Jurnal Cakrawala Pendas
Vol. 10 No 4, October 2024
DOI: http://dx.doi.org/10.31949/jcp.v10i410354

p-ISSN: 2442-7470
e-ISSN: 2579-4442

DEVELOPMENT OF E-LKPD WORDWALL GAME IN JAVA BANTEN LEARNING FOR CLASS 1 ELEMENTARY SCHOOL TO INCREASE STUDENT LEARNING MOTIVATION AND STUDENT LEARNING OUTCOMES

Avinindy Inayda Devianti[1], Aceng Hasani[2], Aan Hendrayana[3]
[1, 2, 3]Universitas Sultan Ageng Tirtayasa
[1]avinindyid@gmail.com

Abstract
The implementation of technology in the world of education is a barometer of a nation's progress. One implementation of technology in the world of education is by developing electronic wordwall game LKPD through the gamified learning method in Java Banten learning. This research was conducted with the aim of determining the effectiveness of using e-LKPD in increasing learning motivation and student learning outcomes in implementing the e-LKPD wordwall game. This research is development research (R&D) adopting the ADDIE model. The analysis technique uses 2 stages (qualitative analysis and quantitative analysis). The results of increasing learning motivation obtained a score of 64% and analysis of student learning outcomes obtained a result of 63% in the criteria of moderate and quite effective use. The conclusion of the results obtained is that the effectiveness of the e-LKPD wordwall game product is categorized as good and quite effective in use..

Abstrak
Implementasi teknologi dalam dunia pendidikan merupakan salah satu barometer kemajuan suatu bangsa. Salah satu implementasi teknologi dalam dunia pendidikan yaitu dengan mengembangkan LKPD elektronik *wordwall game* melalui metode *gamified learning* pada pembelajaran Jawa Banten. Penelitian ini dilakukan bertujuan untuk mengetahui efektivitas penggunaan e-LKPD dalam meningkatkan motivasi belajar dan hasil belajar siswa dalam implementasi e-LKPD w*ordwall game*. Penelitian ini merupakan penelitian pengembangan (*R&D)* dengan mengadopsi model ADDIE. Teknik analisis menggunakan 2 tahap (analisis kualitatif dan analisis kuantitatif). Hasil peningkatan motivasi belajar memperoleh skor 64% dan analisis hasil belajar siswa memperoleh hasil 63% dalam kriteria sedang dan cukup efektif digunakan. Simpulan hasil yang diperoleh yaitu efektivitas produk e-LKPD *wordwall game* dikategorikan baik dan cukup efektif digunakan.
Kata Kunci: E-LKPD, *Jawa Banten, Wordwall, Gamified Learning*

Received	: 3 July 2024	Approved	: 2 October 2024
Reviesed	: 18 September 2024	Published	: 31 October 2024

Introduction

Digital technology has now developed rapidly in all aspects of life, including in the aspect of education. The implementation of technology in the world of education is one of the barometers of the nation's progress. Technology is implemented in the learning process as supporting multimedia. Multimedia is generally known as various combinations of graphics, text, sound, video, and animation (A. S. Lestari, 2013). This multimedia is defined as a combination of text and images with text that can be used in the form of writing or oral presentations. In accordance with this opinion, Mayer explains that multimedia refers to technology for presenting material in verbal and visual forms (Rusnilawati & Gustiana, 2017).

Given that student competencies are currently required to meet the 4C skills (Critical Thinking, Creativity and Innovation, Collaboration, and Communication) (Mustika, 2023).

In fact, even in the midst of the onslaught of the technological era and the demands of modern progress, Indonesia remains a nation that must maintain its culture. Indonesia as an archipelagic country that has a wealth and diversity of archipelago culture, including regional languages, traditional ceremonies, traditional clothing, traditional houses, and regional specialties that make it a unique attraction on the world stage. The elements of Indonesian culture that must be maintained, especially the first is language. Language is an element of Indonesian culture in the form of a communication tool for humans in fulfilling their social needs to interact with each other. This is supported by Devianty's statement which states that language is part of culture, even language is often mentioned as a dominant factor of culture (Aryanti et al., 2023). One of the regional languages in Indonesia is the Javanese Banten Regional Language used by the Banten people. However, as time goes by and the era of modernization is increasingly rapid, regional languages are starting to be eroded and are rarely used among society, especially the younger generation today. The diversity of Javanese and Banten regional languages is starting to be threatened with extinction due to modernization. The threat of extinction of regional language diversity in Banten is an urgency in this research, considering that it has become very pronounced due to the increasingly rare use of regional languages in the current era of modernization.

Considering that education is currently required to apply technology, this does not mean eliminating the cultural elements in it, especially regional language culture. This is a GAP in this research. Collaboration with contemporary developments and culture is a formula that is expected to be able to be included in efforts to introduce and learn regional languages that are enjoyable and ultimately the nation's future generations will no longer pay attention to regional languages in their environment. The novelty presented is the collaboration of technology and regional languages which is applied in learning Banten Javanese in elementary school education units in Banten. In addition to this, efforts are made so that students as the next generation of the nation can have the experience of learning regional languages with fun, namely by designing fun learning methods. Utilizing educational games for learning such as the use of games on hardware (computers, laptops, smartphones) greatly facilitates the character conditions of students who like to play. This is supported by the statement of Lee and Hammer, which states that games can provide 3 psychological benefits, namely cognitive, emotional and social, so that they can increase student motivation in learning a game (Handani et al., 2016).

This research focuses on the development of technology, especially in the creation of e-LKPD in supporting regional language learning with the output of e-LKPD products supported by the results of the effectiveness of use through expert and student validation results. Zahroh's statement that electronic student worksheet (E-LKPD) is a LKPD teaching material that has undergone innovation by integrating electronic media or technology (Wahidah & Habibi, 2023). The e-LKPD contains pictures, animations and videos which are more effective so that students do not feel bored (Pamungkas & Fitriyani, 2023). It can be concluded that e-LKPD is an innovative technology-based student worksheet which is equipped with interesting features to support interesting learning for students. The implementation of technology in this study utilizes the wordwall application feature, the use of this application as an effort to support enjoyable learning for students. Wordwall is used as a digital-based Student Worksheet (LKPD). LKPD is designed in such a way as to increase learning activities and creative thinking of students. This is in line with Suryaningsih & Riska's (2021) statement that the use of e-LKPD can support active learning activities through activity stages that lead students to master concepts (Syahputri et al., 2023). The development of e-LKPD wordwall game in Banten Javanese learning is enriched and deepened by taking learning elements from regional languages in the student environment, namely Banten Javanese.

Research methods

This type of research is development research or what is commonly called Research and Development (R&D). Piskurich, The development model used has the advantage of being simpler, more organized, and widely used in creating effective and validated learning programs and products (Soesilo & Munthe, 2020). The development model used in this study is the ADDIE development model. Dick explained that the ADDIE development model consists of five stages of development (Maydiantoro, 2020).

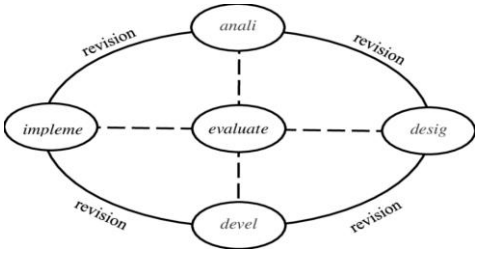


Figure 1. ADDIE Development Model

The implementation of this research activity was carried out at SDN Gempol which is located in Serang District, precisely on Jalan Unyur, Serang City, Banten Province 42111. This research was conducted in the 2023-2024 academic year in the even semester. The test subjects in this study were competent experts in their fields, including material experts, media experts, language experts, and all 47 students of class 1E at SDN Gempol. The subjects were chosen because of course the experts are competent and the students at the school are accustomed to using the Javanese Banten regional language to conduct product trials.

The product developed is e-LKPD wordwall game in Banten Javanese language learning in grade 1E of elementary school. The description of the development stages of e-LKPD wordwall game using the ADDIE model with the ADDIE procedure stages as follows: (1) Analysis, a preliminary study was conducted in the form of needs analysis and identification of problems faced by students in the learning process related to regional languages. This analysis was conducted with the aim of finding out what students need in solving problems related to the Javanese Banten regional language extracurricular lesson, including the teaching materials and media used. At this stage, material analysis was carried out related to the learning objectives to be achieved by looking at the Core Competencies and Basic Competencies in the material book "Belajar Base' Jawe Banten". Design, the next stage is the material design stage, e-LKPD design, validation instruments and also questionnaires that will be used in the next stage. The planning and design of products carried out include e-LKPD, instructions for use, learning objectives subject matter, and learning evaluation. Furthermore, the preparation of validation instruments will be carried out which will later be used to assess the feasibility of the developed product and student response questionnaires for trials in elementary schools. The creation of validation instruments is reviewed from various aspects. Among them are the material aspect, media aspect, and language aspect with the e-LKPD feligibility indicators that are developed. Student response questionnaires will be given to students to see student responses based on previously determined aspects; (3) Development, the process at this stage is carried out by validating the e-LKPD that has been designed previously. Validation is carried out by validators who master the field of expertise that is being developed. The results of the assessment and suggestions obtained from the validator will be used as a reference for product improvement so that the product being developed can be improved and become suitable for use in terms of material and product appearance; (4) Implementation through the development process and has been validated with results that are suitable for use based on expert assessments, the next step is to conduct a product trial on students to determine the level of product effectiveness in

Jurnal Cakrawala Pendas Volume 10, No 4, October 2024, hal. 746-762

improving student learning outcomes and student learning motivation by filling out a questionnaire that has been created based on previously determined indicators; (5) Evaluation, students after conducting a trial of the e-LKPD wordwall game product then provide an assessment related to the product. Then a description of the results of the trial of the e-LKPD wordwall game product is carried out. At this stage, a test of the success of improving student learning outcomes is also carried out by filling in the e-LKPD presented (Posttest).

The data collected in this study used assessment techniques in the form of validation instrument sheets and student response questionnaires. The data obtained through the implementation of formative evaluations are grouped into 2 parts, namely: (1) first-stage evaluation data in the form of content expert test results data on material, media experts, and language experts, (2) second-stage evaluation data in the form of individual trial results and field trials, in the form of student review data. Field trials were conducted on 47 class 1E students at SDN Gempol. This trial aims to determine the description of the effectiveness and success of the e-LKPD product and also student learning outcomes as seen from the pretest and posttest scores in learning. Likewise, this trial was conducted to determine student responses related to learning motivation which can be seen from the results of the questionnaire that has been given.

The data analysis technique in this study uses qualitative descriptive in processing data from the review of subject matter experts, learning media experts, and language experts. This data analysis technique is carried out by grouping information from qualitative data in the form of input, responses, criticisms, and suggestions for improvement contained in the questionnaire. The results of this data analysis are then used to revise the e-LKPD wordwall game product. The questionnaire in this study uses a Rating Scale in measuring, knowing the opinions and perspectives of a person or group about the social phenomenon Sugiyono (2017).

Quantitative data analysis was also carried out on the scores obtained on the pretest and posttest questions used to measure the level of student learning outcomes. The analysis of the questions used empirical validity test analysis and reliability test. The provisions of the question items are declared valid if $r_{count} > r_{table}$ (Apriatni et al., 2022, p. 189). The grid for the e-LKPD validation sheet and questionnaire can be seen in the table below.

Table 1. Material Expert Instrument Grid

No.	Indicator	Sub Indicator	No. Item
1	Accuracy of Material and Questions	Suitability of questions with initial competencies	1
		Suitability of questions with learning objectives	2
		Suitability of questions with meaningful understanding of learning	3
		Accuracy of questions with discussion of learning topics	4
		Accuracy of writing in the use of Banten Javanese language	5
		Accuracy of audio in the use of Banten Javanese language	6
2	Content Quality	Clarity of instructions for using e-LKPD	8
		Clarity of images on e-LKPD questions	9
		Clarity of audio on e-LKPD questions	10
		Ease of student understanding regarding instructions on questions on e-LKPD	11
		Suitability of questions to students' level of understanding	12

		Presentation of simulations, images and audio increases students' interest in learning Java Banten	13
3	Accuracy of Javanese-Banten Regional Language Questions on e-LKPD	E-LKPD can strengthen understanding in the student learning process	14
		The material provides a fun learning experience	15
		E-LKPD is developed interactively, interestingly and easily understood	7
Quantity			15

(Sastrawa & Suardipa, 2020)

Table 2. Media Expert Instrument Grid

No.	Indicator	Sub Indicator	No. Item
1	e-LKPD Design	Clarity and completeness of e-LKPD content	1
		Suitability of e-LKPD design with characteristics of students' age level	2
		Suitability of image and writing distance makes it easy for students to understand the questions	4
		Combination of images and audio makes it easier for students to understand the questions	5
		Color integration used according to student characteristics	6
		Clarity of work steps	9
		Clarity of writing on e-LKPD	10
		Clarity of audio on e-LKPD	11
		Suitability of audio volume on e-LKPD	12
		Suitability of image size on e-LKPD	13
		Accuracy of font type on e-LKPD	14
		Suitability of writing size on e-LKPD	15
		Suitability of sound effects on e-LKPD	16
2	Media Attraction	Attractiveness of color combination on e-LKPD	7
		Attractiveness of e-LKPD display design	3
		E-LKPD increases student activity in Javanese Banten lessons	21
3	Utilization and Management of e-LKPD	Accuracy of methods in supporting the use of e-LKPD	22
		Questions are not ambiguous	20
		Suitability of the use of help features on e-LKPD for students who have difficulty working on questions	18

	Suitability of game types in e-LKPD with students' abilities students	8
	Functionality of features on e-LKPD	19
	Clarity of assessment on e-LKPD	17
Quantity		22

(Wafa', 2023)

Table 3. Language Expert Instrument Grid

No.	Indicator	Sub Indicator	No. Item
1	Straightforward	The suitability of the spelling of words based on the Bantenese Javanese language used	1
		The accuracy of the pronunciation of Bantenese Javanese in the supporting audio	2
		The suitability of the use of sentences with the rules of the Bantenese language	4
		The clarity of the pronunciation of Bantenese Javanese in the supporting audio of e-LKPD	6
2	Communicative	The meaning of Banten Javanese language	7
		Use of Banten Javanese language sentences communicatively	3
		Suitability of illustration images to Banten Javanese language questions	5
3	Interactive	E-LKPD is able to increase students' interest in learning Banten Javanese	9
4	Compliance with student development	E-LKPD improves cultural literacy in the use of Banten Javanese language	10
		Use of Banten Javanese sentences according to the level of student understanding	8
Quantity			10

(Oktariyanti et al., 2021)

Table 4. Student Questionnaire Instrument Grid Aspects of E-LKPD Usage Wordwall

No.	Assessment Aspects	Indicator	Quantity
1	Understanding	Understanding of use	2
		Image clarity	2
		Appropriate layout	2
		e-LKPD Design	2

2	Use	Ease of use	2
Quantity			10

(Hardianto, 2011)

Table 5. Student Questionnaire Instrument Grid for Learning Motivation Aspects

No.	Indicator	Sub Indicator	Quantity
1	Having passion and desire to succeed	Active in learning	2
		Enjoy learning	2
		Do not give up easily	2
		Do not be satisfied quickly with the results obtained	2
2	There is a need and desire to learn	Having a clear purpose in learning	2
		Curiosity	2
		Feedback	2
		Interest in learning	2
3	There are interesting activities in learning	Avoiding punishment	2
		Getting rewards	2
4	Having a conducive learning environment	Happy with the methods used by teachers in learning	2
		Happy with the media used by teachers in learning	2
Quantity			24

(Krismony et al., 2020)

Table 6. Learning Outcome Instrument Grid

Elemen	Learning Outcomes	Indikator	Cognitive Level	Question Items	Quantity
Listening	Students are able to act as listeners to the sounds of letters, syllables and words about the names of body parts, the functions of body parts, how to care for oneself	Students can match the functions of body parts and how to take care of themselves in	C1	4, 5, 6, 7, 8	5

Jurnal Cakrawala Pendas Volume 10, No 4, October 2024, hal. 746-762

	and introductory sentences in Bantenese Javanese both orally and in writing.	introductory sentences using Banten Javanese.			
Reading	Students are able to spell letters, syllables about the names of body parts, the functions of body parts, how to care for oneself, and introductory sentences in Bantenese Javanese.	Students can arrange the letters of the names of body parts in Banten Javanese.	C1	1, 2, 3	3
	Students are able to understand information from readings or shows they watch about the names of body parts, the functions of body parts, how to care for themselves, and introductory sentences in Bantenese Javanese.	Students can determine true-false choices from readings or questions they see about how to take care of yourself in Banten Javanese.	C3	9, 10, 11, 12	4
	Students are able to add new vocabulary about the names of body parts, the functions of body parts, how to care for themselves, and introductory sentences from texts read or shows watched with the help of illustrations.	Students can arrange words into introductory sentences in Banten Javanese.	C1	13, 14, 15	3
Quantity					15

The score obtained is calculated in percentage form, in the following way.

$$x = a / b \times 100\%$$

Description:
x = score per individual
a = score obtained
b = maximum score

Based on the Rating Scale table, it will be calculated with the average percentage of each statement item. The formula used in calculating the expert test results uses data processing techniques according to (Widiastika et al., 2020, p. 54) with the following formula:

$$\text{NP} = \frac{R}{SM} x\ 100\%$$

Description:
NP : Percentage value of eligibility
R : Raw score
SM : Maximum score

Table 7. Expert Assessment Criteria

Range	Category
81% - 100%	Very Eligible
61% - 80%	Eligible
41% - 60%	Quite Eligible
21% - 40%	Less Eligible
0% - 20%	Very Less Eligible

(Parisa et al., 2023)

Table 8. Product Effectiveness Percentage

Percentage	Description
> 40	Not Effective
40 – 55	Less Effective
56 – 75	Quite Effective
<75	Effective

This development also tests the effectiveness of using e-LKPD wordwall games on student learning outcomes obtained from pretest and posttest learning outcome tests. The assessment of the effectiveness research used in this study is the pre-experiment design technique using the one group pretest-post test design type, namely the pretest before being given treatment and the posttest after being given. Quantitative data analysis techniques are also carried out to test the effectiveness of learning media products using the N-Gain score test. The N-Gain score test is the difference between the posttest value and the pretest value. The purpose of using the N-Gain score test in this study is to determine the effectiveness of using e-LKPD wordwall games through the gamified learning method to see the level of student learning outcomes.

$$\text{N-Gain} = \frac{Posttest\ Score - Pretest\ Score}{Ideal\ Score - Pretest\ Score}$$

Description:
N-Gain score : Gain factor value
Post test score: final test result value
Pre test score : initial test result value
Ideal score : maximum test value

The table for determining the level of effectiveness of a product being developed is as follows:

Table 10. Gain Index Interpretation Category Criteria

Range	Category
N-Gain ≥ 0,7	High
0,7> N-Gain ≥ 0,3	Medium
N-Gain < 0,3	Low

(Widiastika et al., 2020)

Results and Discussion

The research conducted is a development included in the Research & Development research group. This study aims to produce a digital Student Worksheet (e-LKPD) product using a wordwall game presented with a gamified learning method in Javanese Banten learning for grade 1 elementary school students. This study tests the feasibility of the product developed

Jurnal Cakrawala Pendas Volume 10, No 4, October 2024, hal. 746-762

through expert validation. The product developed in this study aims to determine the level of student learning motivation and the level of student learning outcomes in the discussion of the material "Diri Sendiri". The research developed refers to the ADDIE (Analysis, Design, Development, Implementation, and Evaluation) model.

Product Design of E-LKPD Wordwall Game

First stage, analysis. This stage is a preliminary study as a benchmark analysis of knowledge regarding the situation and conditions of grade 1E students at SD Negeri Gempol. This stage is carried out by observing students in the learning process in the classroom. Based on the analysis of students, it was found that students did not understand the material that had been taught by the teacher and other findings were the lack of student learning motivation which caused a lack of interest in learning due to the use of learning media that was still conventional.

Based on the results of observations in class 1 conducted at Gempol State Elementary School, several pieces of information were obtained that can be used as a reference for this development research, including: (1) The location used as the research site is Gempol State Elementary School located on Jalan Lemah Abang Lingungan Gempol, Unyur Village, Serang District, Serang City, Banten Province; (2) The number of students in class 1, especially 1E at Gempol State Elementary School is 47 people and the number of teachers is 1 person; (3) School facilities and infrastructure that can be optimized for learning activities are 2 laptops, 2 printers, 1 projector, wifi; (4) The target of the research is that class 1E students at Gempol State Elementary School are already familiar with Banten Javanese. Initial observations were carried out using a pretest with the aim of seeing the level of student learning outcomes in Banten Javanese learning discussing the theme "Diri Sendiri"

Based on the findings of the preliminary study, the research on the development of e-LKPD using wordwall games through the gamified learning method is expected to increase student motivation and student learning outcomes. E-LKPD wordwall games were chosen because they are considered to be able to support learning that is equipped with a combination of images, sounds, and attractive designs, so that students can be inspired in learning, considering that class 1E students are still oriented towards learning while playing. E-LKPD wordwall games are also considered relevant to the current digital era. The creation of e-LKPD wordwall game takes into account the theory of Multimedia Learning popularized by Richard R. Mayer and known as the Cognitive Theory of Multimedia Learning (CTML) (Wafa', 2023, p. 124).

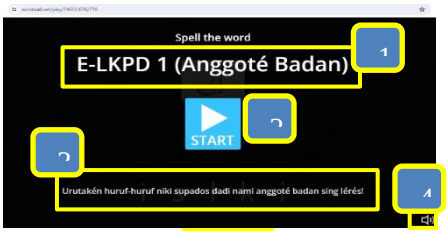
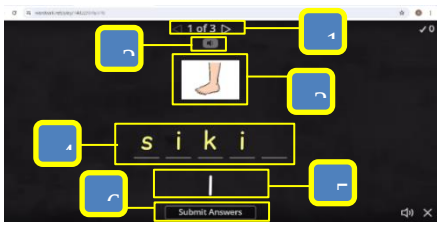
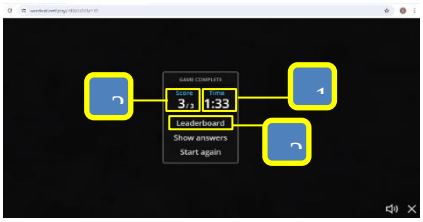
The implementation of these assumptions is explained as follows. (1) Dual Channel Assumption, taking into account students' ability to process the information they receive, namely visual (sight) and audio (hearing) methods. E-LKPD is presented with an attractive visual display but in accordance with the context of the material (pictures supporting the discussion) and is equipped with audio to support student understanding; (2) Limited Capacity Assumption, taking into account students' ability related to the limited capacity of information received by students in the audio or visual abilities possessed by students at the same time, so that the material presented is adjusted to this. Apart from this, the implementation also applies Cognitive Load Theory, this is related to instructional design and message design methods that efficiently manage the limited processing capabilities of working memory while utilizing the capabilities of long-term memory for schema formation and improving intellectual learning and the performance of complex cognitive tasks (Sholihah, 2022, p. 14).

The description of the material is made in accordance with the discussion to be studied. There is a division of sections for each material, consisting of 4 e-LKPD material sections (body members, body member functions, caring for the body, getting to know the person); (3) Active Processing Assumption, paying attention to students' abilities related to combining various types of information that students receive, both in the form of images and supporting audio, which are then combined into one as a discussion of the material. This stage also carries out material analysis related to the learning objectives to be achieved by looking at the core competencies

and basic competencies, this development needs to be adjusted to the source books related to learning Banten Javanese used in the learning process, then modified in the form of a teaching module by referring to the material book "Belajar Base Jawe Banten" by Hj. Babay Rositi, S.Pd., M.Sc. and Subhi, S. Pd., M.Pd.

Second stage, design. The e-LKPD design is designed using a wordwall through a storyboard. The design using this storyboard is used by describing the overall picture of the design to be made. The design and description of this storyboard are divided into two stages, namely the first stage of creating an e-LKPD design on the wordwall platform to produce a game link. The second stage is to create a collaborative design using the Canva application as a medium for presenting the material to be discussed. The following is the e-LKPD wordwall game storyboard.

Table 9. Storyboard (e-LKPD*)*

No.	Display	Description
1.		1. Worksheet title 2. Start feature to begin 3. Instructions for working on e-LKPD 4. Volume feature
2.		1. Number of questions worked on 2. Voice feature to help work on questions 3. Supporting images for questions 4. Questions 5. Answers
3.		1. Score 2. Time 3. Fiture l*eaderboard* to find out the order of player positions
4.		*leaderboard*

Jurnal Cakrawala Pendas Volume 10, No 4, October 2024, hal. 746-762

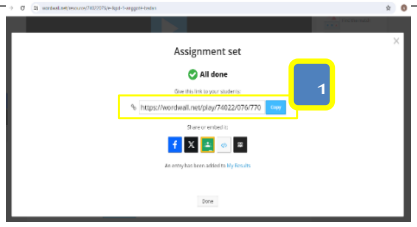
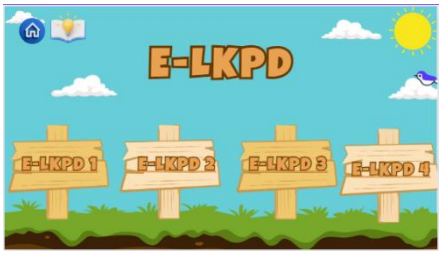
5.		share feature to get e-LKPD link
6.		*Shareable e-LKPD link*

Table 10. Storyboard (Canva)

No.	Display	Description
1.		The cover page of "Belajar Base Jawa Banten", includes the following features. a. Initial Competence b. Learning Objectives c. Meaningful Understanding d. Material e. E-LKPD f. Evaluation g. Alit Dictionary h. Developer Profile
2.		Meaningful understanding information page
3.		E-LKPD information page

4.		Material page 1
5.		e-LKPD Page 1
6.		Evaluation page

Third stage, development. The design that has been designed is adjusted to the characteristics of the age of the students, for example from the appearance of color, size and type of font, and the use of Banten Javanese. The E-LKPD wordwall game has been improved through validation by experts, namely media experts, material experts, and language experts. The validator validates by filling out the validation instrument sheet that has been created. The three validators test the feasibility of the product being developed. The next stage is that the product is realized according to what has been developed.

Fourth stage, implementation. The trial stage of the application of the e-LKPD wordwall game product that has been created and developed previously. Furthermore, this e-LKPD wordwall game product is applied to 47 students in class 1E. The use of this e-LKPD wordwall game product uses tools such as a laptop connected to the internet or wifi network and a projector that will display the product.

Fifth stage, evaluation. The evaluation or assessment stage is the last stage in this development research. The evaluation is carried out by testing the validity of the e-LKPD wordwall game product through a validity test by media experts, material experts, and language experts, then the second stage of evaluation is in the form of a field trial, which produces individual trial results related to the e-LKPD wordwall game usage questionnaire and learning motivation questionnaire, and evaluation related to student learning outcomes with pretest and posttest analysis. Based on the results of the student response instrument questionnaire related to the e-LKPD wordwall game on the aspect of use, it is presented using the following formula.

Referring to the N-Gain index category table, the criteria for processing the analysis results using the N-Gain formula are as follows.

Based on the analysis of the results of the pretest and posttest tests that have been carried out in measuring the effectiveness of using the e-LKPD wordwall game product and measuring student learning outcomes, the results obtained were 63% in the moderate and quite effective criteria for use.

Product Eligibility of E-LKPD Wordwall Game

Jurnal Cakrawala Pendas Volume 10, No 4, October 2024, hal. 746-762

The product eligibility test in this research is based on validation results from various experts (media experts, material experts, language experts). The following is a detailed description of the feasibility test results for the e-LKPD wordwall game product. The material expert feasibility test obtained an average score of 93.33% in the very elgible category. The accuracy of the material and questions received a percentage score of 91%, the quality of the content received a percentage score of 93%, and the accuracy of the Java Banten regional language questions received a score of 100%. The media expert eligiblity test resulted in an average score of 87.3% in the very feasible category. The e-LKPD design received a percentage value of 87.7%, the attractiveness of the media received a percentage value of 93.3%, the use and management of e-LKPD received a percentage value of 83.3%. The linguist eligibility test resulted in an average score of 89.53% in the very eligible category. Straightforward 85% in the very eligible category, communicative gets a percentage score of 100% in the very eligible category, interactive gets a percentage score of 80% in the decent category, and conformity with student development gets a percentage score of 80% in the decent category.

Table 11. Expert Validation Recapitulation

Validation Results	Percentage	Category
Media Expert	87,27%	Very Eligible
Material Expert	93,33%	Very Eligible
Language Expert	88%	Very Eligible
Average score	**89,53%**	**Very Eligible**

Based on the validation results of media experts, material experts, and language experts, the e-LKPD wordwall game product received the category of "very eligible" and can be implemented in the student learning process.

Student Responses to The Development Of E-LKPD

Student responses in using e-LKPD are seen based on the results of distributing questionnaires. Distribution of student response instruments related to the use of e-LKPD which were distributed to 47 class 1E students at Gempol State Elementary School. The results of the student response instrument questionnaire regarding the e-LKPD wordwall game in the usage aspect obtained a score of 61%.

Referring to the results of these calculations, it can be concluded that students' responses to aspects of using the e-LKPD wordwall game are categorized as good and interesting. This proves the statement (Aeni et al., 2022, p. 1846), that learning can be packaged with interesting media so that it makes students enthusiastic about learning, one of which is presented in a wordwall.

Learning Motivation in The Implementation of E-LKPD Wordwall Game

Motivation is a conscious effort to move, direct and maintain a person's behavior so that he or she is encouraged to take action to do something so as to achieve certain results or goals (Hamdu & Agustina, 2011, p. 83). Measurement of learning motivation was obtained from the results of a questionnaire instrument given to product users, namely class 1E students at Gempol State Elementary School. The results of the instrument questionnaire were presented using the N-Gain formula, obtaining a total score of 64% in the good category and quite effective in use.

This is based on the results of indicators of increasing student motivation which can be measured from the following things: active in learning, happy in learning, not quickly giving up, not quickly satisfied with the results obtained, having clear goals in learning, curiosity, the presence of student response, interesting activities in learning, and a conducive learning

environment (Krismony et al., 2020). Also answers the statement that the use of games in learning allows students to compete so that students are more motivated to learn (R. D. Lestari, 2021).

Student Learning Outcomes in The Implementation of E-LKPD Wordwall Game

Measurement of learning outcomes is obtained based on the results of the pretest and posttest. The pretest was carried out before using the e-LKPD wordwall game. Based on the results of the pretest carried out, it can be concluded that the highest score reached 93.00, the lowest was 20.00 and the average was 54 (under the Banten Javanese Language KKTM class I E ≤ 70.00). It can also be concluded that based on the results of the posttest that was carried out, the highest score was 100.00, the lowest was 73.00 and the average was 83.00 (above the Banten Javanese Language KKTM IE ≥70). The pretest and posttest data obtained were then analyzed and processed using the N-Gain Score formula.

The N-gain test was carried out to determine learning outcomes and the effectiveness of using the e-LKPD wordwall game in learning Banten Javanese in class I. Based on this formula, learning results were obtained of 63%, so it can be concluded that the use of the e-LKPD wordwall game has moderate effectiveness. This proves the statement of Baharuddin and Esa Nur Wahyuni (2009) who identified that motivation is one of the factors that influences learning outcomes (Nabillah & Abadi, 2019, p. 661). There was an increase in student learning outcomes by using the e-LKPD wordwall game in learning.

Conclusion

Based on the results of the research and development of e-LKPD wordwall games through the gamified learning method in Banten Javanese language lessons for grade 1 students of Gempol State Elementary School, it can be concluded that the product development design uses the ADDIE model, namely: (1) This product development stage uses the ADDIE model, namely: (a) Analysis, referring to the assumptions of the CTML theory described by Richard Mayer. At this stage, observations were also made of students during the learning process in class and analysis of the source books used for Banten Javanese learning; (b) Design, creating an e-LKPD wordwall design to produce a game link and creating a collaborative design using the Canva application as a medium for presenting the material to be discussed; (c) Development, improvements and adjustments were made to the development based on validation and suggestions for improvement from experts; (d) Implementation, application of the e-LKPD wordwall game product to students of Gempol State Elementary School; (e) Evaluation, testing the validity of the e-LKPD wordwall game product through a validity test by experts, conducting field trials related to product use, learning motivation, and student learning outcomes; (2) Based on the results of the N-Gain test, the effectiveness of the e-LKPD wordwall game development product is categorized as quite effective, and the validation results based on the validity test by experts are categorized as very feasible, thus it can be implemented in elementary school learning. The N-gain test was also carried out to determine learning outcomes and the effectiveness of using the e-LKPD wordwall game in learning Banten Javanese in class I. Based on this formula, learning results were obtained of 63%, so it can be concluded that the use of the e-LKPD wordwall game has moderate effectiveness. Measurement of learning motivation was obtained from the results of a questionnaire instrument given to product users, namely class 1E students at Gempol State Elementary School. The results of the instrument questionnaire were presented using the N-Gain formula, obtaining a total score of 64% in the good category and quite effective in use.

References

Apriatni, S., Yuhana, Y., & Sukirwan, S. (2022). Pengembangan Instrumen Literasi Numerasi Materi Trigonometri Kelas X Sma. *EDU-MAT: Jurnal Pendidikan Matematika*, *10*(2), 185. https://doi.org/10.20527/edumat.v10i2.13720

Aryanti, D., Yuliana, R., & Pribadi, R. (2023). Internalisasi identitas banten melalui pembelajaran mulok bahasa jawa banten. *Holistika*, 73–81.

Hamdu, G., & Agustina, L. (2011). Pengaruh Motivasi Belajar Siswa Terhadap Pestasi Belajar Ipa Di Sekolah Dasar. *Jurnal Penelitian Pendidikan*, *12*(1), 25–33.

Handani, S. W., Suyanto, M., & Sofyan, A. F. (2016). PENERAPAN KONSEP GAMIFIKASI PADA E-LEARNING UNTUK PEMBELAJARAN ANIMASI 3 DIMENSI. *Jurnal Telematika Vol*, *9*(1), 42–53. https://doi.org/10.2214/ajr.181.6.1811716b

Hardianto, D. (2011). PENERAPAN PRINSIP DESAIN MULTIMEDIA UNTUK PEMBELAJARAN By: Deni Hardianto. *Penerapan Prinsip Desain Multimedia*, 1–10.

Krismony, N. P. A., Parmiti, D. P., & Japa, I. G. N. (2020). Pengembangan Instrumen Penilaian Untuk Mengukur Motivasi Belajar Siswa SD. *Jurnal Ilmiah Pendidikan Profesi Guru*, *3*(2), 249. https://doi.org/10.23887/jippg.v3i2.28264

Lestari, A. S. (2013). 2013 Vol. 6 No. 2 Juli - Desember PEMBELAJARAN MULTIMEDIA Jurnal Al-Ta'dib. *Jurnal Al-Ta'dib*, *6*(2), 84–98.

Lestari, R. D. (2021). Upaya Meningkatkan Motivasi Belajar Peserta Didik dalam Pembelajaran Daring Melalui Media Game Edukasi Wordwall Di Kelas IV SDN 01 Tanahbaya Tahun Pelajaran 2020/2021. *Jurnal Ilmiah Profesi Guru*, *2*(2), 111–116. https://doi.org/10.30738/jipg.vol2.no2.a11309

Maydiantoro, A. (2020). Model Penelitian Pengembangan. *Chemistry Education Review (CER)*, *3*(2), 185.

Mustika, D. (2023). Analisis Keterampilan Berpikir Kritis, Berpikir Kreatif, KomunikasiIlmiah dan Kolaborasi Mahasiswa Pendidikan Fisika. *GRAVITASI: Jurnal Pendidikan Fisika Dan Sains*, *6*(2), 1–9.

Nabillah, T., & Abadi, A. P. (2019). Faktor Penyebab Rendahnya Hasil Belajar Siswa. *Prosiding Seminar Nasional Matematika Dan Pendidikan Matematika Sesiomadika 2019*, 659.

Oktariyanti, D., Frima, A., & Febriandi, R. (2021). Pengembangan media pembelajaran online berbasis game edukasi Wordwall tema Indahnya Kebersamaan pada siswa Sekolah Dasar. *Jurnal Basicedu*, *5*(5), 4093–4100. https://jbasic.org/index.php/basicedu/article/view/1490

Pamungkas, N. E., & Fitriyani, F. (2023). Pengembangan Lembar Kerja Peserta Didik Elektronik (E-LKPD) Berbasis Higher Order Thinking Skill (HOTS) Materi Magnet. *Pedagogia: Jurnal Ilmiah Pendidikan Dasar Indonesia*, *5*(1), 91–102. https://doi.org/10.52217/pedagogia.v5i1.1205

Parisa, M., Arcana, I. N., Susetyo, A. E., & Kuncoro, K. S. (2023). Pengembangan Kuis dan Game Edukasi Menggunakan Wordwall pada Pembelajaran Daring Pertidaksamaan Nilai Mutlak Bentuk Linier. *Jurnal THEOREMS (The Original Research of Mathematics)*, *7*(2), 167. https://doi.org/10.31949/th.v7i2.4351

Rusnilawati, R., & Gustiana, E. (2017). Pengembangan Bahan Ajar Elektronik (Bae) Berbantuan Flipbook Berbasis Keterampilan Pemecahan Masalah Dengan Pendekatan Ctl Pada Pembelajaran Matematika Kelas V Sekolah Dasar. *Profesi Pendidikan Dasar*, *4*(2), 190–201. https://doi.org/10.23917/ppd.v4i2.5450

Sastrawa, K. B., & Suardipa, I. P. (2020). Pembelajaran Berkualitas Berbasis Nine Instructional Events Teori Belajar Gagne. *Haridracarya: Jurnal Pendidikan Agama Hindu*, *1*(2), 2020.

Sholihah, D. A. (2022). Strategi Pembelajaran Matematika Berdasarkan Cognitive Load Theory untuk Meminimalkan Extraneous Cognitive Load. *EQUALS: Jurnal Ilmiah Pendidikan Matematika*, *5*(1), 13–23. https://doi.org/10.46918/equals.v5i1.1197

Soesilo, A., & Munthe, A. P. (2020). Pengembangan Buku Teks Matematika Kelas 8 Dengan Model ADDIE. *Scholaria: Jurnal Pendidikan Dan Kebudayaan*, *10*(3), 231–243. https://doi.org/10.24246/j.js.2020.v10.i3.p231-243

Syahputri, D. N., Solikhin, F., & Nurhamidah, N. (2023). Pengembangan e-LKPD Berbasis Discovery Learning untuk Meningkatkan Pemahaman Peserta Didik pada Materi Reaksi Redoks. *Jurnal Inovasi Pendidikan Kimia*, *17*(1), 67–74. https://doi.org/10.15294/jipk.v17i1.37598

Wafa', N. N. (2023). *CENDEKIA: Jurnal Ilmu Sosial, Bahasa dan Pendidikan*.

Wahidah, Z., & Habibi, M. W. (2023). Pengembangan Elektronik Lembar Kerja Peserta Didik (E-LKPD) Biologi pada Materi Animalia dengan Konteks Ikan Hias Hasil Tangkap Nelayan di Selat Bali. *Biodik*, *9*(1), 67–78. https://doi.org/10.22437/bio.v9i1.19292

Widiastika, M. A., Hendracipta, N., & Syachruroji, A. (2020). Pengembangan Media Pembelajaran Mobile Learning Berbasis Android Pada Konsep Sistem Peredaran Darah di Sekolah dasar. *Jurnal Basicedu*, *5*(1), 47–64. https://doi.org/10.31004/basicedu.v5i1.602