Development of Integrated Thematic Teaching Materials Based on Creative Problem Solving Assisted by Kvisoft Flipbook Maker Pro in the Third Grade of Elementary School

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\textbf{ABSTRACT}

Students must be the main subject in the classroom in the Industrial Revolution 4.0 era. One method for producing students with the abilities required for the twenty-first century is to use a Creative Problem-Solving Approach with learning patterns aligned with the 2013 Curriculum, such as an integrated thematic or unified thematic approach and e-books aided by the Kvisoft Flipbook Maker Pro application. This study aims to develop integrated thematic teaching materials based on creative problem solving assisted by kvisoft flipbook maker pro in the third grade of elementary school. The development research method used with the ADDIE development model has five stages: analysis, design, development, implementation, and evaluation. The results show that developed teaching materials have a percentage of validity of 89.06\% (content validation), 80\% (graphic validation), and 83.3\% (language validation). The practicality of teacher responses obtained a 3.7 (very practical), while the student response was 3.5 (very practical). Effectiveness, as measured by student learning outcomes, received an N-Gain Score of 0.71 with an effective category (high). It means that the teaching materials created for third-grade elementary school students were valid, practical, and effective and implemented in three schools in West Pasaman.

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1. INTRODUCTION

The curriculum is one of the most decisive components in the world of education because it serves as both a tool for achieving educational goals and a guide in the implementation of teaching at all types and levels of education. The 2013 Curriculum, which emphasizes independent, active, and creative learning activities for students, is currently being implemented in Indonesia. The method component of the 2013 Curriculum emphasizes the ability of a teacher to implement diverse learning strategies that allow students to carry out their learning process independently, actively, creatively, and with fun, with high effectiveness in facing the Industrial Revolution era. 4.0.

Students must be the main subjects in the classroom in the Industrial Revolution 4.0 era. Students are the main actors in learning, according to Chen (2015), who stated that learning in the Industrial
Revolution era is no longer dominated by teacher-centred pedagogical concepts; instead, students focus on isolated factual knowledge rather than deep understanding. Students lack high-level thinking skills and rely on what they learn from the teacher.

Students’ creative abilities are directly correlated with their capacity for creative thought, but their full potential has not been realized in the classroom because of the limitations imposed by the materials teachers have at their disposal (Aldila et al., 2017). In elementary schools, the use of teaching materials is crucial to students' academic growth (Amirudin and Widiati, 2017). The term “teaching materials” refers to a group of educational tools organised to aid teachers and students in achieving their intended learning objectives (Wahyuni, 2015). From this opinion, it can be concluded that teaching materials facilitate the implementation of learning by exploring the potential and thinking skills of students.

According to Weriyanti et al. (2020), the teaching materials in the 2013 curriculum also follow integrated thematic learning, and the teaching materials must be organized systematically so that they can be used by both teachers and students in the classroom teaching and learning process. Elementary school teaching materials aim to make abstract material easier for students to understand. Teachers must guide students in learning patterns that meet the requirements of the 4C’s skills, which include communication, collaboration, critical thinking, and creativity (Florea & Hurjui, 2015). Digital teaching materials can also help students understand abstract material, according to Faisal et al. (2020:267), who claims that in the Industrial Revolution 4.0 era, the production of digital teaching materials is a requirement. Based on some of the opinions expressed above, it is possible to conclude that in order to deal with learning in the Industrial Revolution 4.0 era, teachers must be able to compile digital teaching materials that make learning more attractive to students. Furthermore, digital teaching materials are critical during the COVID-19 pandemic.

Based on the findings of a preliminary study conducted by the researchers, the observations revealed that the teacher had asked questions based on the material but has not yet revealed skills in thinking and problem solving for the students. The teacher also provided an explanation that aided with the media image displayed by the projector and educated the participants to be more active in their learning, which is still in progress. During the learning process, only government books were used as study materials. As a result of the interview, the researchers learn that the teacher uses government teaching materials, such as teacher books and student books, as well as teaching materials from publishers for practice courses. Teachers are unable to create teaching materials because not enough people understand how to do so and teachers do not have enough time to do so, resulting in chaos in administration class. Although teachers already use laptops and projectors in the classroom, digital teaching materials are not yet available at the school. The teacher also conveys that students once used a limited number of laptops. Teachers need thematic teaching materials that are integrated in a non-digital format so that participants are not bored and their interest in the study is increased.

Based on the results of a questionnaire analysis of students in the third grade at SDN 09 Sungai Aur and SDN 16 Sungai Aur, 65.7% prefer to study using a computer or laptop, while 34.3% prefer to study with a teacher’s explanation. 60% of students would rather obtain learning material through the use of technology media than listen to the teacher’s explanation without using technology media. In terms of task format, 68.5% of students prefer to read questions on a computer or laptop and answer questions without copying them. According to the preferred form of books in learning, 65.7% of students prefer digital or electronic books over printed books, and 85.5% prefer colorful teaching materials equipped with videos.

Teaching materials are a set of materials that have been deliberately and systematically organized to make it easier for students to understand the materials (Cahyadi, 2019). Teaching materials are a set of learning tools organized to help teachers carry out the learning process and students understand learning materials to achieve predetermined learning goals (Wahyuni, 2015). The use of teaching materials is required in the elementary school learning process (Amirudin and Widiati, 2017). Elementary school teaching materials aim to make abstract material easier for students to understand. Previous research has also indicated that teaching materials can improve learning outcomes, thinking
skills, and learning activities (Hutama, 2016; Puspita and Purwo, 2019; Ilham and Hardiyanti, 2020). As a result, it is crucial to prepare teaching materials for the elementary school learning process.

In an integrated thematic learning pattern, the Creative Problem Solving approach is a learning model that emphasizes students’ higher-order thinking skills in solving problems and developing ideas rather than memorizing. This approach is considered appropriate for the times because it allows students to develop optimally as a whole without separating the knowledge they possess (Calabrese Barton & Tan, 2018). The Creative Problem Solving approach requires students and teachers to think creatively in an indirect way.

It is hoped that by using the Creative Problem Solving approach, students will become learners who are more creative, innovative, and have a high level of curiosity in their lives. This approach is thought to stimulate the creative thinking process in order to bring up the 4c skills that are expected in this era of the Industrial Revolution 4.0.

Kvisoft Flipbook Maker Pro is a piece of software that allows you to create interesting digital books with additional images, music, and animations to make learning more active, meaningful, and enjoyable (Aperta & Amini, 2021). Students are more interested in participating in learning when learning media, such as digital books are used. The creation of learning media based on Creative Problem Solving can improve students’ creative problem-solving thinking and increase student learning activity. As a result, the development of Kvisoft Flipbook Maker Pro as an integrated thematic learning medium is deemed necessary because it has several advantages, including 1) Kvisoft Flipbook Maker Pro is prepared by presenting images, music, animations, and other decorations that attract students’ attention; 2) the material that is presented is more concrete because there are pictures, music, and animation, so students can more easily understand and remember the material; and 3) the material that is presented is more concrete because there are pictures, music, and animation (Aperta & Amini, 2021).

2. METHODS

The research method used is development research using the ADDIE development model consisting of five stages: Analysis, Design, Development, Implementation, and Evaluation.
3. FINDINGS AND DISCUSSION

3.1 Analysis Phase

The analysis stage seeks to establish the foundation for the creation of teaching materials. This stage includes three components: curriculum analysis, needs analysis, and student analysis. The investigation can be summarized as follows:

a. Curriculum Analysis

Curriculum analysis is performed to determine the scope of the material that will be developed in teaching materials. An observation sheet was used to research core competencies (KI), basic competencies (KD), and indicators for the curriculum analysis required. Core Competence (KI) in this study is in accordance with the content standard at the elementary level, which is as follows:

Figure 1. ADDIE development model
1) Belief and carry out their religious teachings

2) Show honest, disciplined, polite, confident, caring, and responsible behavior when interacting with family, friends, teachers, neighbours, and the country.

3) Understand factual, conceptual, procedural, and metacognitive knowledge at the most fundamental level by observing, asking, and attempting to learn about yourself, God’s creatures, and your activities, as well as things found in your home, school, and playground.

4) Show that they can think and act in creative, productive, critical, independent, collaborative, and communicative ways in clear language, systematic, logical, and critical in creating actions that show healthy children and how children develop.

Developing indicators will be one of the foundational components of CPS-based development teaching materials. The results analysis indicator can be seen as follows:

<table>
<thead>
<tr>
<th>No</th>
<th>Basic Competence</th>
<th>Indicator in the text book</th>
<th>Result of Indicator Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3.4 Observing the vocabulary in the text about the concept of characteristics, needs (food and a place to live), the growth and development of living things in the local environment presented in oral, written visual form, and or environmental exploration.</td>
<td>3.4.1 Mention at least four of the characteristics of living things.</td>
<td>3.4.1 Identify the characteristic of living things in the text (C1). 3.4.2 Show the characteristics of living things (C2). 3.4.3 Find out the characteristics of living things (C3). 3.4.4, Analyze the words that relate to the characteristics of living things (C4).</td>
</tr>
<tr>
<td>2</td>
<td>3.4 Presents a report on the concept of characteristics, needs</td>
<td>4.4.1 Summarize the characteristics of living things</td>
<td>4.4.1 Present the report of the characteristics of living things (P3)</td>
</tr>
</tbody>
</table>

**Figure 2. Related Indicators in Indonesian Subject**

b. Needs Analysis

Based on interviews with three elementary school teachers in grade III. Mrs. Ms, S.Pd, a teacher at SDN 09 Sungai Aur; Mrs. Er, S.Pd, a teacher at SDN 15; and Mrs. NEL, S.Pd, a teacher at SDN 07 Sungai Aur are the three people. The interview resulted in the conclusion that elementary school teachers use government-supplied teaching materials in the learning process. Because teachers do not understand how to create these teaching materials, elementary school teachers have stated that they have never created teaching materials that stimulate students' thinking progress in learning. In elementary schools, teachers frequently use the lecture method to support learning.

According to the findings of the researcher's analysis of the conclusion of this interview, there are no CPS-based teaching materials developed by the teacher in accordance with the characteristics of students. As a result, this is the basic foundation for the development of CPS-based teaching materials to improve elementary school students' learning outcomes.

c. Student Analysis

A simple questionnaire was used to collect data for student analysis on March 24, 2021, from 10 students at SDN 09 Sungai Aur. The goal was to learn more about the students' original motivation for learning. There are 14 students at SDN 16 Sungai Aur on March 30, 2021, and 14 students at SDN 07 Sungai Aur on November 3, 2021.

3.2 Design Phase

At this stage, teaching materials were designed. The design of the teaching materials is as follows:
3.3 Development Phase

This development stage aims to create teaching materials that employ valid creative problem-solving and are suitable for use in the learning process. The designed lesson plans and teaching materials are then validated by the validator using a validated instrument. The aspect of Language, content or material, design, lesson plans, and teaching materials are all evaluated for validity. Five validators, four lecturers, and one elementary school teacher validated Creative Problem Solving teaching materials. The validators were divided into four categories: expert language (lecturer), expert content (lecturer), expert design (lecturer), and expert material (elementary school teacher), and each validator provided feedback on the validation sheet (questionnaire) provided by the researcher. Following the name of the teaching material validator on the table, use Creative problem-solving:

<table>
<thead>
<tr>
<th>No</th>
<th>Validator Name</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Prof. Dr. Mr., S.Pd., M.Si.</td>
<td>Content Validator</td>
</tr>
<tr>
<td>2</td>
<td>Dr. Dr., ST., M.Pd.</td>
<td>Graphical Validator</td>
</tr>
<tr>
<td>3</td>
<td>Dr. Hj. YF, S.Pd., M.Pd._</td>
<td>Thematic Validators</td>
</tr>
<tr>
<td>4</td>
<td>Dr. DA., M.Pd.</td>
<td>Language Validator</td>
</tr>
<tr>
<td>5</td>
<td>Al., M.Pd._</td>
<td>Elementary School Teacher</td>
</tr>
</tbody>
</table>

The CPS-based teaching material Kvisoft Flipbook Maker Pro developed in this study using the ADDIE development research stage is the result of collaborative thinking between researchers and classroom teachers. The product developed consists of six CPS-based learning activities that can be implemented in a third-grade elementary school and are based on core and basic competencies in the 2013 Curriculum. The creation of CPS-based integrated thematic teaching materials with the assistance of Kvisoft Flipbook Maker Pro is in line with the demands of education in the Industrial Revolution era 4.0 and aids in the development of students’ 4C skills (Communication, Collaboration, Critical Thinking, and Creativity).

CPS-based integrated thematic-based teaching materials were created with the help of Kvisoft Flipbook Maker Pro, and they included activities to help students understand problems, express ideas, find solutions, and implement them. Because the teaching materials are designed in such a way that there is no limitation in the content of one learning material with the others, the merging of content in
Mathematics, Indonesian Language, Citizenship Education, Physical Education and Sports, and Cultural Arts is not visible in its activities, so students do not realize they are getting five lessons' worth of content at once. The activities in integrated thematic-based teaching materials based on CPS are more focused on getting students to solve problems with the help of Kvisoft Flipbook Maker Pro.

Based on the results of developing a CPS-based integrated thematic-based teaching material model for third-grade elementary school students with the assistance of Kvisoft Flipbook Maker Pro, it can be concluded that the development research model following the ADDIE stage of developing CPS-based integrated thematic-based teaching materials with the assistance of Kvisoft Flipbook Maker Pro is proven to improve learning outcomes for third grade elementary school students in West Pasaman.

3.4 Validity of Integrated Thematic Teaching Materials Based on CPS assisted by Kvisoft Flipbook Maker Pro

Evaluating a study requires it to have validity. The term "valid" is defined by Trianto (2011: 255) as "the assessment provided accurate information about the developed media." Connors-Kellgren et al. (2016) state that Kvisoft Flipbook Maker-created CPS-based integrated theme teaching materials are valid if they adhere to both content and construction standards. We call this "content validity." It is also important that these parts have a reliable relationship with one another, a concept known as construct validity (Slavit et al., 2016). In this research, we dissect validation into its component parts, namely, content validation, language validation, and presentation validation. According to Sugiyono's (2009:414) opinion that several experts or experienced experts can carry out product validation to assess the new product designed so that further can be done, the validity of integrated thematic teaching materials based on CPS assisted by Kvisoft Flipbook Maker involves five expert validators. known strengths and weaknesses (Slavit et al., 2016; Khairul et al., 2018) The expert validation results were collected and analyzed to determine the average of each indicator and aspect.

The validity of integrated thematic teaching materials based on CPS assisted by Kvisoft Flipbook Maker Pro was 89.14% (Content Validation), 80% (Graphic Validation), and 83.3% (Language Validation) based on the results of data analysis by educational experts and practitioners. It is classified as a very valid category when viewed through the lens of the developed category. As a result, it is possible to conclude that the integrated thematic teaching materials based on CPS, with the assistance of Kvisoft Flipbook Maker Pro, were created in accordance with the curriculum demands. A very valid assessment of the CPS-based integrated thematic teaching materials developed with the assistance of Kvisoft Flipbook Maker Pro indicates that the CPS-based integrated thematic teaching materials developed with the assistance of Kvisoft Flipbook Maker Pro can be used as learning resources for students.

3.4 Practicability of Integrated Thematic Teaching Materials Based on CPS assisted by Kvisoft Flipbook Maker Pro

CPS-based integrated thematic teaching materials, assisted by Kvisoft Flipbook Maker Pro that have been declared valid by the validator are then tested to see their practicability. Teachers and students can use CPS-based integrated thematic teaching materials assisted by Kvisoft Flipbook Maker Pro to carry out learning without many problems, so CPS-based integrated thematic teaching materials assisted by Kvisoft Flipbook Maker Pro are said to be practical (Aldila et al., 2017; Angraini et al., 1999). The practicality test consisted of several activities, including a practicality questionnaire administered by teachers and a practicality questionnaire administered by students. Based on a teacher's questionnaire analysis of the results of the practicality test, an average of 3.7 was obtained in the very practical category. An average of 3.5 was also obtained based on the results of the questionnaire completed by students. The conclusion that the CPS-based integrated thematic teaching materials were developed with the assistance of Kvisoft Flipbook Maker Pro is fascinating because they are equipped with fun learning process activities for students. The presentation of integrated thematic teaching materials based on CPS, aided by Kvisoft Flipbook Maker Pro, is also appealing, increasing students' enthusiasm for learning the material. Furthermore, students stated that they did not require too much
guidance while completing each activity sheet on CPS-based integrated thematic teaching materials with the assistance of Kvisoft Flipbook Maker Pro.

3.4. Effectiveness of Integrated Thematic Teaching Materials Based on CPS assisted by Kvisoft Flipbook Maker Pro

CPS-based integrated thematic teaching materials, assisted by Kvisoft Flipbook Maker Pro, have been declared valid and practical. The effectiveness of CPS-based integrated thematic teaching materials developed with the assistance of Kvisoft Flipbook Maker Pro can be seen in student learning outcomes. This effectiveness test was conducted in three meetings, beginning with three elementary schools and field tests. After using integrated thematic teaching materials based on CPS and assisted by Kvisoft Flipbook Maker Pro, assessment is used to determine the effectiveness of the learning process. The results of questionnaires and interviews about students' learning motivation following the use of integrated thematic teaching materials based on CPS, aided by Kvisoft Flipbook Maker Pro, were used to evaluate the results. The analysis results show students' learning outcomes after learning with CPS-based integrated thematic teaching materials aided by Kvisoft Flipbook Maker Pro, proving that the CPS-based integrated thematic teaching materials aided by Kvisoft Flipbook Maker Pro were used effectively for the learning process.

4 CONCLUSION

In general, the findings of the validation of educational resources fall within the range of "very valid." This is evidenced by the findings of studies performed on repurposed textbooks. The findings demonstrate the created educational resources' reliability and viability for use in the classroom to actualize the learning process. It has been said that educational resources are "practical" because of their usefulness and ease of implementation. This section explains that the course contents have been proven effective through testing. The results of a practical test indicated that third graders at a primary school were taught using creative problem-solving strategies by a group of three teachers and nineteen pupils. Using fairly realistic standards, we arrive at a result percentage of 3.7 for the instructor and 3.5 for the learner. The educational outcomes of the pupils can be improved by using these teaching resources. The study's authors found that the lessons they created significantly improved students' performance. According to the research, an N-Gain Score of 0.71 (High) indicates a fairly successful level of learning for the students.

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