The Development of Networked-Based Teaching Materials Using Sevima Edlink in Elementary School

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ABSTRACT

This research aims to develop a teaching material Based Networked using Sevima Edlink In Elementary School theme heat and its transfer. Data analysis shows that teaching materials based on Networked using Sevima Edlink in Grade V Elementary School theme heat and its transfer effective and attractive in learning. This research method is Research and Development with the ADDIE model. Validity results teaching materials based networked using application Sevima Edlinks, theme heat and its transfer and their displacement show criteria very valid after validation by material, media, and language validating with average value 87 percent with the category very valid. Practical results of teaching materials based networked using Sevima Edlinks theme heat and its transfer show practical criteria after students’ evaluation of practicality with an average value of 95 percent with category very practical. The effectiveness test results showed the pretest value is 69.6, and at the time posttest increased to 80.6 percent after using product teaching materials based networked application sevima edlinks, theme heat and its transfer in learning thematic integrated. This shows presence enhancement results study students after using developed teaching materials.

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1. INTRODUCTION

The development of science in the current era of globalisation has brought changes in various fields of life, one of which is education. Education plays an important role in responding to modern technological advances. Currently, the technology that is developing rapidly is the internet. Teachers and students can use the Internet as a basic structural tool in learning. With the advent of the internet, it provides new opportunities for educational activities. The internet is changing the concept of traditional teaching (Andrijati, 2014).
The reality that is happening today is the rapid development of technology that cannot be avoided in the world of education, especially basic education. Current technological developments allow teachers to compile, design, and provide interesting teaching materials for students. The 2013 curriculum with the principle of science cannot be transferred from teacher to student. Students are subjects who have the ability to actively seek knowledge and construct knowledge (Usmeldi et al., 2017).

Teaching materials are important for students to guide learning (Nurdyansyah & Widodo, 2015). Teaching materials are a linear process with the learning process (Cahyadi, 2019). Learning materials in elementary schools are minimal and have not helped with learning (Amini, 2020). When the teacher gives students questions, it is difficult for them to answer them, so teaching materials that can help students understand the subject matter during a pandemic need to be developed. During the current pandemic, learning tends to be done online. In online learning, the teacher can provide teaching materials which can later be accessed by students using the help of applications. The application that can be used is Sevima Edlink.

Learning during the Covid-19 pandemic was carried out using distance learning. Distance learning can be done in two ways, namely offline learning and online learning. The Sevima Edlink application is a Management Learning System (MLS) that can be used and recommended in online learning (Darwanto, 2021). One of the effective virtual classes is Sevima Edlink. Sevima Edlink is an android-based application specifically for the world of education which aims to provide a learning space that bridges teachers and students in learning activities that can be carried out anytime and anywhere with more flexible study times (Novandini & Luta, 2017). The Sevima Edlink application has features that are quite complete and very easy. These fairly complete and easy features can facilitate students and teachers in learning activities and can support the success of learning activities.

Using the Sevima Edlink application can help realise networked-based learning, where networked learning connects students with experts in their fields. In the learning process, students and people who are experts in their fields form a network (Networked). The networked model is one of the models used in learning in elementary schools (Amini, 2019). Networked type learning is an integrated learning model that involves the experts’ role to assist students who want to learn (Windariyah, 2018). In the development of teaching materials, the material should not be lacking or excessive (Magdalena et al., 2020). After that, students can draw conclusions from the learning they have done. This networked model has the advantage of allowing students, alone or with friends, to discover learning concepts and principles holistically and authentically. Besides that, it also develops students’ thinking skills and social skills because the formation of a network makes students active in communication, cooperation, tolerance and respect for others (Mistawati & Astuti, 2020)

The research that is relevant to this research is Wibowo and Indah Rahmayanti’s research (2020) entitled "Using Sevima Edlink” as an Online Learning Media for Teaching and Learning in Elementary Schools”. The similarity with the research to be carried out is both use Sevima Edlink. The difference with the research to be carried out is the use of Sevima Edlink to distribute teaching materials in the form of learning videos. Marlina’s research (2020) is entitled "Development of Blended Learning Models Assisted by the Sevima Edlink Application”. The similarity with the research that will be carried out is both use Sevima Edlink. The difference with the research I will be doing is the development of teaching materials, while the relevant research is the development of learning models. Windariah’s research (2018) entitled "Development of Integrated Learning Devices with an Integrated Networked Model of Place-base Education in Elementary Schools”. The similarity with the research that will be carried out is that both use the networked model, while the difference with the research I will be doing is the development of teaching materials in this relevant research, the development of integrated learning tools is carried out. Rosanti’s research (2020) entitled "Mathematical Critical Thinking Skills Using the
Sevima Edlink Application-Assisted E-Learning Learning Model in Elementary Schools”. The similarity with the research that will be carried out is that both use the Sevima Edlink application, while the difference with the research I will be doing is that the learning model used is the Networked model, while in this relevant study, the E-Learning learning model.

The Sevima Edlink application has a myriad of features that make the learning process easier, including a sharing feature to share teaching materials to be used, an assessment feature that allows teachers to provide feedback for tasks that have been done, a quiz feature so that teachers can give quizzes for students to relieve stress and trains the brains of students, and features private messages so that students and teachers can interact personally. The Sevima Edlink application is a digital classroom application that can be accessed by computers and smartphones so that it can make it easier for teachers and students in online learning (Marlina, 2020). Sevima Edlink has complete and more structured features that helps students to focus during online learning by utilising the features found in Sevima Edlink as online learning materials in the form of videos, documents, images, etc. (Marlina, 2020).

This research is to develop teaching materials based on networked using Sevima Edlink for grade 5 elementary school students in integrated thematic learning. Sevima EdLink is an online learning application used in learning according to the digital era to produce teachers and students who are skilled in IT-based learning by considering various values, namely creative values, psychological values, innovative values and functional values (Nasution, 2021). Sevima Edlink has advantages, as stated by (Wibowo & Rahmayanti, 2020) stating that there is a learning content sharing feature, an assessment feature, a feedback feature, a quiz feature, a private message feature, a special feature for giving assignments, discussions, and classes that can accommodate many classes. According to the needs, the learning process takes place effectively.

The Sevima Edlink application is a mobile Android-based media specifically for the world of education that can be used by educators and students in the learning process. Sevima Edlink makes it easy to do learning in the delivery of material, assignments and assessments (Meilindha, 2017). One of the teaching materials that can attract the attention of students is the form of learning videos. Learning videos are teaching materials that have elements of sound and visual motion (Hadi, 2017). This learning video has the advantage that students can absorb information using more than one sense, especially the senses of sight and hearing. The more senses that students use when learning, the more easily the learning material will be absorbed by students. Learning activities using learning videos can help students achieve success in learning activities. Learners will have a meaningful learning experience by using learning videos. According to the background, the writer develops networked-based teaching materials using Sevima Edlink in elementary schools.

2. METHODS

This development research uses the ADDIE model, which includes "Analysis, Design, Development, Implementation, Evaluation". The benefit of research is to develop teaching materials using a networked model based on social learning networking using Sevima Edlink in elementary schools. The purpose of this development research is not only to produce teaching materials but also to motivate and stimulate students' interest in learning. This development research is product-oriented, and the product developed is in the form of learning videos that can be used through using the application Sevima Edlink.

In this study, data collection techniques used learning evaluation tests and observation sheets (effectiveness), questionnaires (validity and practicality) and documentation. The questionnaire used for media, material and language experts, teachers and students are a closed questionnaire, namely the respondent must choose the answers that have been provided. The scale used is a Likert scale. The data collection tools used are questionnaires, questions, validation formats, and journals.
**Data analysis technique**

1. **The Validity Questionnaire Analysis**

   Validation data is collected by the validator. Eligibility data is in the form of a Likert scale of 1-5 with the following conditions if the value 5 means very good. The validity analysis used a Likert scale based on the validation sheet. Giving validity value using the formula:

   \[ v = \frac{f}{n} \times 100 \]

   Source: (Pranoto, n.d.)

   The validity category based on the final score is then presented with a scale of 0-100%, 81% until 100% means very valid, 61% - 80% means valid, 41% - 60% means enough valid, 21% - 40% means less valid, and 0% - 20% means invalid (Pranoto, n.d.)

2. **Practical Questionnaire Analysis**

   This hands-on survey collected demand, teacher, and student response data. Suitability data are in the form of a Likert scale from 1 to 4 with the following conditions: A value of 4 means "totally agree" and a value of 1 = completely disagree. The practical analysis uses a Likert scale based on a practicality sheet. Giving practicality value using the formula:

   \[ v = \frac{f}{n} \times 100 \]

   Practicality categories based on the final score are then presented with a scale of 0-100% as 81% until 100% means very practical, 61% - 80% means practical, 41% - 60% means enough, 21% - 40% means less practical, 0% - 20% means not practical (Pranoto, n.d.)

3. **Effectiveness Test Analysis**

   The effectiveness of the developed learning video teaching materials products is seen based on student learning outcomes. To determine student learning completeness can be calculated using the following equation:

   \[ KB = \frac{N}{N} \times 100 \]

   Source: (Al-Tabany, 2017)

3. **FINDINGS AND DISCUSSION**

   Based on research on the development of teaching materials based on Networked Theme 6 Sub-theme 2 that has been carried out, the results of research and discussion for each stage of research and development are as follows:

3.1 **Stage of Analysis (Analysis)**

   a. **Needs Analysis Stage**

      The activity at the needs analysis stage is conducting a preliminary test of the school used as the research sample, namely class V SDN 12 Parambahan and SDIT Haji Djalaluddin, especially for this class for developing teaching materials.

   b. **Curriculum Analysis Stage**

      At this degree what's being executed is mapping the syllabus through studying content material widespread products, middle abilities and primary abilities and indicators, withinside the implementation of getting to know the use of network-primarily based totally coaching substances the
use of Sevima Edlink in elegance five Theme 6 Heat and its Sub-subject Transfer 2 Heat Transfer Around Us. The syllabus mapping steps above are as follows:

First, Determine the evaluation of Graduation Competency Standards taken from the Attachment of Permentdikbud No. Fifty-four of 2013 regarding SKL for number one and secondary education, then the extent of the problem of the challenge relies decided through the trainer withinside the realm of attitudes, know-how and skills. Second, examine middle abilities, and primary abilities and expand indicators, then decide the shape of evaluation and the sorts of assessments to be achieved each pre-take look at and post-take look to enhance getting to know outcomes. Third, Make network-primarily based totally coaching substances the use of Sevima Edlink in elegance five Theme 6 Heat and its Transfer Sub-subject 2 Heat Transfer Around Us. Fourth, calculating the time allocation to be achieved in getting to know the use of network-primarily based totally coaching substances the use of Sevima Edlink in elegance five Theme 6 Heat and its Transfer Sub-subject 2 Heat Transfer Around Us. Fifth, getting ready thematic getting-to-know implementation plans for sophistication five, subject 6, sub-subject 2. Mapping curriculum evaluation as a foundation for growing network-primarily based totally coaching substances the use of Sevima Edlink in elegance five Theme 6 Heat and Its Transfer Sub-subject 2 Heat Transfer Around Us.

After mapping the content criteria consisting of core competencies and criteria, the next step is to map between subjects grouped into one theme and several sub-themes to divide core competencies, basic competencies and indicators to analyse the interrelationship of the lesson. The connectivity mapping of basic skills and indicators in this developmental study aims to integrate Indonesian language, civics, mathematics, and SBDP subjects. This integration has been developed in the form of network-based teaching materials using Sevima Edlink in Class 5, Theme 6, Heat and Heat Transfer, Subtopic 2, and Heat Transfer Around Us, and has been developed into multiple subtopics and learning activities.

c. Stage of Analysis of Student Characteristics

This study was conducted with 22 students in Class V of SD Negeri 12 Paraambahan for the 2021/2022 academic year. The purpose of this study is to class V students. Students in the class, researchers speculated on some characteristics of common students:

1. The material used by students is the 2013 Syllabus Student Book, which includes figures and figure descriptions. In learning activities, students have difficulty developing material and have difficulty integrating the entire material into the learning situation.
2. No teaching materials in the form of network-based learning videos using Sevima Edlink as supporting material for curriculum development during this pandemic in Class 5, Theme 6, Heat and Heat Transfer, and its transmission.
3. Student activity is less involved in learning, as evidenced by the student learning activity of simply listening to the teacher’s lecture. Based on the characteristics of these students, teaching materials in the form of learning videos are needed as a tool to help develop the material as well as learning reference materials or student book companions and increase student activity in learning activities. This is in line with the results of interviews obtained from class V teachers, who stated that learning activities are not optimal for learning.

3.2 Design Stage

In this phase, we will design a prototype of educational video material corresponding to the 2013 syllabus. That is Class 5, Theme 6, Heat and its Transfer uses Sevima Edlink to design and develop teaching materials in the form of network-based instructional videos. Based on AI and KD conformance
to the 2013 Syllabus Content Criteria published in the 2013 Syllabus. Combine it with the teacher’s and student’s books you use to study.

Product design planning is based in particular on the following planning stages:

1. Prepare teaching materials in advance
   In the early stages of the pre-production of network-based teaching materials using Sevima Edlink in Class 5 Theme 6 Heat and Transfer, we will focus on the distribution of teaching materials mapped between basic skills and learning indicators and Collect sources and references.

2. Creation of teaching materials
   The preparation step is the preparation of teaching materials that conform to pre-planned product specifications, as follows: First, materials are developed based on core competencies, foundational competencies, competence performance indicators, and the amount of material associated with the current curriculum: 2013 Curriculum Will, Materials, Topic 6, Heat and Transfer. Second, the developed teaching materials are integrated theme videos. Third, in the form of digital media in mp4 format entered into the Sevima Edlink application used during the study. Fourth, the teaching materials contain colourful images that capture the attention of students. This drawing not only draws the students’ attention, but is also an illustration related to the students’ real life.

3.3 Development Phase
   Next is the development of teaching materials. After designing the product in the design stage, we develop the product in this stage. This development phase aims to create a revised final product based on expert opinion and apply or implement it to students. During this development stage, product validation of the teaching materials is carried out. The purpose of product validation is to determine the feasibility and quality of the teaching materials. Validation of teaching materials is verified by relevant experts such as media experts, teaching materials experts and linguists. Here are the validation results:

1. Relevance to material experts
   Evaluation and verification of the material were done by two of his UNP lecturers, namely Dr. Mr, M.Pd and Prof. Dr. JMz, MA, Ph.D. Suggestions for improvement and their communication.
   (1) Create a prologue or video introduction.
   (2) Clarify and complete network-based materials. as follows.

2. Legitimacy of Media Professionals
   Learning includes the suitability of material as measured by media and syntactic experts. DS, S.Pd, MA. He is a Lecturer in Education at Padang State University and a Master of Postgraduate Education Lecturer at Padang State University. Evaluation results by experts Design, the material is already worth using for learning. The material is clear, interesting, and suitable for the fifth grade at the earliest, so it already shows interesting things, and the material can be used directly. The language of the material is already communicative and easy to understand, similar to the English materials used by self-employed students.

3. Language assessment
   Linguistic evaluation and verification by product experts by Dr. NZA, M.Pd. Evaluation results by verification by linguists. Some suggestions have been provided by our linguist reviewers to use as input and guidelines to improve our educational product, especially with student-readable characters and font sizes. Based on the relevance criteria, the relevance result of the material is included in the Very Relevant category. The table below summarises material, language, and media verification. The results can be seen in the figure below.
By and large, the scores obtained by validators for each metric are already valid, but there are many comments and suggestions that validators have made on their scoresheets that could provide input and guidance to the revised product. This demonstrates that a complete and appropriate needy learner arranged the third aspect, materials, media and language.

### 3.4 Implementation Stage

At this stage, this tested limited to teachers and students. Testing was done to see the level, of practicality Teaching Materials. Trial limited done against 1 teacher and 25 students at SDIT Haji Djalaluddin, Kecamatan Ampek Angkek, Regency religion. Practicality Networked-based teaching materials on learning thematic integrated developed could seen from results analysis practicality by educators and students. Following results from the stages that have been carried out at the Implementation:

1. **Test Teacher Practical**
   
   Evaluation of teacher response aims to know the teacher's opinion on the practicality of developed teaching materials. The average percentage evaluation teacher's response to networked-based teaching materials in learning thematic integrated class V SD is in the category of very practical with a percentage of 96%. Very practical, which means that teaching materials are in accordance with criteria that have been determined.

2. **Practical Test Student**
   
   Practicality test sheet student show analysis of the data obtained every evaluation response student to practicality teaching materials is 94 percent with the category very practical.

3. **Effectiveness**
   
   Effectiveness did if the product developed has been valid and practical. Effectiveness developed teaching materials said effective if aspect assessment results study students get completeness 75 % or above KBM _ Minimum Learning _). There are differences based on the results of the comparison of the students' pretest and posttest scores. In the pretest score, an average of 69.6 was obtained and at the posttest it increased to 80.6 after using learning video teaching materials networked based using Sevima Edlink shows an increase in the student learning outcomes after using these teaching materials.
3.5 Evaluation Stage

1. Modification of the results of the first field test

After validating the product design through evaluation of the developed device by material, media, and language experts, researchers improved the product design according to suggestions and inputs from media, experts, and linguists.

2. Main Field Trial

After several rounds of redesigning and tweaking, a massive field experiment was carried out to verify the product’s efficacy. The created goods were put through their paces in order to gauge their efficacy (Emzir, 2011:273). The primary field test lasted for 6 sessions in Class V at SDN 12 Parambah. Twenty-two people (8 women and 14 men) participated in the primary field trial. Participants’ students who achieve criteria enough by 9.1% and participants' students who get a mark not enough as much as 0% are already reaping the benefits of the program’s successful implementation, learning, and teaching strategies. Twenty-five students were tested, with an average score of 85.8. This suggests that class-five learners can benefit from employing Networked-based instructional resources, as shown by the aforementioned study.

3. Operational Product Revision

After the field trial is completed, the researcher fixes the deficiencies found. The disadvantages of the research product are as follows: The volume of the product being developed is not strong enough. This deficiency was revised by the researcher so that the product used the next time is easier for students to understand.

4. Operational Trial

Next, we conduct test runs at Haji Djalaluddin Elementary. Six meetings of trial operation completed. Learning resources with a thematic integrated use that participants acquire in full Movement of Hot Air. The lowest grade was 62 and the highest was 90. Thirteen out of the twenty-two respondents (52%) were educated in this category. Educate as few as ten people in class, or 40 percent of the total. Enough people in this category have college degrees, making up 8% of the sample size. The end product is satisfactory. Results from a large-scale test of the efficacy of using Sevima Edlinks to distribute and facilitate online collaborative learning indicate that participants in the study learned more when they used the product, compared to when they did not.

Related to Marlina’s study (2020), “Development of Blended Learning Models Assisted by the Sevima Edlink Application” concludes that Blended Learning with Sevima Edlink is suitable for the learning process. Instead, “Development of Blended Learning Model-Based Lkpd with the Assistance of the Sevima Edlink Application” by Wahyuni (2022) shows that the quality of teaching materials using the blended learning model with the help of the Sevima Edlink application is valid, practical, and effective in facilitating student learning, especially among elementary school students. Rosanti’s (2020) findings corroborate this claim, showing that online instruction using Sevima Edlink improves students’ critical thinking abilities more than classroom instruction alone.

4. CONCLUSION

The findings and conclusions of this development research are as follows. First, this development research creates a Sevima Edlinks-based, networked-primarily based coaching fabric product that is adapted to the requirements of the 2013 curriculum. Second, after being checked by content, media, and language validators, the results of the validity of Sevima Edlinks topic 6 warmth and its switch training materials show very legitimate standards, with an average rate of 87 percent in the completely valid category. Third, students scored an average of 95% inside the very sensible category in the
practicality evaluation they completed for the Sevima Edlinks topic 6 warmth and its switch, displaying that the materials are up to par with very sensible standards. Fourth, the effectiveness test outcomes of scholar learning outcomes from the records of pretest and posttest scores, the pretest rating acquired outcomes of 69.6 and at posttest it multiplied to 80.6 percent after the use of networked-primarily based coaching fabric merchandise the use of Sevima Edlinks in theme 6 warm, and the shift to included thematic studying. This suggests that student performance improves after using modern instructional materials. Time constraints pose a problem for the research; the investigations were conducted during the Covid 19 epidemic when kids rushed to enrol in high school before the outbreak subsided.

REFERENCES

