
Developing Scientific Approach-Based E-Module Assisted by Kvisoft Flipbook Maker Application for Grade X of Senior High School Students

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Abstract

The limitations of the teaching materials, the fact that the students' characteristics are not reflected in the materials and the absence of sample questions, individual assignments, or evaluations of narrative text materials in class X English teacher's teaching materials are the issues covered in this study. The aims of this research are to: (1) describe the needs on teachers and students for an electronic module (e-module) based on the scientific approach; (2) develop prototype for e-module based on the scientific approach; and (3) describe the conclusion of experts' validation of the e-module. R&D research was used in this study. The study was only done up until the develop step of the 4D development model, which has four stages: define, design, develop, and disseminate. Three validators—two lecturers and one teacher—conducted validity tests on the researchers' development for this study in order to evaluate it. Based on the research, (1) narrative text e-module teaching materials employing a scientific approach are required for both teachers and students. (2) The e-module narrative text prototype adheres to the scientific approach. (3) The validation test on e-module narrative text for English learning is 76.89% with a valid category. This demonstrates that using the scientific approach-based e-module narrative text material that was developed with the help of Kvisoft flipbook maker is valid.

Keywords: Teaching English, E-Module, Kvisoft Flipbook Maker, Narrative Text

Introduction

Teaching materials are needed in today's era, where teaching materials in principle can help students and teachers in the teaching and learning process. This study discusses the limitations of teaching materials, the teaching materials used are not in accordance with the characteristics of students, and the lack of sample questions, individual assignments, or evaluations of narrative text material. in the teaching materials used by the class x English teacher. Where teaching materials are required to adapt to developments in the current era, namely the 4.0 era.

The Industrial Revolution Era 4.0 is a major current that demands the readiness of human resources as a key aspect that can adapt to the dynamics of post-modern change (Arsyad, 2021). The development of science and technology in the Industrial Revolution Era 4.0 made an extraordinary breakthrough for some people. The development of science and technology has resulted in some people seizing the opportunity and being able to take advantage of it well. For some people who are able to balance and develop science and technology, they are able to give birth to a new idea. This idea emerged to meet human needs in various fields, including education (Astutia, Waluyab, & b, 2019).

Technological developments encourage the combination of printing technology with computer technology in learning activities. A digital book is a form of presentation of a book or learning media in virtual form (Mulyaningsih & Saraswati, 2017). Flipbook maker is a learning media application that can help in the learning process because this application does not only write but can also contain moving animations and videos that can be interactive and interesting learning media so that learning can be

learning that is not monotonous (Wibowo & Pratiwi, 2018) . The use of this software makes the media display more varied; not only text, images, videos, and audio can be inserted in this media, so that the learning process will be more interesting and easy to understand. The use of e-module teaching materials is in accordance with the 2013 curriculum, where students are more required to be active. This teaching material uses a scientific approach, and this approach is student-centered.

The scientific approach is a learning process designed in such a way that students actively construct concepts, laws, or principles through the stages of observing (identifying or finding problems), formulating, proposing or proposing hypotheses, collecting data with various techniques, analyzing data, drawing conclusions, and communicating concepts, laws, or principles found. The scientific approach can help students learn independently. Students can learn and find learning resources, and students can be more active in the learning process and are able to increase students' curiosity about lessons

Based on the preliminary research and the phenomena above, the researcher wants to know how the needs analysis, design of teaching materials needed by students are and how the validity of the e-module product is based on the scientific approach. Therefore, the purpose of this study is to determine the need for analysis, design of teaching materials, and validity of the E-module product based on the scientific approach, assisted by the Kvisoft flipbook maker application.

Based on the background of the problem above, the researcher focuses his research on "Developing Scientific Approach-Based E-Module Assisted by Kvisoft Flipbook Maker Application For Grade X Of Senior High School Students."

Based on the Research focus above, the research questions in this study are:

- a. What is the need of an e-module based on a scientific approach assisted by the flipbook maker application?
- b. What is the design needed of an e-module based on a scientific approach assisted by the flipbook maker application?
- c. What is the validity of an e-module based on a scientific approach assisted by the flipbook maker application.

Methods

This research is was a qua Development (R&D). Development (R&D) was a process that initially assesses needs in the field and then develops products to meet those needs, with the aim of developing effective products, not testing theories (Gay & Airasian, 2000). Based on the theory above, it can be said that development research was research whose initial process is to analyze the needs in the field and then produce a product instead of testing the theory. This study aims to test the validation and effectiveness of a product.

Technique of the data collection in this study was based on the 4-D development model above. However, the limited time to this study only consisted of three stages, namely:

1. Stage Definition

This stage is carried out to see the initial conditions in the field. The steps that the researcher took at this stage were as follows:

- a. Interview with Teacher of English Studies
- b. Student analysis
- c. Activity Analysis in Package Modules
- d. Literature analysis
- e. Analysis of learning objectives

2. Stage Design

A researcher prepares and designs electronic modules on narrative text products.

3. Stage of Development

This stage was carried out to produce a revised product based on input from experts so that the level of validity of the E-Module in Narrative Text can be known. The steps taken at this stage are:

- a. Validation Stage

The development of the E-Module model for narrative text materials for class X SMA, class X IPA 2, and SMAN 1 Kinali used three kinds of validity, namely: (1) Content validation, namely whether the E-Module in Narrative Text is in accordance with the syllabus. (2) Media validation, which includes the appearance and elements of the medium as well as the suitability of the letters used, font size, letter thickness, and the use of images that are in accordance with the material, The Narrative Text E-Module for class X IPA SMAN 1 Kinali, which has been designed, is consulted with the supervisor and then given to the validated for validation. (3) Learning materials validation, namely the suitability of the finished E-Module component in Narrative Text with predetermined indicators of content validation, namely E- Technical validation, namely the suitability of the letters used, font size, letter thickness, and the use of images that match the material

The test subject, or validator in research on the development of electronic modules in English subjects, especially in narrative text material, is an expert validator for English language material, an expert on learning media. In this trial, the provisions of the test subject include: lecturer and two English subject teachers.

The data collected in this study includes both qualitative and quantitative data.

- a. Qualitative data is Validation sheets and document analysis were used to collect qualitative data.
- b. The quantitative data is the Narrative Text e-module assessment data using the Kvisoft Flipbook maker application from the validator.

Because this study aims to produce a Narrative Text E-Module Development product based on a Scientific Approach Assisted by the Kvisoft Flipbook Maker Application for Class X High School Students, data collection was carried out in several ways:

1. Distributions of Questionnaires, the questionnaires for students of SMA N1 Kinali were distributed
2. Analyzing Documents, the researcher analyzed documents related to learning English for class X students.
3. Based on a Scientific Approach Supported by the Kvisoft Flipbook Maker Application for Class X High School Students
4. The validation of the E module is validated by an expert by filling out the validation form.
5. Revise the revised Module E based on suggestions from experts.

Validation Analysis

$$P = \frac{\sum skor\ per\ item}{skor\ maksimal} \times 100\%$$

Result and Discussion

Based on the data analysis, the researcher found that:

1. Need Analysis, the design phase can be done after the result of need analysis were collected and analyzed to get valuable information for the researcher to design the product. The result of need analysis is guidance in designing the product. As stated in Aldobiee (2015:69), designing the product is selecting of the course needed by students, presenting materials needed by the students, and selecting the relevance exercise or activity with match the students' need.
2. Design and Development of E-Module, the design stage is carried out after the defining stage. The prototype of the E-Module based on a scientific approach to learning English is designed and developed for Narrative Text material.

3. Results of the development stage (Develop), E-module is Valid product with an average achievement of 76.89 percent, meaning that the e-module narrative text using Kvisoft flipbook maker is suitable for use by students at school.

The revisions suggested by the validator in the outline are:

1. The exercises provided for students to experiment with the concept of narrative have not been well defined.
2. There are some problems found in this e-module, such as writing errors.
3. Add an explanation of the material and example questions, and add an explanation of the instructions.
4. Adjust the animation used for the topic.
5. Take note of the font size and increase the visibility of the e-module. Enhance the user guide for e-modules and animated videos used in e-modules.

Discussion

1. Need Analysis of E-Module

Need analysis is a primary step for developing learning material. The need analysis should reveal all aspects of learners need in learning English such as competency, skills (listening, speaking, reading, and writing) level of proficiency and tasks need by the students.

Richard (2001: 51) states that need analysis is the procedure of collecting information about students' need. It can be used to check whether the existing product adequately meet the needs of students and to see the problem of students in experiencing the existing product.

The purpose of a need analysis, according to Grabowski in Novita (2020:12), is to determine the source of a difference between the ideal performance and the actual performance of a task. According to Nation and Macalister (2010:24), who agree with Grabowski, need analysis is the process of evaluating what the learners already know and what they need to know. By identifying the gap that exists, it can be considered that need analysis is designed to provide information

In addition, Hutchinson and Waters (1987:53) distinguish between learning needs and target needs. What the learners must achieve in the target situation are the target needs. The learner must fulfill their learning demands in order to progress. The three categories of target needs are: wants, needs, and wants.

The information can also be collected using some instrumentation. According to Hutchinson and Waters (1987:55), there are numerous methods to gather information in order to define target needs. The most frequently utilized tools are surveys, interviews, text-based data collection, and informal data gathering from sponsors, students, and other individuals. Evans and John (1998:131) describe the information and the procedures for gathering it for need analysis. The learner, people working in or studying in the field, ex-students, documents pertinent to the subject, clients, employers, colleagues, and the ESP research field are the key sources for requirement analysis. The primary approaches for gathering information for needs analyses include surveys, analyses of real spoken and written texts, discussions, organized interviews, observation, and evaluation.

2. Design and Development of E-Module.

Product designs are developed into e-module teaching materials, transferring designs into real products. The product model is in the form of a module that is online in an e-module. This e-module considers printed teaching materials which previously used the 2013 curriculum, which used a scientific approach. Then this researcher develops teaching materials in the form of teaching materials that can be accessed online, namely e-modules based on the scientific approach.

At this design or planning stage, the e-module is designed based on the core competencies (KI) and basic competencies (KD) contained in the syllabus at SMAN 1 Kinali. In addition, this e-module is designed according to the module components, namely: teacher guidelines, student activity sheets, worksheets, sheet keys, test sheets, and test sheet keys (Wena, 2016).

In addition, there are two steps in developing a product. First, the product is developed in the form of an e-module product prototype. Second, the product received several revisions from validators and teachers. Revisions are made based on suggestions from supervisors, validators, and teachers. In short, the developed product has been validated and revised.

3. Validation test of the e-module.

a. Stage Definition

Development research in the form of an e-module narrative text using the ksoft flipbook maker application. in narrative text material that aims to support students in learning. This is in accordance with previous research conducted by Hermalina (2021), from which it can be concluded that the learning media using the Kvisoft flipbook maker is very valid, very practical, feasible, and effective to use in the learning process.

This e-module narrative text uses the ksoft flipbook maker application with the result format in the form of HTML 5. In learning English, English is presented in an easy-to-understand discussion by students, accompanied by animations, sample questions, and audio, as well as links to download materials or upload assignments. Using the ksoft flipbook maker application in learning English is expected to attract students in learning and foster student interest in learning in understanding the material, and educators can teach in class well.

b. Design stage

At this stage, the design of the e-module narrative text using the Kvisoft flipbook maker application that was developed is as follows: the first thing to do is to determine the identity of the product being developed, such as subjects, classes/semesters, basic materials (KD, Indicators, Learning Objectives), titles, video links from YouTube, pictures, audio, sample questions, practice questions, google forms for filling out answers, and source materials. After that, collect all the materials that will be linked first before being input into the module design using the Google form. Then all the materials are designed in Word and then converted into PDF form. After that, it is input into the Kvisoft flipbook maker application to make it online. Then, it is published the e-book by clicking publish to html 5. Then the e-module will be in the form of an e-book that can be accessed via a link.

After the e-module narrative text is completed, the product validator provides suggestions and criticisms as improvements. Next, validate the product to the validator.

c. Development stage

The results of the validation of the narrative text e-module, it was validated from the aspect of the quality of the content and objectives, the quality aspect of the instructional and technical aspects, it was obtained an average of 76.89 with a valid category, so that this e-module narrative text can be used in learning. Can be operated anywhere and anytime using a laptop or cellphone. So that this e-module narrative text can help students in the learning process independently and be more active, as well as attract students' interest in learning during this pandemic.

E-Module Validation Results

At this stage, it begins with a design and then continues with consultation with the supervisor. Then the validator stage is carried out with experts from the media experts and material experts (lecturers and teachers). Researchers carry out discussions and ask for suggestions for improvement before being tested on the validator. The results of the data obtained from the three validators can be observed in Table 1.

Table 1. Amount, Content Conformity, Instructional Quality, Technical Quality Aspect

Indicator	Validator			Amount	Max Score	%	Description
	1	2	3				
Content Conformity	23	22	25	70	90	77,78	Valid
Instructional Quality	16	14	18	48	60	80,00	Valid
technical quality aspect	18	15	22	55	75	73,33	Valid
Amount	57	51	65	173	225	76,89	Valid

Based on the table, an e-module is valid product with an average achievement of 76.89 percent, meaning that the e-module narrative text using Kvisoft flipbook maker is suitable for use by students at school.

The revisions suggested by the validator in the outline are:

1. The exercises provided for students to experiment with the concept of narrative have not been well defined.
2. There are some problems found in this e-module, such as writing errors.
3. Add an explanation of the material and example questions, and add an explanation of the instructions.
4. Adjust the animation used for the topic.
5. Take note of the font size and increase the visibility of the e-module.
6. Enhance the user guide for e-modules and animated videos used in e-modules.
7. English teachers must be promoted in all senior high schools.

Conclusion

Based on the research that has been done, it can be seen that teachers and students need narrative text e-module teaching materials using a scientific approach. (2) Prototype of e-module narrative text according to scientific approach. (3) The Kvisoft Flipbook Maker assisted e-module validation test on narrative text material for learning English is 76.89% with a valid category. This shows that the Kvisoft Flipbook Maker-assisted e-module on narrative text material in learning English is feasible to use in the learning process.

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