



Blended Learning LKPD Development Based on Learning Using Nearpod Applications for Integrated Learning in Elementary School

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Abstract: This study aims to describe the validity, practicality, and an effectiveness of LKPD with the theme of growth and development of living things using the Blended Learning model in integrated thematic learning in grade III elementary school. This research is included in research and development (Research and Development) with the ADDIE model. Collecting data using observations, questionnaires, written tests and interviews and then analyzed quantitatively and qualitatively. This research produces a teaching material in the form of LKPD based on the Blended Learning model on the Theme of Growth and Development of Living Things, data analysis shows that the LKPD based on the Blended Learning model on the Theme of Growth and Development of living things is effective and interesting in learning. The results of the validity LKPD based on Blended Learning show very valid criteria after being validated by the material validator, media, and language after being revised once with average value of 91 percent that is very valid category. The practical results of the LKPD with the theme of animal and human movement organs show very practical criteria after the practicality assessment was carried out by students with an average score of 94 percent and teachers 96 percent that is very practical category. The results of the effectiveness test of student learning outcomes from the pretest and posttest score data, the pretest score obtained the result 63, and at the posttest it increased to 86 percent after using blended learning-based LKPD products in integrated thematic learning. This indicates an increase in student learning outcomes after using the LKPD.

Keywords: LKPD; blended learning; elementary school

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INTRODUCTION

World is always changing and developing. We are currently in the revolution of industrial 4.0, and the world of education is no exception, which focuses on digitalization. In facing the challenges of this anti-mainstream era, are needed creativity and innovation. Now the era of disruptive technology in this day and age shows a lot of chaos and turmoil from living systems that were once considered established (Mubarak, 2018). In facing the challenges of this anti-mainstream era, are needed creativity and innovation. At the time of the industrial revolution 4.0, the education system tends to utilize digital technology visualization, which is used as a tool for effective, efficient, attractive and interactive learning processes with the help of the internet.

The internet changes the concept of traditional teaching (Andrijati, 2014). Teachers can easily access information and knowledge via the internet to carry out their professional duties in industrial revolution 4.0. The focus of expertise in the revolution education field is industrial 4.0 known as the 4Cs, namely creativity, critical thinking, communication and collaboration. Now education is required to be able to provide provisions for teachers and students with the 4Cs expertise (Risdiyanto, 2019). In realizing it, it takes skills and soft skills from a teacher as a facilitator in learning. According to (Zulkifli, 2020) the role of the teacher in the current era of the revolution industrial 4.0 is to facilitate and motivate students during the learning process.

Currently, in the COVID-19 pandemic situation, schools are not full of face-to-face learning, one way that can be done is to use blended learning with the use of IT-based LKPD. Blended learning is learning that can be online (online) and offline (face to face). Blended learning is a combination of conventional forms of learning with online learning which is the best blend of learning components (Watson, 2008). With the online of the platform learning, blended learning makes it easier for teachers to design creative and innovative learning (Syarif, 2012). Blended learning is a combination of learning to create superior learning (Husamah, 2014). (Dwiyoogo, 2018) stated that blended learning combines learning strategies, namely face-to-face learning, and online learning. Blended learning provides flexible learning by combining traditional learning and online learning

using digital technology (Galvin, 2011).

It would be nice if the LKPD used was modified with the help of IT so that it would be more interesting for students. The advantage of LKPD that is developed based on IT is that it can be used in blended learning, which can be used in print for direct learning and can be used during online learning. If the printed LKPD has a limited lifespan due to the long shelf life of the paper, the electronic/digital LKPD can be packaged in digits or bytes, or sent on a variety of storage media. LKPD systematically arranged can be used to determine student success (Dani et al., 2021). Platform online learning can help teachers make presentations of material in an attractive, fast and easy (Perez, 2017). This online learning platform makes classes easier and more interesting for students (Hakami, 2020). The Nearpod application is highly recommended to teachers because this application is easy to use, besides that students are more stimulated to participate in learning activities so as to make students more active, and teachers can more freely monitor the progress of each student (Delacruz, 2014).

Based on these learning problems, the authors are interested in developing LKPD based on blended learning assisted by the application of nearpod in Integrated Thematic Learning in elementary schools. Integrated thematic learning is learning using themes for the main focus and providing meaningful experiences for students (Erita et al., 2020) Integrated thematic learning in the 2013 curriculum creates effective and meaningful learning. Thematic learning is integrated learning that uses themes to combine several subjects (Ismail et al., 2021). The use of LKPD encourages students to be more active. This is in accordance with the inquiry method. In accordance with the opinion (Fitria, 2017) in learning that uses the inquiry method students are placed as active learning subjects, not vice versa, which are only used as passive learning objects. The inquiry method always involves students in searching and processing information, so that students have the ability to think scientifically. The rationale for using the inquiry method is that students will gain a better understanding and will be more interested in learning. In thematic learning in elementary schools, the LKPD developed based on IT and included in the application of nearpod is that it can be used in blended learning, which can be used in print for direct learning and can be used during online learning. LKPD is one of the teaching materials that serves as a complement or a means of supporting the implementation of learning (Noprinda & Soleh, 2019). This study aims to identify and produce valid, practical and effective LKPD in integrated thematic learning.

METHODS

Development Model

This type of research is development by applying the ADDIE model. The ADDIE model includes "Assume, Design, Development, Implementation, Evaluation". This study aims to create LKPD based on a blended learning model assisted by the application of nearpod.

(Sutarti & Irawan, 2017) argued that, "... educational development research (R&D) is a process for developing and validating educational products". This development research is one of the studies that has the aim of producing concepts, tools, methods, programs or products that simplify and overcome the problems encountered.

So it can be concluded that this development research is product-oriented, and the product developed in the form of LKPD based on a blended learning model that can be used using the application of nearpod, can also be stored on a flash disk or can also be sent via smartphone via bluetooth or share-it.

Development Procedure

The research method used in this study refers to the R&D model with the ADDIE model which consists of five stages, namely Analysis, Design, Development, Implementation and Evaluation. The ADDIE model developed by Dick and Carry (1996). The stages that must be carried out in research in the ADDIE model are Analysis, Design, Development, Implementation and Evaluation.

Data Collection Techniques

In this research data were collected using instruments in the form of questionnaires and tests. Questionnaire is a number of written questions that are used to obtain information. Questionnaires were used to obtain data on the validity, practicality, and the effectiveness of the LKPD. For data collection in this study, the instruments were:

1. Instrument Validation

In the LKPD validation questionnaire, it contained written statements to material experts and media experts. This Validation Questionnaire aims to obtain an assessment from a team of experts regarding the developed LKPD. This assessment is used as a benchmark to determine whether the LKPD is valid or not. The

validation questionnaire in this study was compiled based on the assessment criteria of the material instrument grid and learning media. The following is an explanation of the grid that will be developed and used:

Table 1. Grid of Validation Questionnaire Instruments

No	Expert	Indicator Aspect Assessment	Number of Instrument Items
1	Material Expert	Completeness of material	5 statements
		Presentation of the material	3 statements of
		Material truth,	2 statements of
		Conformity of KI and KD	2 statements
2	Language Experts,	Use of language	3 statements
		Interesting text	1 statement
		Language rules,	3 statements
3	Media Experts,	Clarity of LKPD presentation	2 statements
		Appropriateness of font size and type	1 statement
		Appropriateness of images	3 statements
		LKPD display	1 statement
		Ease of use of LKPD	3 statements

Source: Validation Instrument

2. Instruments to measure practicality, convenience and usefulness of products are

LKPD considered to have high practicality if they are practical and easy to use. The practicality questionnaire contains teacher and student perceptions of LKPD. The Practicality data was obtained through practicality questionnaires filled out by teachers and students. To measure the attractiveness of students used several statements. The attractiveness test grid is presented as in Table 2 below.

Table 2. Grid of Practicality Questionnaire Instruments

No	Practicality Aspects	Indicator Aspect Assessment	Number of Instrument Items
1	Teacher	Benefits of LKPD	2 Statements of
		LKPD Presentation	4 Statements
2	Students	Display of LKPD	3 Statements of
		Presentation LKPD	2 Statements of
		LKPD Attractiveness	3 Statements

Source: Practical

3. Instruments to Measure Effectiveness (Student Learning Outcomes)

The effectiveness of this LKPD development product is seen from student learning outcomes through each student's learning outcomes test. The evaluation used to obtain data on student learning outcomes is an evaluation carried out at the end of the lesson. Student activity sheets are used to assess student activities during the learning process while using LKPD. To test the effectiveness of the product in the form of a written test.

Data Analysis Techniques

The analysis technique used in this research is descriptive data analysis technique, namely by describing the validity, practicality, and the effectiveness of using LKPD.

1. Questionnaire validity analysis

This validation analysis phase is collect by validator. Eligibility data in the form of a Likert scale 1-5 with the conditions following : 5 means Very Good (SB) , 4 means Good (B) , 3 means Enough (C) , 2 means Not Good (KB) , 1 means Very Poor (SKB). This Validity analysis using a Likert scale based on the validation sheet. The validity value is given using the formula:

$$v = \frac{f}{n} \times 100$$

Description:

v : value of validity

f : the score obtained

n : the maximum score

Source: (Pranoto, n.d.)

This Validity category based on the final score is then presented with a scale of 0-100% as shown in the table below:

Table 3. Validity Category

No	Percentage	Criteria
1,	81%-100%	Very Valid
2,	61%-80%	Valid
3,	41%-60%	Fairly Valid
4,	21%-40%	Less Valid
5,	0%-20%	No Valid

Source ([Pranoto, n.d.](#))

2. Practicality Questionnaire Analysis

In this practicality questionnaire analysis stage, teacher and student response data were collected. Eligibility data in the form of a Likert scale 1-4 with the following conditions: 4 means strongly agree, 3 means Agree, 2 means disagree, 1 means strongly disagree.

Practical analysis using a Likert scale based on the practicality sheet. Giving Values practicality using the formula:

$$v = f/n \times 100$$

Practicality categories based on the final score are then presented with a scale of 0-100% as shown in the table below:

Table 4. Practicality Category

No	Percentage	Criteria
1	81%-100%	Very Practical
2	61 %-80%	Practical
3	41%-60%	Quite Practical
4	21%-40%	Less Practical
5	0%-20%	Not Practical

Source ([Pranoto, n.d.](#))

3. Analysis of Effectiveness Test

The effectiveness of the developed LKPD product is seen based on student learning outcomes. The analysis technique used is as follows. The test was analyzed from the Learning Completeness Criteria (KKB). KKB is seen from individual completeness. To determine student learning completeness (individual) it can be calculated using the following equation:

$$KB = T/T_t \times 100$$

Description:

KB : Learning completeness

T : Total scores obtained by students

T_t : Total score

Source: ([Al-Tabany, 2017](#))

Table 5. Cognitive Competency Test Criteria

Predicate	Knowledge	
	Value	Information
A	92-100	Very Good
B	83-91	Good
C	75-82	Fairly Good
D	<75	Less

RESULT AND DISCUSSION

Based on research on LKPD development based on Blended Learning Model Theme 1 Growth and Development Living Creatures for class III SD that have been implemented, the results of research and discussion for each stage of research and development are as follows:

The Stage of Analysis (Analysis)

a. Needs Analysis Stage

Activities at the analysis stage are conducting a preliminary test to schools that will be used as research samples, namely class III SD Negeri 24 Sungai Cubadak and SDIT Haji Djalaluddin, especially for this LKPD development class. The purpose of this preliminary study is as an initial descriptive study, namely to collect information and identify an integrated thematic learning process in grade III SD, which is used as a material for consideration and the basis for developing LKPD.

b. Analysis of Curriculum

At this stage, what is done is syllabus mapping by analyzing products from Content Standards, Basic Competencies and Indicators. The steps in mapping the syllabus above are as follows: (1) Determine the analysis of Graduation Competency Standards, which are taken from the Attachment of Permendikbud number 54 of 2013 concerning SKL for primary and secondary education, then the level of difficulty is determined by the teacher such as domains of attitudes, knowledge and skills. (2) Analyzing Core Competencies, Basic Competencies and developing indicators, then determining the form of assessment and the types of tests carried out both pretest-test and post to improve learning outcomes. (3) Creating LKPD Based on Blended Learning Model with the theme of Growth and Development of Living Things. (4) Calculate the time allocation that will be carried out in learning using LKPD Based on the Blended Learning Model with the theme of Growth and Development of Living Things. (5) Develop a Thematic Learning Implementation Plan for class III (Three) Sub-theme 1 Learning 1 to 6 and Sub-theme 2 Learning 1 to 3. Mapping curriculum analysis as the basis for developing LKPD based on the blended learning model of the Theme of Growth and Development of Living Things.

After mapping the content standards consisting of Core Competencies and Competency Standards for sub-themes 1 and 2 for class III, the next step is to analyze the interrelationships between subjects packaged in one theme and several sub-themes for the distribution of Core Competencies, Basic Competencies and indicators. The mapping of the connectivity of Basic Competencies and Indicators in this development research is to create an integrated integration for the subjects of Indonesian Language, Civics, Mathematics, and SBDP. This integration is developed through the form of LKPD based on a blended learning model with the theme Growth and Development of Living Things which is packaged in several sub-themes and learning activities.

c. Phase Analysis of Student Characteristics

This research was carried out in class III SD Negeri 24 Sungai Cubadak and SDIT Haji Djalaluddin for the academic year, 2021/2022, which consisted of 2 schools with 40 students, with the object of research being class III students. This research was in SD Negeri 24 Sungai Cubadak as a place for operational testing and SDIT Haji Djalaluddin as the main test site. Currently, the head of SD Negeri 24 Sungai Cubadak is Rita Hayati S.Pd and the head of SDIT Haji Djalaluddin is Yon Hendra S.Pd. The third grade teacher as a source of information from SD Negeri 24 Sungai Cubadak is Liza S.Pd and the third grade teacher at SDIT Haji Djalaluddin is Marsen C, S.Pd.

Based on the results of observations in learning activities and interviews with class III students, the researchers concluded several characteristics of students in general, namely:

- 1) The teaching materials used by students were 2013 curriculum student books, which contained pictures and picture instructions. In learning activities, students have difficulty developing material and have difficulty integrating the material as a whole in the learning context.
- 2) There are no teaching materials in the form of LKPD based on Blended Learning as a companion material for developing subject matter during this pandemic. Students find it difficult to develop subject matter holistically in the connectivity between subjects that require direct application.
- 3) The activities of students are less active in learning, this can be seen from the learning activities of students who only listen to the teacher's lectures.

Based on the characteristics of these students, a teaching material in the form of LKPD is needed as a tool to help develop the material as well as learning reference material or student book companion and increase student activity in learning activities. This is in line with the results of interviews obtained from third class teachers who stated that learning activities have not been maximized in learning.

Designed

Phase This stage is carried out by designing prototypes of LKPD teaching materials that are in accordance with the 2013 curriculum, namely designing and developing Blended Learning-based LKPD teaching materials based on the suitability of KI and KD on the content standards of 2013 Curriculum combined with teacher books and student books used in learning.

Product design planning specifically based on the following planning stages:

a. Pre-Writing of LKPD

The initial stage of the pre-writing step of LKPD Based on the Blended Learning Model with the theme

of Growth and Development of Living Things is to collect sources and references about material integration based on the distribution of material that has been mapped between basic competencies and learning indicators.

b. Writing the LKPD Draft

The step of writing the LKPD draft is the stage of compiling the LKPD section which is adjusted to the product specifications that have been previously planned, namely as follows:

- 1) Student Worksheets are made based on the standard process of Permendiknas No.65 of 2013 which contains problem solving, reasoning and evidence, communication, connection, and representation. The Student Worksheet is accompanied by Core Competencies, Basic Competencies, Competency Achievement Indicators, as well as material coverage that refers to the applicable curriculum syllabus, namely Curriculum 2013
- 2) The materials provided to class III material for semester 1, Theme 1 Growth and Development of Living Things.
- 3) Student Worksheet is designed with: title description, Basic Competency Mapping, instructions for use for students, identity, activities to be carried out by students, and a summary
- 4) Is an integrated thematic LKPD
- 5) In the form of print media with A4 paper size and digital media in the form of pdf which is inputted into the Nearpod application that can be used during online learning.
- 6) The worksheet contains colorful pictures that attract the attention of students. This picture in addition to functioning as an attractor of students' attention as well as an illustration related to the real life of students.

Development Phase

At this development stage, it discusses the development of LKPD products. After the product is designed at the design stage, it will be developed in this stage. The purpose of this development stage is to produce a final product that has been revised based on expert input and then applied or implemented to students.

At this development stage, LKPD product validation is carried out. The purpose of this product validation is to determine the feasibility and quality of the LKPD. As for the LKPD validation, it is validated by related experts. The results of the validation are as follows:

a. Validity of Material Experts

Assessment by material and learning syntax experts includes the suitability of LKPD with didactic requirements, construction requirements and technical requirements. The assessment and validation of the material was carried out by 2 UNP lecturers, namely Prof. Dr. Yalvema Miaz and Dr. Desyandri, M.Pd, he is a Professor and a Doctor of Education and a Postgraduate lecturer in Master of Elementary School Teacher Education, Padang State University and 1 teacher of Master of Education graduated from Padang State University named Asmanelly teaching at SDN 01 Baringin Anam, Baso. The result of the assessment from the material expert is that the assessment by the material expert on the LKPD Based on the Blended Learning Model is the theme of Growth and Development of Living Things for class III SD. The completeness of the material in the LKPD category is very good. Suggestions for improvement in the assessment from material experts on LKPD Based on Blended Learning for class III SD are; (1) Use pictures that match the theme with high resolution, (2) Pay attention to grammatical spelling, and use the appropriate size and typeface for third grade elementary school students, (3) Use original colors, (4) Complete the LKPD elements.

b. Validity of Media Experts

Assessment by media, experts and learning syntax includes the suitability of LKPD with didactic requirements, construction requirements and technical requirements. The assessment and validation of products was carried out by Dr. Darmansyah ST, M.Pd. He is a Doctor of Education from Padang State University and a postgraduate lecturer at the Padang State University Masters of Education. The results of the assessment by design experts and learning syntax are as follows: LKPD is feasible to use for research because the LKPD is clear, the size and type of letters are appropriate for third grade elementary school students, the appearance is attractive, LKPD is easy to save by downloading, can be used freely. The language in the LKPD is communicative and easy to understand for third grade elementary school students.

c. Linguistics

Assessment and product validation of linguists is carried out by Dr. Elfia Sukma, M.Pd., is a Doctor of Education from Padang State University and a postgraduate lecturer in Masters of Education at Padang State University. The results of the assessment by linguists there are several suggestions given by the expert validation of linguists so that they can be used as input and guidelines from the LKPD product or revising it, such as correcting it according to the correct language rules, but overall it can be used in classroom learning.

Referring to the category of validity criteria, the results of the validity of the LKPD are included in the very valid category. The following is a recapitulation of LKPD material, language and media validation. The results of the analysis of the validity of the LKPD material, language and media can be seen in the following

graph.

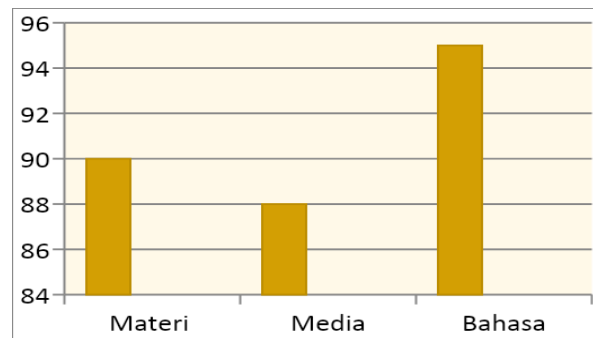


Figure 1. The results of the LKPD Material, Media, and Language Validity Test

Overall the scores obtained based on the validator's assessment are valid, but there are some comments or suggestions given on the assessment sheet by expert validation to be used as input and guidelines in revising the product. This shows that the three aspects, namely material, and language have been prepared completely and in accordance with the needs of students in learning.

Implementation Phase

At this stage, a limited trial was conducted for teachers and students. Trials were conducted to see the level of practicality of the LKPD. A limited trial was conducted on 1 teacher and 25 students at SDIT Haji Djalaluddin, Ampek Angkek District, Agam Regency. The practicality of LKPD based on Blended Learning in integrated thematic learning can be knowing from the results of practicality analysis by educators and students. The following are the results of the stages that have been carried out at the Implementation stage:

a. Teacher Practicality Test The teacher

Response assessment aims to find out the teacher's opinion on the practicality of the LKPD developed. The results of the teacher's practicality assessment show that the average percentage of teacher responses to LKPD based on blended learning models in integrated thematic learning for class III SD is in the very practical category with a percentage of 96%. Very practical means that the LKPD has complied with the predetermined criteria.

b. Practicality Test by Students

This test sheet was filled out by 25 SDIT Haji Djalaluddin students. Analysis of the data obtained by each student response assessment showed that the student's response to the practicality of the LKPD was 94 percent in the very practical category.

The Effectiveness is carried out if the product developed is valid and practical. The effectiveness of the LKPD based on the blended learning model in integrated thematic learning can be seen through the assessment of the student learning outcomes. LKPD is said to be effective if the aspect of assessing student learning outcomes obtains 75% completeness or above the KBM (Minimum Learning Completeness). Based on the results of the comparison of the students' pretest and posttest scores, there are differences. In the pretest score, an average of 62.8 was obtained and at the post-test it increased to 85.8 after using the LKPD, indicating an increase in student learning outcomes after using the LKPD so that students who used the LKPD could achieve scores above the KBM.

Evaluation Stages of

1. Revision of Initial Field Trial Results

After the product design is validated through the assessment of material, media, and language experts, the researcher makes improvements to the product design that has been made revision according to suggestions.

2. Main Field Trial

After making improvements to the design and revising it, a main field trial of product effectiveness was conducted. Trials were conducted to determine the effectiveness of the products that have been developed (Emzir, 2017). The main field trial was carried out in class III SDN 24 Sungai Cubadak for 9 meetings. The main field trial was carried out on 15 people consisting of 6 women and 9 women male people.

The results of the implementation of learning, most of the students have obtained learning outcomes, reaching a good criterion value of 60% or 9 students, 6 students who achieve excellent criteria are 40%, students who achieve sufficient criteria are 0% and students who get less marks are 0%. The average value reached 85.8 of the 25 students who were tested. This indicates that the use of blended learning-based

worksheets is able to have an effect on an improving student learning outcomes in class III.

3. Operational Product Revision

After the main field trial was carried out, the researcher made improvements to the product design that had been made based on the inputs that had been tested and the deficiencies that still existed in the product during the trial. The following deficiencies were found:

- 1) In activity 2 sheets to write the name of the group did not exist
- 2) In activity 3 questions were not in accordance with the instructions

The findings from these deficiencies were revised and corrected according to suggestions, so that LKPD products will do in the next stage will be better.

4. Operational

Trial conducted in elementary school at Haji Djalaluddin. Operational trials were carried out for 9 meetings. The results showed that the highest score was 100 and the lowest score was 40. From test using LKPD teaching materials, it was found that student learning outcomes were improved by using blended learning-based LKPD products during learning compared to those who did not use these products.

CONCLUSION

The conclusions of this development research are: This development research produces a product in the form of LKPD Based on Blended Learning, which is adapted to the 2013 curriculum. The results of the validity LKPD based on Blended Learning show very valid criteria after being validated by the material validator, media, and language after being revised once with average value of 91 percent that is very valid category. The practical results of the LKPD with the theme of animal and human movement organs show very practical criteria after the practicality assessment was carried out by students with an average score of 94 percent and teachers 96 percent that is very practical category. The results of the effectiveness test of student learning outcomes from the pretest and posttest score data, the pretest score obtained the result 63, and at the posttest it increased to 86 percent after using blended learning-based LKPD products in integrated thematic learning. This indicates an increase in student learning outcomes after using the LKPD.

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