Development of Integrated Thematic Teaching Materials Based on the Kvisoft Flipbook Maker Application in Training Critical Thinking Skill

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Abstract: Learning that is still fixated on textbooks and which makes students unable to fully apply critical thinking skills is the background of this research. Therefore, the development of teaching materials for grade V elementary schools needs to be done using the Application Kvisoft Flipbook Maker with the PBL model. This research uses a type of development research or R&D using a design that refers to the ADDIE model with the following steps: Analysis, Design, Development, Implementation, and Evaluation. The subjects of this study were class II students at SD Sambihisma 04, SDN 10 Ganting and SDN 48 Ganting, Koto Tangah District, Padang City with the results obtained from the validity standard analysis obtaining the criteria of "very valid" with an average media expert rating of 91.8%, the assessment subject matter expert 90.175% and language expert assessment 83.33%. From the practicality test, educators get an assessment of 95.27% with the criteria of "very practical". In conclusion, the application and development of application-based teaching materials kvisfot flipbook maker with the Problem Based Learning model in grade V elementary schools fulfilling the valid, practical, and effective categories

Keywords: Critical thinking; Kvisoft flipbook maker; Teaching materials

Introduction

Entering the industrial revolution, generation 4.0, the world has experienced an increase, which has an impact on all aspects of life. One of the impacts affects the education system. This change cannot be avoided by anyone so that it becomes a new challenge and opportunity for the world of education. The new challenges and opportunities are faced by educators to integrate technology in the learning process (Lase, 2019).

With the advancement of technology today it can simplify and provide good benefits for humans (Nasrul, 2018). Besides that, the advancement of technology requires that learning tools, learning media and learning facilities used must also progress. Innovation in education is an acute need (Nurbaeti, 2019). For this reason, educators must improve the quality of their teaching methods to convey knowledge to students (Putra & Syarifuddin, 2019).

Many life skills are needed in the 21st century, such as the ability to solve problems or think critically, leadership and collaboration, adaptability, initiative and entrepreneurship, the ability to communicate effectively orally or in writing, being able to receive and analyze information, having curiosity and imagination (Ismail et al., 2021).

Of the many skills needed in the century of global change known as the industrial revolution 4.0, one of the skills that must be mastered is critical thinking skills (Rusnah & Mulya, 2018). Critical thinking ability is the ability to analyze something in order to get answers to the problems faced, critical thinking is superior to creative thinking on the grounds that critical thinking can multiply ways of thinking while creative thinking can only answer the problems faced without using many ways to solve problems the (Putra et al., 2018). Applying the 2013 curriculum students are required to be able to master critical thinking skills. This statement comes from Permendikbud number 81 A of 2013 attachment IV, the learning process consists of five main learning experiences, namely: observing, asking, trying, reasoning, or associating and communicating (Eliyanti

et al., 2020). Students who are still in elementary school need to be honed to develop critical thinking skills so that it becomes a habit for them. Because something that is used to be done will be difficult to leave (Prameswari et al., 2018).

The fact that it is found that these critical thinking skills have not been optimally applied in elementary schools, activities that make students think critically such as asking questions about the problems faced or activities that contain critical thinking skills themselves are still minimally applied.

The problems found based on a preliminary study conducted in the elementary school environment in the Koto Tangah sub-district, Batang Kaburan village, Padang City, which consists of three schools, namely SD Sabbihisma 04, SDN 10 Ganting and 48 Ganting, can be seen that the learning process is still fixated with textbooks and worksheets, students listen more while educators give more lectures so that students feel bored quickly without being challenged to find solutions to the problems they face. educators are only fixated with textbooks and worksheets in the learning process without varying the way of teaching.

At the interview stage with teachers from the three schools, information was obtained that there were laptops, WIFI and projectors available in schools that educators could use to vary their teaching methods, but these facilities had not been utilized optimally by educators in the learning process. In order for these school facilities and problems to be overcome, teaching materials need to be developed in accordance with technological advances. One way that the facilities provided by schools can be put to good use, educators need to develop teaching materials to be more attractive and integrate technology in learning.

Teaching materials consist of a collection of learning materials that have been arranged regularly to create a supportive learning environment. But if the teaching materials that are prepared are not in accordance with the requirements then various problems arise in learning (Nalasari et al., 2021).

Students will become motivated in learning if teaching materials are developed to be more attractive so that they can think critically. For this reason, teaching materials need interesting features such as animations, learning videos, and books that can be flipped automatically like real books. To make teaching materials with this feature an application is needed (Munthe et al., 2020).

There are several things that educators should not be negligent in developing teaching materials including adjusting to the needs of students, with the curriculum and character and social environment of students (Kosasih, 2021). In order for the developed teaching materials to adapt to technological advances, the researcher chose an application called application kvisoft flipbook maker. This application was chosen on the grounds that this application can provide an attractive appearance and is cost-effective (Yusuf et al., 2020). Making books in electronic form is a form of advancing technology that can support the learning process (Samosir, 2021). This software is not just for making learning presentations but can also develop interactive learning so that students learn with a view that has been prepared. Kvisoft flipbook maker can be a solution in developing teaching materials so as to support arguments for integrating technology in the world of education (Fahmi et al., 2019).

The advantages of the application *kvisoft flipbook maker* can display a page like a flip which can be flipped over, the appearance is not only in the form of text but also in the form of images and videos combined with the material (Anandari et al., 2019). The purpose of teaching materials in electronic form is to make it easier for people to access books (Aulinda, 2020). while at the same time captivating the attractiveness of students (Rusli & Antonius, 2019).

Apart from integrating technology in learning so that students are encouraged to improve their knowledge, skills and attitudes, it is necessary to choose a suitable learning model for developing teaching materials. Among the many models, one model that is suitable for use is the model problem-based learning.

Problem-based learning is a learning method whose basic principle is that problems are the first step to gaining new knowledge (Chian et al., 2019). In the current era of globalization, students really need to improve their skills in learning. One way to overcome this is by means of educators using learning models problem based learning in expansion (Fidan & Tuncel, 2019). Problem Based Learning or also known as problem-based learning is learning that begins with presenting a problem, asking questions to generate discussion. What is discussed is of course the problems that occur in the daily lives of students (Amris & Desyandri, 2021).

Problem based learning can develop students' thinking skills in an open, critical and active way in learning so that they can help students to solve problems both individually and in groups (Effendi et al., 2021). Problem based learning can be used by the teacher with the consideration that the teacher wants students not only to remember the learning material but also to master and fully understand the problems they face (Virtue & Hinnant-Crawford, 2019). In PBL students are free to carry out investigations both inside and outside the classroom and educators help by providing simple

examples so that students can solve problems (Fitriyah & Ghofur, 2021).

From the statement above it is concluded that PBL is learning that begins with students being faced with a real-life problem. Then, from this problem raises their curiosity to study the problem according to the knowledge they have so that students get new knowledge. Problems become a relay for students so they can learn something that can help their knowledge.

As far as the studies and searches that have been carried out, there are several related studies including research (Damayanti, 2022) with research "Development of application-based teaching material skvisoft flipbook maker using the Problem Based Learning model with a scientific approach" using the development model Borg and Gall which has been modified by Sugiyono is carried out for class X SMAN 3 Makassar obtained a validation result of 3.81 (very valid). Research conducted by Wibowo et al. (2018) with the research title "development of teaching materials using the kvisoft flipbook maker application set material" using the development model *Borg and Gall* suitable for use in learning mathematics set material in class VII. Also research conducted by Ningtyas (2020) with the research title "Development of a simple flat e-module based on Problem Based Learning using the Kvisoft Flipbook Maker Application for Grade III Students" with a validity score of 85.82% in the "valid" category.

From research that has been done by previous researchers discussing the development of teaching materials based on the Kvisoft Flipbook Maker application. This research has an update from previous studies, it can be seen that the research subjects chosen were class V elementary schools. Therefore, researchers are interested in examining the validity and practicality of teaching materials based on the Kvisoft flipbook maker application with the PBL model in training critical thinking skills in grade V elementary schools. It is hoped that this teaching material can be used in learning by all parties involved in the world of education, especially in elementary schools."

Method

This type of research includes development research. Based on the ADDIE development model. The ADDIE approach model stands for Analyze, design, develop, implement, and evaluate. ADDIE has been designed according to learning objectives and is often used in learning. Based on a study in the field of education, the implementation of ADDIE was carried out by means of a student center. Learning products made by following ADDIE's steps will create an activity and an effective learning tool (Cahyadi, 2019).

The step through ADDIE is chosen by the researcher on the grounds that the work stages arranged in this model are of its own advantage, each stage is improved so that in developing teaching materials it can present products that are suitable for application to students. Researchers will develop teaching materials in the form of application-based teaching materials kvisoft flipbook maker with the Problem Based Learning model in class V Elementary School.

Adapts to the ADDIE level, on the level analysis researchers make observations or observations in the field to analyze the needs of students. After that on stage design, according to the needs of students and educators who are guided by the data obtained at the analysis stage, teaching materials begin to be designed. At stage development, products that have been designed are developed so that they can be applied in learning. At stage implementation, products that have been designed are tested on students. Then evaluated. researchers evaluate the results of the trials conducted. This research activity was carried out at SD Sambihisma 04, SDN 10 Ganting and SDN 48 Ganting.

The data collection technique that the researchers used to collect the right data was by collecting data in the form of questionnaires, interviews, field observations and documentation. The instrument used in this study was an instrument for analyzing the needs of educators and students, validity and practicality sheets in assessing teaching materials developed in training critical thinking skills of class II SD (MI) students. Aspects that are assessed from the practicality of the teaching materials developed, namely in terms of the ease and benefits of teaching materials as well as the quality of the content and the technique of its use.

The data that has been collected by the researcher analyzes the needs analysis sheets of educators and students, validity questionnaires and practicality questionnaires. The data analysis technique used in this study, namely the analysis of the needs of educators and students, is analyzed using qualitative descriptive data by presenting data through statements that are in accordance with the original without any numerical calculations.

Expert validity analysis was filled in by three validators who are experts in their fields, 1 media expert validator, 1 material expert validator and 1 language expert validator and then analyzed using a Likert scale with Steps, first, giving a score for each item the answer strongly agrees (4), agree (3), disagree (2) and strongly disagree (1). Second, adding up the total score of each validator from the total number of indicators. Third, giving a value of validity by using the equation 1.

$$V = \frac{f}{N} \, X \, 100\%. \tag{1}$$

Information: V= Final validity value, F= score acquisition, and N= Maximum score. The criteria used to determine product validity are as follows.

Table 1. The Weight of the Validity Statement of Application-Based Teaching Materials Kvisoft Flipbook Maker

Interval length	Percentage score (%)	Category
0.00 - 1.00	0.00-20.00	Invalid
1.01 - 1.75	21.00-40.00	Less valid
1.76 - 2.50	41.00-60.00	Quite
2.56 - 3.25	61.00-80.00	Valid
3.26 - 4.00	81.00-100.00	Very valid

Meanwhile, to find out the level of practicality of teaching materials developed by researchers distributing questionnaires filled out by two educators to assess several aspects of the teaching materials developed using the educator practicality questionnaire and then analyzed using a Likert scale with Steps: first, giving a score for each item the answers strongly agree (4), agree (3), disagree (2) and strongly agree (1), second, add up the total score of each practitioner from the total number of indicators. Third, giving a practical value by using the equation 2.

$$P = \frac{f}{N} \times 100\% \qquad (2)$$

Information: P= Final practical value, F= Score acquisition, and N= Maximum score. The criteria used to determine product practicality are as follows.

Table 2. The Weight of the Statement of Practicality of Teaching Materials Based on the Kvisoft Flipbook Maker Application

Interval	category
81.00 -100.00	Very practical
61.00 - 80.00	Practical
41.00 - 60.00	Practical enough
21.00 - 40.00	Not practical
0.00 - 20.00	Very impractical

If the percentage results are in the range of 61-80 then the teaching materials based on the Kvisoft Flipbook Maker application are said to be practical.

Result and Discussion

Based on product assessment through tests and revisions carried out, this teaching material is declared valid. Product validation test results on application-based teaching materials kvisoft flipbook maker with the Problem Based Learning model in grade V elementary school is summarized in the following table 3.

Table 3. The Average Value of the Validator Fot Each Validity

Indicator	Percentage (%)	Criteria
Media Validation	91.80	Very valid
Material Validation	90.17	Very valid
Language validation	83.33	Very valid

Based on the table above related to validity which contains three aspects of the assessment, the results obtained were the media expert validation value of 91.8%, the material expert validation value of 90.175% and language validation of 83.33%, the three aspects of the assessment above were included in the very practical category. Data from the assessment results can also be seen in the figure 1.
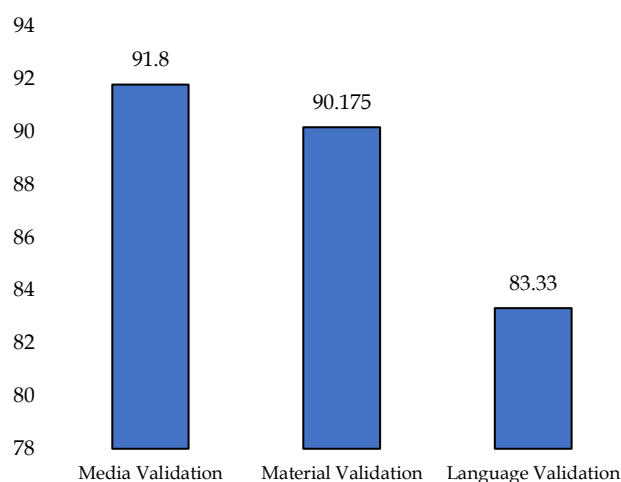

Figure 1. Graph of validity percentage

Practicality Test Results application-based teaching materials kvisoft flipbook maker with models problem based learning developed. Getting the results of each practicality is at an interval of 81-100%, it is revealed that teaching materials based on the kvisoft flipbook maker application with the PBL model are said to be "very practical".

Table 4. Practicality Percentage Results by Educators

Assessment Aspect	Percentage (%)	Criteria
Content quality	96.87	Very Practical
Media display	94.64	Very Practical
Technical use	95.83	Very Practical
Evaluation	93.75	Very Practical
Average	95.27	Very Practical

Practicality results are in the interval of 81-100%, it is revealed that the teaching materials are application-based kvisoft flipbook maker with the PBL model in grade V elementary school is said to be "very practical". Data from the results of the analysis of the practicality of educators can be seen in the figure 2.
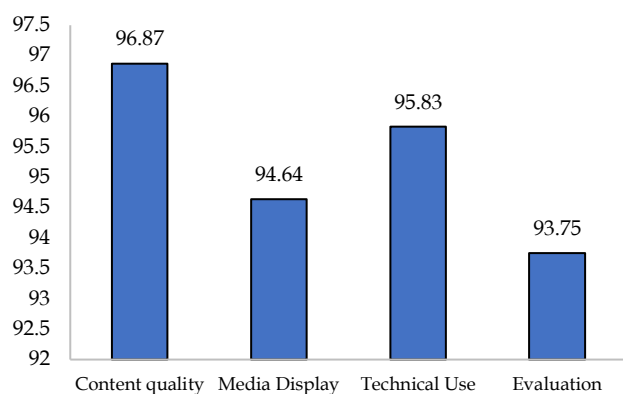
Figure 2. Graph of practicality percentage by educators

Conclusion

Based teaching material skvisoft flipbook maker app with models' problem-based learning in class II of elementary school which contains theme five material, my experience, the sub-theme of my experience at home has fulfilled the valid and practical category. This is based on the value obtained from media experts of 91.8%, material expert's assessment of 90.17% and linguist's assessment of 83.33%. The teaching materials developed were stated to be practical by looking at the results of the practicality questionnaire for educators to get an average rating of 95.27% in the "very practical" category.

Conflicts of Interests
As for the author's interest in publishing this article, namely for the needs of lecturer performance load and lecturer performance reporting for universities in the field of research. No conflicts of Interests.

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