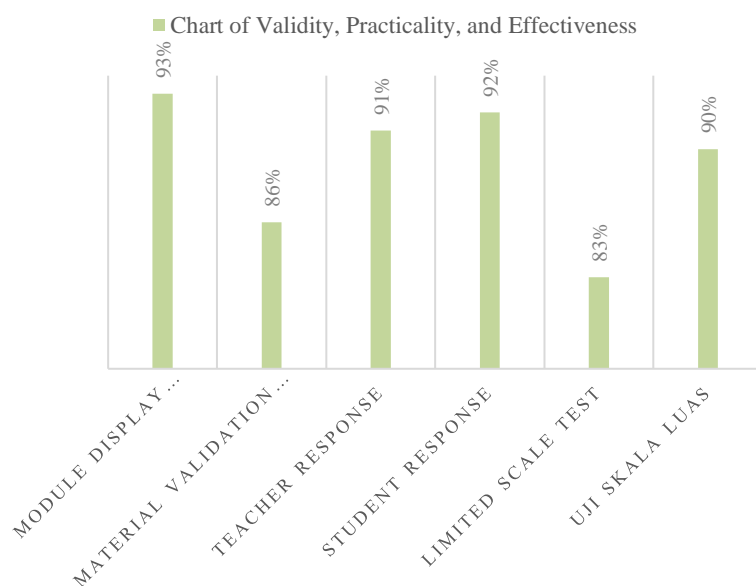
To get the results of effectiveness. Researchers used limited scale trials and broad scale trials. The results of the limited trial obtained a percentage of 83%. The value shows that students get scores above the predetermined KKM of 75 with 100% classical completeness. Thus, the flipbook-based module is declared very effective and very complete, and can

be used in the learning process on a small scale or limited scale.

The results of the effectiveness of the broad-scale trial obtained a percentage of 90%. The value shows that the student has achieved a score above the predetermined KKM of 75 with a classical completeness of 94%. Therefore, the flipbook-based module is declared very effective and very complete, and can be used in the learning process on a large scale or wide scale.

The following are Questionnaire Data from Validity, Practicality, and Effectiveness on flipbook-based modules

CHART OF VALIDITY, PRACTICALITY, AND EFFECTIVENESS



Summary

Based on the results of research and development conducted in the study, it can be concluded as follows:

1. The validity results obtained from the flipbook-based module validator obtained a percentage of 93%. the flipbook-based module can be categorized as very valid and can be used. While the results obtained from the material validator on the module obtained a percentage of 86%. The percentage score of the material on the module is categorized as very valid and can be used.
2. Practicality results obtained from the teacher response questionnaire obtained a percentage of 91%. While the results obtained by the student response questionnaire obtained a percentage of 92%.
3. The effectiveness results obtained from the limited trial obtained a percentage of 83%, while the results obtained from the broad trial results obtained a percentage of 90%.

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