



CONTENT AND FLORES CULTURAL CONTEXT BASED THEMATIC ELECTRONIC LEARNING MATERIALS: TEACHERS AND STUDENTS' PERCEPTION

Dek Ngurah Laba Laksana¹,

Maria Angelina Seso,

Imelda Uma Riwu

Primary Teacher Education Department,

STKIP Citra Bakti,

Indonesia

Abstract:

This research aimed to investigate teachers and elementary students' perception on the content and Flores cultural context based thematic electronic learning materials. This research began with developing the electronic learning materials by utilizing the ADDIE model which cover: 1) analyze, 2) design, 3) development, 4) implementation, and 5) evaluation. On the other hand, the data about students' and teachers' perception were gathered through questionnaire. The data were then analyzed descriptively to present details regarding teachers' and students' perception; this research revealed that teachers' perception of the electronic learning materials was in the excellent category. Additionally, students' have also excellent perception of the electronic learning materials.

Keywords: electronic learning materials, Floresian culture, thematic learning

1. Introduction

Contextual teaching and learning is an instructional process done by teachers, mainly to link the taught materials to the students' actual situation. This kind of teaching can encourage students to make connections between the knowledge they have and its application in their daily lives, whether personal, social and cultural context (Laksana & Seso, 2018). Contextual teaching and learning is also closely related to thematic learning in elementary schools (Dasna, Laksana, & Sudatha, 2015).

Thematic learning places more emphasis on applying the concept of learning while doing something. Therefore, teachers need to package or design learning experiences that will affect the meaningful learning of students. Learning experiences

¹ Correspondence: email laba.laksana@citrabakti.ac.id

that connect to conceptual elements will make the concept of learning more effective (Arends, 2013). Conceptual links between the subjects studied will form a scheme, so that students will gain wholeness and roundness of knowledge. In addition, the application of thematic learning in elementary schools will help students, because according to the stage of development students would still see everything as a whole (Dasna et al., 2015).

Learning always starts from concrete things to abstract. This was confirmed by Arends (2013) who stated that in the learning process, teachers must develop contextual teaching materials according to the needs and environment of the community in which students learn. In addition, Laksana and Widiastika (2017) revealed in their findings that there are still many teachers who use ready-made teaching materials such as in thematic books that have been provided by the government or worksheet which are the results of a publisher that are not in accordance with the environment in which students learn.

This condition certainly can make it difficult for students to understand the material they should master. Printed teaching materials do not emphasize on the environment and local culture of the local community. Teachers as professional educators must be able to prepare teaching media that pay attention to the environmental conditions and culture of the local community as well as accommodate learning technology. In addition, the use of this ready-made teaching materials does not prioritize local cultural elements. Even though this element is very important to be included in the learning process through the preparation of teaching materials that have local culture content (Laksana, Kurniawan, & Niftalya, 2016; Laksana & Seso, 2018).

Local teaching materials can be integrated into electronic learning materials. Electronic and printed teaching materials contain systematic arrangements both written and unwritten to teach students in an effort to achieve learning goals (Ciampa, 2012). Electronic learning materials are the right choice for students as a learning resource. In the digital era like today, students begin to rarely open up or read conventional books. The ease of access to information with technology is the cause. The ease of access to information has an impact on the generation raised in a society dominated by the use of information technology in various fields (Jones & Brown, 2011).

Ciampa (2012; Jones & Brown, 2011; Turel & Sanal, 2018) states that electronic learning materials developed by integrating various text formats that can be alternative teaching materials with different functions so that they can be called electronic smart books. Electronic learning materials are easier to fill or integrate with text, images, and videos. Electronic learning materials make it possible to enter text that is very closely related to multimedia (Mayer, 2007).

Multimedia can be defined as media that is combined from various elements such as text, photos, graphic arts, sound, animation, and video that are equipped with a controller that can be operated by the user so that the user can choose what is desired in the multimedia. The use of multimedia in the learning process aims to convey learning material to students so that learning objectives can be achieved (Mayer, 2007; Muller, Lee, & Sharma, 2008).

The use of multimedia in thematic learning can be taught by using local culture-based media in accordance with the material to be taught, for example in science, social studies and sport science. One of the characteristics of thematic learning is flexible, meaning that the teacher can associate teaching material from one subject to another, even linking it to students' life and the environment in which schools and students are located (Dasna et al. 2015). The environmental situation pointed previously is the local culture. Various local cultural content can be integrated into thematic learning curricula in elementary schools (Baka, Laksana, & Dhiu, 2018).

The development of electronic learning materials has been carried out and proven empirically effective for thematic learning in elementary schools (Seso, Laksana, & Dhiu, 2018; Riwu, Laksana, & Dhiu, 2018). Other studies also show satisfactory results in the use of electronic textbooks (Ciampa, 2012; Jones & Brown, 2011; Turel & Sanal, 2018).

In culture-based learning, culture becomes a medium for students to transform their observations into creative principles of nature. Thus, through culture-based learning, students are not just imitating and / or accepting the information conveyed, but students create meaning and understanding of the information obtained. Likewise, culture-based learning is not merely transferring or conveying culture or cultural manifestations, but using culture to make students able to create meaning, penetrate the limits of imagination, and creativity to achieve a deep understanding of the subject matter being studied (Laksana et al., 2016).

2. Method

This research began with the development of electronic learning materials followed by a trial to find out the perceptions of students and teachers about the teaching materials developed. The electronic learning materials were developed using the ADDIE model. This model consists of five steps, namely, (1) analyze, (2) design, (3) development, (4) implementation, and (5) evaluation (Anglada, 2007). This model was chosen due to the consideration that this model developed systematic product and also it is based on the theoretical foundation of instructional design. This model is arranged in a programmed manner with sequences of systematic activities in efforts to solve learning problems related to learning resources and in accordance with the needs and characteristics of students.

The data were collected by delivering questionnaires to teachers and students as the users of the product. The collected data were then analyzed descriptive qualitatively by referring to the category shown in Table 1.

The teachers and students involved in this study were those from elementary schools in Ngada regency, East Nusa Tenggara Province, Indonesia. A total of 6 teachers and 20 students used these electronic learning materials and gave an assessment by filling out a questionnaire.

Table 1: Category of Teachers and Students' Perception of the Electronic Learning Materials

No	Qualification Criteria	Range	Category
1	$P \geq Mi + 1,5 Sdi$	$P \geq 4,0$	Excellent
2	$Mi + 0,5 SDi \leq P < Mi + 1,5 Sdi$	$3,3 \leq P < 4,0$	Good
3	$Mi - 0,5 SDi \leq P < Mi + 0,5 Sdi$	$2,7 \leq P < 3,3$	Moderate
4	$Mi - 1,5 SDi \leq P < Mi - 0,5 Sdi$	$2,0 \leq P < 2,7$	Poor
5	$P < Mi - 1,5 Sdi$	$P < 2,0$	Very Poor

3. Result and Discussion

3.1 Result

The first stage of this research was to develop electronic learning materials. The results of the development are presented in Table 2. The next step is to test the developed electronic learning materials. The test involved 6 teachers and 20 elementary school students. Data on teacher and student perceptions of electronic learning materials are presented in Tables 3 and 4.

Table 2: Description of Results of Development of Electronic Learning Materials

No	Steps	Description of the Results
1	Analyze	The development of these electronic learning materials was first carried out analyzing the themes consisted in the fourth grade syllabus as follows (1) Concerning the Living Beings, and (2) The beauty of Togetherness. During its development, this teaching material described the content and local Floresian cultural context integrated into electronic learning materials.
2	Design	The results of the analysis stage serve as the basis for developing electronic learning materials. Teaching materials developed are teaching materials for fourth grade elementary school students. In addition, thematic books that were already available or provided by the government were also used as reference materials to develop new teaching materials. The things done in this design phase were drafting teaching materials, then looking for images related to the materials. In addition, the researchers also made videos to be included in the developed teaching materials. Pictures, videos, and material taken were contextual content.
3	Development	At this stage, the researchers discussed the results of electronic learning materials development that have been revised by experts. The results of developing electronic learning materials included (1) Cover. Cover is a display of electronic books developed, both initial and final appearance. (2) Guidance to the Use of Teaching Materials. The guide to the use of electronic learning materials was designed to be very simple and aims to convey students about the content of teaching materials that they will learn and there was an explanation of the instructions for using the electronic learning materials. (3) Table of Contents. Electronic materials developed also contained a table of contents that made it easy for readers or product users to determine which sub-themes and pages they would learn and make with attractive font colors. (4) Theme Network. The theme network contained in electronic learning materials contained several subjects (Indonesian, Mathematics, civics, natural science, Social Studies, arts and crafts, and sport science) and were equipped with Basic Competencies and Indicators that students would achieve in the theme. The theme network was created and designed in such a way to look attractive. (5) Sub-Themes. It consisted with 3

No	Steps	Description of the Results
		sub-themes and 6 learning activities
4	Implementation	At the implementation stage, the researchers conducted a trial to the electronic teaching material. Electronic learning materials with multimedia content were tested by design experts, multimedia experts, content experts. The test resulted in the teachers' perceptions were excellent category. The results of trials on students' perceptions were also excellent
5	Evaluation	This phase focused on discussing and revising the product based on the experts' suggestions and also field try out

Overall, teachers' perception of the electronic learning materials is in the excellent category. There were two aspects that were in the good category, namely organizing teaching material in terms of the demands of material presentation, and in terms of the systematic presentation of the material. While the other aspects are in the excellent category.

Table 3: Teachers' Perception of the Electronic Learning Materials

No	Aspects	Score	Category
1	The suitability of the content with learning objectives	4,3	Excellent
2	The suitability of the content with Indonesian present curriculum	4,5	Excellent
3	The suitability of the curriculum depth with Indonesian curriculum in elementary schools	4,5	Excellent
4	Organization of the teaching material in terms of the presentation of material demands	3,8	Good
5	Organization of the teaching materials in terms of the material arrangement	3,8	Good
6	The adjustment of the diction with elementary school students level	4,2	Excellent
7	The effectiveness of the sentence usage	4,3	Excellent
8	Grammar accuracy (the composition of subject, verb, object, and complement)	4,3	Excellent
9	The use of punctuation	4,2	Excellent
10	The effectiveness of pictures and video media in clarifying messages / concepts	4,2	Excellent
11	The clarity of examples and cases to explain a concept	4,3	Excellent
12	Compatibility of exercises to the explanation of the concept	4,7	Excellent
13	The suitability of the content with information and technology development	4,8	Excellent
14	The easiness to explore the electronic content	4,5	Excellent
15	Organization of the materials in the respect to support cultural based learning	4,5	Excellent
Average		4,3	Excellent

Overall, students' perceptions of electronic learning materials were in the excellent category. There were three aspects in the good category, namely aspects of material clarity, clarity of the exercises, and the quality of video display. While the other aspects are in the excellent category.

Table 4: Students' Perception of the Electronic learning materials

No	Aspects	Average	Category
1	Cover fineness	4,7	Excellent
2	Clarity of the titles	4,7	Excellent
3	Selection of fonts for easy reading	4,5	Excellent
4	Font size	4,4	Excellent
5	Overall fineness of the display of the electronic learning materials	4,7	Excellent
6	The use of text color, pictures, and book color	4,5	Excellent
7	Overall clarity of the materials	3,9	Good
8	Effectiveness of the examples	4,3	Excellent
9	Effectiveness of the exercise	3,9	Good
10	The video supports conceptual mastery	4,8	Excellent
11	The quality of the video	3,9	Good
12	Pictures eases the conceptual mastery	4,8	Excellent
13	Fineness of the pictures	4,7	Excellent
14	The suitability of the pictures with the materials	4,8	Excellent
15	The easiness to use the electronic learning materials	4,9	Excellent
16	The directional button works properly	4,7	Excellent
17	The organization of the activities arrangement in regards to support cultural based learning	4,6	Excellent
18	The organization of the materials viewed from materials delivery	4,5	Excellent
Average		4,5	Excellent

3.2 Discussion

Teachers and students' perceptions of content-based electronic learning materials and the context of local culture are excellent. The availability of electronic learning materials was highly expected by teachers to be used as a medium in teaching and learning. Students were also motivated to use these electronic learning materials.

The presence of electronic learning materials is expected to help and facilitate teachers and students in carrying out teaching and learning activities in the classroom. Teacher is not only the source of all information. However, this does not mean that learning activities do not require teacher attendance. Students are required to be more active in learning in the classroom, because teachers mostly function as facilitators in learning while students must play an active role in it. The packaging of this teaching material serves as a tool to facilitate the delivery of material that the teacher will give to students and can facilitate students to understand the materials being taught. The presence of electronic learning materials is also expected to improve the quality of learning to achieve learning goals (Jones & Brown, 2011).

Electronic learning materials can maximize all learners' sensory. This involvement certainly has supported the materials delivery (Mayer, 2007). The maximum function of learning media can be done when the media covers text, video and animation (multimedia). Learning with the help of multimedia can motivate students and create active learning (Clark & Mayer, 2003; Mayer, 2007; Muller, Lee, & Sharma, 2008).

The development of local culture-based teaching materials should be conducted by fulfilling scientific development standards. This is supported by Laksana (2015) who states that the development of local cultural-based learning activities contributes positively to improving competency-based student literacy. Integration of local cultural values in curriculum development such as making learning goals, designing learning materials, determining learning strategies, learning media, and learning evaluation are important for the quality of learning (Baka et al., 2018).

Reigeluth, Beatty, and Myers (2017) stated that initial experiences are the basis for conducting instructions. Teachers who have different culture from students are more difficult in providing learning experiences that are appropriate to the cultural context. Another finding was also expressed by Laksana and Wawe (2015) who stated that science learning with the help of media, especially local culture-based media, showed satisfactory results. Learning activities increase and are accompanied by strengthening students' understanding of the science concept. Thus, the study of local culture must be integrated in learning materials as an effort to improve the quality of learning.

The implementation of learning integrated with content and the context of local culture received a positive response from students (Riwu et al., 2018; Seso et al., 2018). In addition, it was found that electronic learning materials with multimedia were in an excellent category, making it suitable to be used for elementary school students.

This electronic teaching material can improve students' critical thinking skills, this was evidenced by research conducted by De Jong & Bus (2004; Zucker, Moody, & McKenna, 2009) who revealed that the use of electronic books effectively fosters students' thinking skills. Then another finding was conducted by Seyit (2010; Schugar, Smith, & Schugar, 2013) who stated that the development of computer-based learning media can increase student learning motivation.

Ergonomically, this electronic teaching material is very efficient to carry and use anywhere. This is in line with the research conducted by Ciampa (2012) who found out that this electronic teaching material can be used through telecommunication devices such as notebooks, laptops, cellphones, and tablets so that it is easier to carry and study whenever and wherever.

Electronic learning materials with multimedia content (text, images and videos) can motivate students in learning because the media developed in these teaching materials can attract students' attention to learning. This was supported by the findings of Ebied and Rahman (2015; Ciampa, 2012; Schugar et al., 2013) who stated that electronic textbooks were effective and efficient to use in learning and were able to improve learning outcomes, learning motivation, and reading skills.

The parts in electronic books contributed positively to the development of children's early development, attitudes, and motivation to read digital texts. Studies showed that electronic books in terms of motivational aspects and constructivist teaching methods could increase reading motivation among early readers (Ciampa, 2012).

Electronic books are available through two main sources: online sites and personal electronic devices. The importance of these devices cannot be underestimated. There are several factors that affect the transition from printed to electronic format, one of which is online resources providing quick access to reading material anytime (Jones & Brown, 2011).

This developed electronic learning materials are related to local cultures that can increase students' motivation and learning achievement. This was in line with the research conducted by Laksana and Widiastika (2016) who argue that thematic multimedia containing regional cultural content increases motivation and learning achievement. In the aforementioned multimedia, cultural content consists of regional dance, regional songs, traditional games of traditional musical instruments, traditional food, and traditional clothing.

4. Conclusion

The teachers' perception of electronic learning materials was in the excellent category. There were two aspects that were in the good category, namely organizing teaching material in terms of the demands of material presentation and the systematic presentation of the material. While the other aspects were in the excellent category. Meanwhile, students' perceptions of electronic learning materials were in the excellent category. There were three aspects in the good category, namely material clarity, clarity of the exercises, and the quality of video display. While the other aspects were in the excellent category. In relation to these findings, it is necessary to conduct further research on the effect of using these electronic learning materials on a broader scale.

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