Contextual-Based E-Book on Balinese Script Writing Learning Materials

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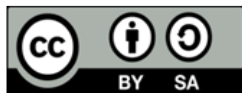
A B S T R A K

Minimnya bahan ajar interaktif yang digunakan untuk menunjang kegiatan belajar bahasa Bali menyebabkan peserta didik kurang memahami materi dan kurang tertarik belajar bahasa Bali. Penelitian ini bertujuan untuk menciptakan bahan ajar berupa e-book berbasis kontekstual yang layak digunakan oleh peserta didik kelas IV SD. Penelitian ini menggunakan jenis model pengembangan ADDIE yang terdiri dari 5 tahapan, yaitu analisis, perancangan, pengembangan, implementasi, dan evaluasi. Jenis data yang dikumpulkan pada penelitian ini adalah data kuantitatif dan data kualitatif. Subjek pada penelitian ini adalah 1 ahli isi pembelajaran, 1 ahli desain pembelajaran, 1 ahli media pembelajaran, dan 12 peserta didik kelas IV sekolah dasar. Metode pengumpulan data menggunakan metode angket. Bahan ajar berupa ebook ini dinyatakan layak dengan memperoleh hasil persentase dari uji ahli isi pembelajaran dengan kualifikasi sangat baik (95%), uji ahli desain pembelajaran dengan kualifikasi sangat baik (91,7%), uji ahli media pembelajaran dengan kualifikasi sangat baik (90%), uji coba perorangan dengan kualifikasi baik (85%), dan uji coba kelompok kecil dengan kualifikasi baik (88,8%). Dapat disimpulkan bahwa e-book berbasis kontekstual pada muatan lokal penulisan aksara Bali kelas IV dinyatakan layak untuk digunakan pada proses pembelajaran bahasa Bali.

A B S T R A C T

The lack of interactive teaching materials used to support Balinese language learning activities causes students to lack understanding of the material and be less interested in learning the Balinese language. This study aims to create teaching materials in the form of a contextual-based e-book suitable for fourth-grade elementary school students. This study uses the ADDIE development model, which consists of 5 stages, analysis, design, development, implementation, and evaluation. The types of data collected in this study are quantitative data and qualitative data. The subjects in this study were one subject matter expert, one learning design expert, one learning media expert, and 12 elementary school fourth-grade students. The method of data collection uses the questionnaire method. The teaching material in the form of this e-book is declared eligible by obtaining the percentage results from the subject matter expert test with very good qualifications (95%), the learning design expert test with very good qualifications (91.7%), the learning media expert test with very good qualifications (90 %), individual trials with good qualifications (85%), and small group trials with good qualifications (88.8%). It can be concluded that the contextual-based e-book on the local content of writing Balinese script for the fourth grade is declared feasible to be used in the Balinese language learning process.

1. INTRODUCTION

In general, the local content of the Balinese language is considered an easy lesson to understand because it has become the language used daily by the people in Bali. Learning is essentially a process of regulating and organizing the environment around students so they can grow and encourage students to carry out the learning process (Badiah, Jauhari, & Sambira, 2020). Learning is a process of interaction between teachers and students and learning resources to guide or assist students in a learning environment (Munir, Arief Nur Wahyudi, & Aba Sandi Prayoga, 2021; Yunus & Fransisca, 2020). The learning process that occurs in the classroom does not only involve teachers but also students, who are expected to be actively involved in the learning process to create conducive learning conditions to improve students' abilities in the learning process (M. P. Dewi & Firman, 2019;

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Gusmayanti & Dimyati, 2021). Learning is usually characterized by interactive interactions that occur between teachers and students. The teachers facilitate students to learn well so that the interactions between teachers and students in learning can run effectively. The learning process is a series of activities involving various components interacting with each other. The components in learning include teachers, students, applied curriculum, learning objectives, learning materials, learning methods, learning tools, and evaluations (Arum & Yuanta, 2019; Novita & Sundari, 2020). There are four pillars of the learning process, namely Learning to know (learning to master knowledge), Learning to do (learning to know skills), Learning to be (learning to develop oneself), and Learning to live together (learning to live in society). The four pillars require students to play active, independent, and critical thinking in learning (Prasetyono & Trisnawati, 2018; Priscilla & Yudhyarta, 2021). Learning does not always go well according to the plans that have been prepared previously. Learning objectives cannot always be achieved optimally because many factors influence learning dynamics. The learning process that occurs cannot be separated from the teaching materials. Thus, an educator must be able to prepare teaching materials that support learning activities. Teaching materials are learning tools designed by the curriculum to help students master learning objectives to achieve predetermined competency standards and basic competencies (Heru & Yuliani, 2020; Nurafni, Pujiastuti, & Mutaqin, 2020). There are various types of teaching materials that teachers can use and used to support teaching and learning activities, including teaching materials in the form of visuals (books, modules, student worksheets, and others), teaching materials in the form of audio (radio, audio CD, cassette, and audio). Other teaching materials include audio-visual (learning videos, films, etc.) and interactive multimedia teaching materials (Amri & Ahmadi, 2010; Khulsum, dkk 2018). Of the various types of teaching materials, teachers can use e-books as teaching materials in learning activities. An E-book (electronic book) is a book in an electronic format that contains a variety of information, either in the form of text, images, videos, or other multimedia forms, and can be read through computers or other electronic devices without having to be printed (Karyada, Wardana, & Sanjaya, 2022; Pradani & Aziza, 2019). This e-book develops a book display design that generally contains material in the form of text and is combined with other multimedia content such as animation, images, and videos that can act as elements of e-book interactivity. The use of e-books can help students understand the subject matter and assist in online learning, and can be used anywhere and anytime by the subject matter presented in the e-book. Based on the facts, the use of interactive teaching materials to support learning activities, especially in Balinese language learning, is still very minimal. Based on the results of interviews with Balinese language teachers, information was obtained that students had difficulty understanding the material, was less interested and less interested in learning Balinese, thus making students less understanding of the Balinese language subject matter. The Balinese language is one of the local content taught and learned by students from elementary school to high school in Bali. Therefore, teachers must strive for Balinese language learning to be interesting and help students understand the Balinese language subject matter.

The solution that can be done to overcome this problem is to use teaching materials in the form of contextual-based e-books. The contextual approach (Contextual Teaching and Learning) is an approach to learning in the classroom that can help teachers relate the subject matter to the real situation of students so that students can make connections between their knowledge and application in everyday life (Aprelia, Baedowi, & Mudzantun, 2019; Sulistyowati & Putri, 2018). Contextual Teaching and Learning (CTL) involves seven main components: constructivism, questioning, inquiry, learning community, modeling, and authentic assessment (Lestari & Muchlis, 2021; Rukajat, 2019). The material raised in the e-book is the material of gantungan and gempelan Balinese script by writing and reading words or sentences using Balinese script related to activities that occur in the agricultural sector, as well as the tools used in agriculture. It relates to the real life of everyday students, for example, the tools used in agriculture such as sickles or sickles, hoes, tractors, etc. From this material, students can add insight related to objects often encountered in real life and can train students in reading and writing Balinese scripts. Several previous studies have stated that e-books are suitable for learning activities (Watin & Kustijono, 2017; Sabtaningrum, dkk 2020). Teaching materials in digital books are considered effective in increasing students' interest in learning Balinese (Gede, Pradnyana, Negara, Ayu, & Krisna, 2021; Karyada et al., 2022). The use of contextual-based e-books can add insight to students regarding subject matter, especially in Balinese script material. However, in previous studies, no study has discussed the development of contextual-based e-books on the content of the Balinese language for writing Balinese script materials. Thus, this study aims to create teaching materials in the form of contextual-based e-books on the local content of Balinese script writing for fourth-grade elementary school students. With the existence of teaching materials in the form of contextual-based e-books, it is hoped that it can help students understand the subject matter well and increase their interest in learning Balinese.

2. METHOD

This research is a contextual-based e-book that uses the ADDIE development model, which consists of 5 stages: analyze, design, development, implementation, and evaluation (Cahyadi, 2019). The ADDIE is a

systematic development model (Tegeh & Kirna, 2013). The ADDIE development model is arranged according to the sequence of activities to solve learning problems faced by students and is related to learning needs and resources. The subjects involved in developing this teaching material are one learning content expert, one learning design expert, and one learning media expert. Three students as individual test subjects, including students with high, medium, and low learning outcomes, and nine as small group test subjects. The following explains more clearly the methods and instruments of data collection used in development research. Data collection methods include observation, interviews, and questionnaires/questionnaires. Observation is essentially an activity that uses the five senses to obtain the information needed to answer research problems. The interview is a question and answer activity both orally and in writing and can be done face-to-face or by telephone (Mustori, 2012; Sugiyono, 2013). The questionnaire is a data collection technique containing several questions and statements that respondents must fill out (Sugiyono, 2013; Arikunto, 2018). The instrument grid can be seen in Table 1, Table 2, Table 3, and Table 4.

Table 1. Questionnaire Instrument of Learning Content Experts

Aspect	Indicator	Item Number	Total Number
Curriculum	1. The suitability of the material with basic competencies 2. The suitability of the material with the indicators 3. The suitability of the material with the learning objectives	1,2,3	3
Contents	1. Coverage of material 2. Material accuracy 3. Material attraction 4. The suitability of the material with the situation of students 5. The material is easy to understand 6. Use of proper language	4,5,6,7,8,9	6
Evaluation	1. The suitability of the evaluation with the material	10	1
Total			**10**

(Source: Suartama in Gae, dkk 2021)

Table 2. Instruments of Learning Design Experts

Aspect	Indicator	Item Number	Total Item
Media	1. Clarity of the title of teaching materials 2. Clarity of user goals	1,2	2
Purpose	1. The suitability of indicators with basic competencies 2. The suitability of the learning objectives with the formulation of indicators and basic competencies 3. The suitability of learning objectives with the ABCD format	3,4,5	3
Strategy	1. The accuracy of the presentation of the material 2. Use of illustrations or examples 3. Giving feedback 4. Involvement and interest in learning targets using animation 5. The suitability of the presentation of the material with the characteristics of the target	6,7,8,9,10	5
Evaluation	1. Instructions for working on questions 2. The suitability of the question with the material	11,12	12
Total			**12**

(Source: Sanjaya, 2015)

Table 3. Instruments of Learning Media Experts

Aspect	Indicator	Item Number	Total Item
Text	1. Easy-to-read text 2. Clarity of text presentation	1,2,3,4	4

Aspect	Indicator	Item Number	Total Item
Image	3. Use the right text size 4. Text type accuracy 1. Image layout 2. Image quality 3. Color balance 4. Interesting pictures 5. The suitability of the image with the material	5,6,7,8,9	5
Video	1. Video quality 2. Interesting video 3. The suitability of the video with the material presented	10,11,12	3
Audio	1. The clarity of music sound 2. Clarity of the narrator's voice 3. Appropriate use of music 4. Narrator's voice suitability	13,14,15,16	4
Delivery	1. Interesting e-book cover with contents 2. The suitability of the e-book cover with the contents	17,18	2
Accessibility	1. Ease of access or use of e-books 2. Smooth interactive link	19,20	2
Total			**20**

(Source: Dwiqi, dkk 2020)

Table 4. Instruments for Individual Trials and Small Group Trials

Aspect	Indicator	Item Number	Total Number
Text	1. The text on the e-book is easy to read 2. The learning material displayed is easy to understand 3. The material is clearly described	1,2,3	3
Image and Video	1. The images on the e-book are following the material presented 2. The quality of the images and videos presented is good 3. The video on the e-book is following the material presented	4,5,6	3
Audio	1. The sound in the video is clear	7	1
Delivery	1. Attractive e-book cover design	8	1
Accessibility	1. 1. Ease of access or use of e-books 2. 2. Interactive links are easy to use	9,10	2
Banyak			**10**

This contextual-based e-book development research on the local content of Balinese script writing uses two data analysis techniques, namely (1) quantitative descriptive analysis techniques and (2) qualitative descriptive analysis techniques. The quantitative descriptive analysis technique was used to process the data obtained from the questionnaire in the form of scores based on the Likert scale, which can be seen in Table 5.

Table 5. Likert Scale

No.	Score	Description
1.	4	Strongly agree
2.	3	Agree
3.	2	Disagree
4.	1	Strongly Disagree

(Source: Sugiyono, 2013)

After obtaining the percentage results from each respondent through a Likert scale table by comparing the total number of answers with the total number of questionnaire items, the percentage results are converted to the level of achievement on a scale of 5 for decision-making described in Table 6.

Table 6. Conversion of the Level of Achievement on A Scale of 5

Achievement Level (%)	Qualification	Description
90-100	Very good	No need to revise
75-89	Well	No need to revise
65-74	Enough	Revised
55-64	Not enough	Revised
0-54	Less	Revised

(Source: Pujawan, 2018)

This qualitative descriptive analysis technique is carried out by grouping information from qualitative data in the form of input, criticism, feedback, and suggestions for improvement contained in the questionnaire.

3. RESULT AND DISCUSSION

Result

Design and build of product development in the form of e-books. The e-book contains text, images, videos, and practice questions. This e-book was developed using a contextual basis to make it easier to understand the subject matter because it contains pictures that students in the surrounding environment often encounter. The e-book display can be seen in Figures 1 and Figure 2.

Figure 1. E-Book Cover Display
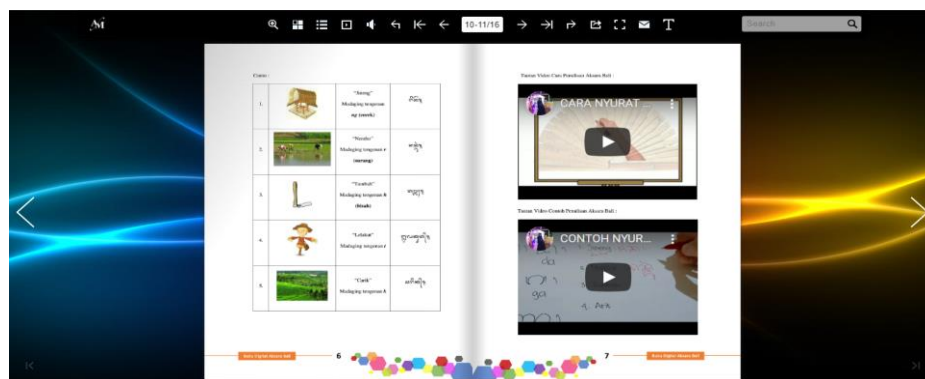
Figure 2. Display of E-Book Contents

This contextual-based e-book uses the ADDIE development model, which consists of 5 interrelated stages: analysis, design, development, implementation, and evaluation. The following describes the stages of designing a contextual-based e-book development. The first stage is the analysis stage. At this stage of analysis, the things to do are analyze the characteristics and needs of students, analyze learning facilities, analyze materials, and determine basic competencies and indicators. The basic competencies and indicators used are listed in Table 7.

Table 7. Basic Competencies and Indicators

Basic Competencies	Indicators
3.3. Exploring information from interview texts about types of businesses and jobs with the help of teachers and friends in spoken and written Balinese.	3.3.1. Describe the use of *gantungan* and gempelan in words and sentences. 3.3.2. Detailing the Balinese script gantungan dan gempelan. 3.3.3. Assemble letters into words in Balinese script. 3.3.4. Identify the function of gantungan and gempelan Balinese script.
4.3. Process and submit business and job interview texts and cooperatives independently in spoken and written Balinese.	4.3.1. Copying words or sentences using gantungan and gempelan. 4.3.2. Reading words or sentences using hangers and gempelan.

The second stage is the product design stage. This stage is the initial stage in product design so that the development stage can run in a planned, structured, and systematic way. At the design stage, things to do include designing flowcharts and storyboards, preparing the components contained in the e-book, such as e-book covers, pictures, and practice questions, as well as compiling lesson plans and product assessment instruments. The third stage is the stage of developing contextual-based e-book products. At this stage, video recording, video editing and video export are carried out using the InShot application, then developing the content and appearance of the e-book with the help of the Flip PDF Corporate Edition application, which includes the process of importing the e-book logo, video input, and input practice questions, then is the process of publishing e-books using the Flip PDF Corporate Edition application. In addition, at this stage, a product feasibility test is also carried out by experts, including learning content experts, learning design experts, and learning media experts. The fourth stage is the implementation stage of contextual-based e-book products. At the implementation stage, it was carried out in a limited way by three students through individual trials and nine students through small group trials.

The evaluation stage is the last in the ADDIE development model. Data collection, improvement, and product refinement are carried out at this stage. The evaluation stage is carried out through formative evaluation activities. It is done to measure or assess learning products through expert reviews, namely learning content experts, learning design experts, and learning media experts, as well as product trials by students in individual and small group trials. This stage is carried out to determine the assessment of the product developed. Product trials are conducted to determine the quality of contextual-based e-book products and whether e-books are worth developing. The feasibility of developing this contextual-based e-book includes five topics: the results of the learning content expert test, the learning design test, the learning media test, the results of the individual test, and the results of the small group test. The five subjects were obtained through a questionnaire/questionnaire instrument. The learning content expert in this development research is a Balinese Language Education course lecturer. Then for design experts and learning media in this development research, namely lecturers with qualifications in that field. In this development research, individual and small group trial subjects used fourth-grade elementary school students with different learning outcomes. The results of product trials can be seen in Table 8.

Table 8. Recapitulation of Contextual-Based E-Book Trial Results

No.	Trial Subject	Result	Qualification
1.	Expert test/learning material	95%	Very Good
2.	Learning design expert test	91,7%	Very Good
3.	Learning media expert test	90%	Very Good
4.	Individual Trial	85%	Good
5.	Small group trial	88,8%	Good

Based on the acquisition of these percentages, the feasibility test results on the overall contextual-based e-book development have a good percentage. Comments and suggestions given by experts can be seen in Table 9.

Table 9. Comments and Suggestions from Experts

No.	Trial Subject	Comments and Suggestions	Revision
1.	Content Expert	Fix sentence redaction on aksara suara.	Improved sentence redaction on aksara suara to become pengangge suara.

No.	Trial Subject	Comments and Suggestions	Revision
2.	Learning Design Expert	The word "Klontong Sapi" was changed to "kroncongan Sampi".	The word "klontong sapi" changed to "kroncongan sampi".
		The word "petakut" is changed to "lelakut".	The word "petakut" is changed to "lelakut".
		Indicators and learning objectives are not appropriate.	Improve indicators and learning objectives to become HOTS.
3.	Learning Media Expert	The sickle image on the e-book is not suitable	Replacing sickle images in e-books.
		The writing on the video is not clear	Clarify text on video.

Discussion

The developed contextual-based e-book design includes text, images, videos, and practice questions. This contextual-based e-book uses the ADDIE development model, which includes five stages: Analyze, Design, Development, Implementation, and Evaluation (Tegeh & Jampel, 2017; Cahyadi, 2019). The selection of the ADDIE development model is based on the fact that the ADDIE development model is systematic and follows the sequence of activities in the product being developed. As for the assessment results from a review conducted by a learning content expert, the contextual-based e-book obtained the criteria of very good or equivalent to very decent. The acquisition is influenced by several things, including the suitability of the material with basic competencies, indicators, and learning objectives. Teaching materials must be linked or standardized with learning objectives to affect effectiveness in learning activities (Nurhikmayati & Jatisunda, 2019; Putrawangsa & Hasanah, 2018). This e-book product needs to be revised slightly according to comments and suggestions from learning content experts. Furthermore, the assessment results from learning design experts, contextual-based e-books that were developed obtained very good qualifications or equivalent to very decent, from comments and suggestions given by learning design experts, contextual-based e-books that were developed needed to be slightly revised to create learning the HOTS. HOTS (Higher Order Thinking Skills) learning is a process of thinking to a higher cognitive level, so the learning tools designed must pay attention to the HOTS principles (Fanani & Kusmaharti, 2018; Wibawa & Agustina, 2019). Then the results of the reviews from learning media experts obtained very good qualifications or equivalent to very decent. From that, contextual-based e-books require a little revision from learning media experts. Learning media is one of the innovative technologies to improve the quality of education. Learning media usually combines text, images, videos, animations, and so on in computer systems (Marjuni & Harun, 2019; Wiranata & Sujana, 2021). Contextual-based e-books on the local content of writing Balinese script are feasible to use. They can increase knowledge of the Balinese language, especially Balinese script, for grade IV A students of SD Negeri 9 Pedungan when using contextual-based e-books. The e-book developed uses a contextual basis, thus helping students relate the subject matter to the real situation. Learning with a contextual approach can create an active classroom because students are not passive observers but play an active role in learning activities (Zulaiha, 2016). It is confirmed by previous research that the use of e-books can increase students' interest in learning about Balinese culture (Karyada, dkk 2022). Using creative and innovative learning media can increase students' interest in learning Balinese script because learning is more interesting (N. K. R. Dewi, Tastra, & Pudjawan, 2016; Putriningsih & Putra, 2021). This research implies that it can increase the variety of interactive teaching materials in schools and be used in learning activities with a contextual approach that links subject matter according to the situation around students so that it can help students understand the subject matter and motivate students in learning Balinese.

4. CONCLUSION

Contextual-based e-books on local content writing Balinese script grade IV produce products suitable for Balinese language learning activities and can increase the knowledge of fourth-grade students of SD Negeri 9 Pedungan. The research implies that research products can help students understand the subject matter and motivate students to learn Balinese. In addition, it can create active learning activities because it uses a contextual approach, and e-books contain text, images, videos, and practice questions that help make learning interactive.

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