

CONCEPTION OF DEVELOPMENT SCIENTIFIC BASED LKPD MATERIALS ON THE HISTORY OF THE INDONESIAN NATION'S ANCIENTS CLASS X

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Abstract: *This study aims to develop teaching materials for student worksheets (LKPD) on the historical material of the ancestors of the Indonesian nation in class X. This research uses the ADDIE model. The stages of this research are the preliminary investigation stage and the prototype stage. Data collection techniques in the form of observation, and questionnaires. The data analysis technique in this study used an instrument sheet in the form of a likert scale with 5 levels of assessment and calculated to see the validity and practicality of the product. The results of the study of 3 expert validators of design, material and language showed that LKPD products were tested for validity with the resulting category which was very valid and the average percentage obtained was 82%. The product practicality test for students through filling out the questionnaire obtained an average very practical assessment of 83%. LKPD book products have been tested to be effective in improving student learning outcomes, as can be seen from the comparison of student scores at the time of pretest then learning to use LKPD in an N-gain score of 0.60 in the medium category. This shows that this LKPD is effectively used to help improve student learning outcomes in history learning, especially the historical material of the ancestors of the Indonesian nation*

Keywords: LKPD, Scientific, History Learning

Abstrak: *Penelitian ini bertujuan untuk mengembangkan bahan ajar lembar kerja peserta didik (LKPD) pada materi sejarah nenek moyang bangsa Indonesia di kelas X. Penelitian ini menggunakan model ADDIE. Tahapan penelitian ini adalah tahap preliminary investigation dan tahap prototype stage. Teknik pengumpulan data berupa observasi, dan angket. Teknik analisis data dalam penelitian ini menggunakan lembar instrumen yang berbentuk skala likert dengan 5 tingkatan penilaian dan dihitung untuk melihat kevalidan dan kepraktisan produk. Hasil penelitian terhadap 3 validator ahli desain, materi dan bahasa menunjukkan bahwa produk LKPD teruji kevalidannya dengan kategori yang dihasilkan yaitu sangat valid dan rata-rata persentase yang didapatkan adalah 82%. Uji kepraktisan produk terhadap peserta didik melalui pengisian angket didapatkan rata-rata penilaian yang sangat praktis 83%. Produk buku LKPD teruji efektif terhadap peningkatan hasil belajar peserta didik terlihat dari perbandingan nilai peserta didik pada saat pretest kemudian belajar menggunakan LKPD secara N-gain score adalah 0.60 dalam kategori sedang. Hal ini menunjukkan bahwa LKPD ini efektif dimanfaatkan untuk membantu meningkatkan hasil belajar peserta didik dalam pembelajaran sejarah khususnya materi sejarah nenek moyang bangsa Indonesia*

Kata Kunci: LKPD, Sainifik, Pembelajaran Sejarah



INTRODUCTION

A great nation is seen from the quality of human resources that instill cultural values through education. Education is a conscious and planned effort in developing the potential of students to be active in learning activities and broad-minded, think logically, critically, creatively and innovatively. Teachers as mentors in learning activities are also required to be able to create innovative and creative learning conditions so that students can understand the subject matter. Education today is directed towards the expansion of learning innovations where appropriate teaching materials are needed according to the age and level of development of students, including at the high school (SMA) level (Wulandari, 2018).

High school students have the characteristics of formal operational thinking which means abstract thinking that is not limited to real experiences but is able to imagine events and process thoughts logically. As with history learning, high school students are able to imagine fictional situations and events into hypotheses to be processed into logical thinking. The perspective of obtaining information, how to remember, think, and solve problems is a student's learning style. As for this thesis, students' learning styles in understanding historical material use visual learning styles and image stimuli as student learning stimuli to follow instructions, observe pictures and so on. One of the supporters of learning to create this is to use scientifically based student worksheets (LKPD).

According to M. Hosnan the Scientific approach is a learning planning conceptualized with various observation techniques, problem formulation, hypotheses, data collection, data analysis, inferring and applying to create independent, active and creative learners (Hosnan, 2014). The Use of scientifically based LKPD teaching materials includes 5 stages, namely observing, questioning, collecting information, reasoning and communicating. Learning with a scientific approach requires the cooperation and active participation of students in learning activities such as making observations, answering questions, processing information and communicating. Learning through a Scientific approach can improve the learning outcomes of History and student activity which is integrated into teaching materials in the form of Student Activity Sheets (LKPD) in accordance with the 2013 curriculum.

According to Astuti, et al The Student Activity Sheet (LKPD) is a summary of learning material taken from various relevant book sources and presented in an interesting form and accompanied by practice questions and work instructions (Astuti et al., 2018). This activity sheet is presented with the aim of training students to be able to learn independently and creatively in solving problems related to their daily lives. Meanwhile, according to Ega the benefits of LKPD are as a tool for educators in managing the learning process, making it easier for educators to guide their students in finding concepts through independent activities or in groups (Ega Ayu Lestari, 2018). One of the subjects that requires tools in the form of teaching materials is history.

In the 2013 curriculum, history subjects play an important role in helping students gain knowledge and experience from the past so that they are expected to form a character and build a good and wise student mentality towards the attitude of love for the homeland. Learning the history of the ancestors of the Indonesian nation will shape the character of students with a level of moral maturity of cultural and spiritual values so as to prevent the emergence of a crisis of values and conflicts that are sweeping the world. Students are expected to be able to think creatively and critically in understanding history lessons, because this is an important thing in school.

Based on the results of interviews with students of SMA Negeri 1 Tungkal Ilir, Banyuasin Regency, history subjects are not in demand by students, they stated that they do not understand the History of the Ancestors of the Indonesian Nation, this is because the history learning process is still monotonous, so it does not attract students to pay attention to the lesson. This can be seen from the low average daily test score of students, which is around 30-40% of students who reach the minimum graduation standard (KKM) of 75. This is certainly a tool needed for teachers to facilitate the delivery of material by developing teaching materials that are designed attractively and fun such as the development of LKPD with the aim of increasing the achievement of student learning completion by developing students' abilities in understanding the material, especially history lessons.

Various research results related to the development of LKPD can be seen from the research of Puspita, et al which shows that the use of LKPD in learning can have an impact on student learning activities, learning becomes more interactive and fun where students are given the opportunity to practice independently and motivated to learn (Puspita & Dewi, 2021). Putri, et al stated in the study that there were significant differences in student learning outcomes before and after the use of LKPD (Putri et al., 2020). Further research conducted by Pitriyanti, et al (2020) in his research it was known the effectiveness of the application of LKPD in schools which had an impact on improving student learning outcomes . In Suratmi's research, et al stated that the use of LKPD in schools has advantages such as motivating student activities and improving student learning outcomes (Suratmi et al., 2019).

Based on the above presentation, the purpose of this study is to analyze the need for the use of science-based LKPD on historical material for the ancestors of the Indonesian nation in class X.

METHOD

The research was conducted to see the development of scientifically based LKPD in a valid, practical and effective manner towards improving student learning outcomes. The research location used to collect research data was SMAN 1 Tungkal Ilir Banyuasin with students in class X-IPS 3 with 30 students. The development model used in this study is the ADDIE model. The data collection techniques used include

expert questionnaires, *student questionnaires* to see the practicality of the product and tests to see the effectiveness of the use of LKPD on student learning outcomes. The following is the instrument grid in this study:

Table 1. Material Expert Instrument Grids

No	Indicators	Aspects	
1	Compatibility of material with Basic Competencies	Learning	
2	Compatibility of the material with indicators and goals learning		
3	The correctness of the material presented in the LKPD scientifically based		
4	Effectiveness of material delivery at LKPD		
5	Ease of students in understanding the material in scientifically based LKPD products		
6	Clarity of instructions for use of LKPD		
7	The flow of material in the product is clear and understandable well		
8	The material presented is complete	Fill	
9	The material presented is very detailed		
10	Sources used are credible and reliable		
11	The material presented is of high quality		
12	Attractiveness of LKPD from appearance to coloring		
13	The material presented can generate motivation learning		
14	The material presented in LKPD is in order		
15	The content of the material is short and easy to understand		
16	Evaluation on digital LKPD can improve Students' critical thinking skills		
17	Digital LKPD supports learners to learn Self-sufficient		
18	Languages used according to PUEBI (Spelling Guidelines Indonesian)		Language and Writing
19	Languages used are standard and interesting		
20	The language used is easy for participants to understand educate		
21	The language used according to the level of maturity of the learners		
22	Use a clear sentence structure		
23	The effectiveness of word selection so that LKPD is easily understood by students		
24	Accuracy of selection of size and typeface		

Table 2. LKPD Teaching Materials Expert Instrument Grids

No	Indicators	Aspects
1	Digital LKPD presented according to the needs in learning	LKPD display
2	The composition of colors, images and writing in LKPD is appropriate	
3	Images used according to the learning material	
4	Accuracy of the selection of typefaces and sizes of letters	
5	The display of LKPD presented is attractive	
6	Quality illustrations/images presented	
7	Cover design that matches the material	
8	Accuracy of LKPD design color selection	
9	The accuracy of the use of comics as a material for reflection	
10	LKPD display encourages learners to be motivated in self-study	

No	Indicators	Aspects
11	Proportional LKPD layout	Serving
12	Illustration with the material presented is appropriate	
13	Uniqueness of Scientific-based LKPD	
14	The design used is attractive	
15	The neatness of LKPD product design	
16	Accuracy of image color selection	

Table 3. Learning Evaluation Expert Validation Instrument Grids

No	Indicators	Aspects
1	Compliance of the question with Basic Competencies	Problems in LKPD
2	Conformity of the question to indicators and objectives Learning	
3	The suitability of the question to the material	
4	Clarity of sentence structure on the question	
5	The questions presented are HOTS (Higher Order Thinking Skills)	
6	The accuracy of language use in the question	
7	The neatness of writing evaluation questions in LKPD	
8	Accuracy of the selection of typefaces and sizes of letters	
9	The picture contained in the evaluation question is in accordance with the material	
10	Clarity of learning objectives on the problem	
11	Ease of students in understanding the problem	
12	Image layout is already proportional	
13	The questions presented are in accordance with the level of development of students	
14	LKPD presented according to the level of development of students	
15	Scientifically based digital LKPD is interesting	

Table 4. Learner Response Instrument Grids

No	Indicators	Aspects
1	The material presented is easy to understand	Learning
2	The flow of material in LKPD is clearly visible	
3	The presented material has novelty	
4	Learning using LKPD media increases the enthusiasm for learning the history of students	
5	Accuracy of selection of size and typeface	Display
6	The quality of the images used is interesting	
7	Compatibility between writing and images	
8	Accuracy of image layout selection	
9	Ease of using media	
10	The audio presented is interesting	
11	Attractiveness of LKPD cover design	Language and Writing
12	The language used is easy to understand	
13	Sentences used are simple and easy Understood	
14	Use a clear sentence structure	

No	Indicators	Aspects
15	The language used according to the level of development of the learners	
16	Languages used according to PUEBI (General Guidelines for Spelling Indonesian)	
17	The language used is standard and clear	
18	Clear and neat writing	

The data analysis technique in this study used an instrument sheet in the form of a *likert scale* with 5 levels of assessment and calculated to see the validity and practicality of the product. Here is a table of criteria for the level of validity and practicality of the product.

Table 5. Validity Level Criteria

Achievement Criteria	Validity Level
$\geq 85,5\% - 100\%$	Highly Valid
$\geq 62,5\% - 85,5\%$	Valid
$\geq 43,5\% - 62,5\%$	Less Valid
$\geq 25\% - 43,5\%$	Invalid

Source: Akbar (2015)

Table 6. Categories Response

Response Percentage	Category
$80\% < P \leq 100\%$	Very Practical
$60\% < P \leq 80\%$	Practical
$40\% < P \leq 60\%$	Quite Practical
$20\% < P \leq 40\%$	Less Practical
$0\% < P \leq 20\%$	Impractical

Source: (Riduwan, 2015)

RESULTS

After analyzing the needs of using scientifically based LKPD teaching materials by distributing questionnaires through a *google form* and the following results were obtained:

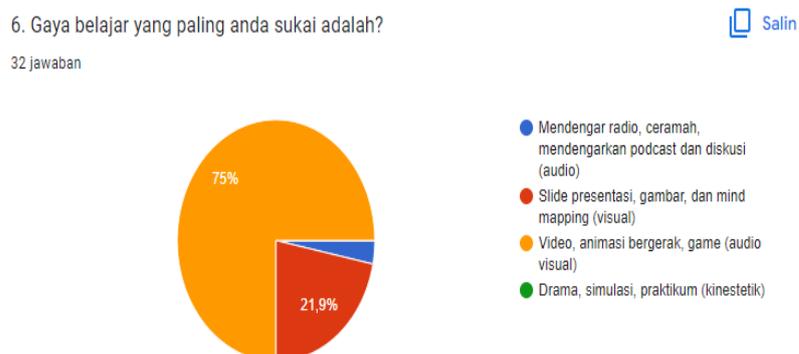


Figure 1. Dominant Learning Styles of Learners

9. Apakah anda merasa membutuhkan bahan ajar berupa LKPD yang dilengkapi dengan gambar, peta konsep dan materi yang menarik ?

Salin

32 jawaban



10. Apakah anda membutuhkan bahan ajar dengan peta atau gambar?

Salin

32 jawaban

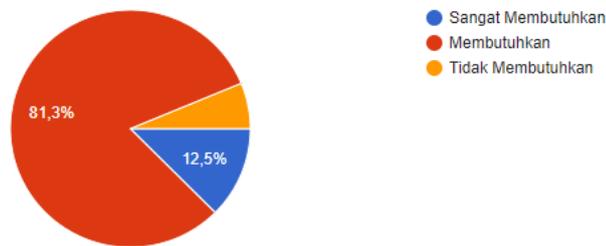
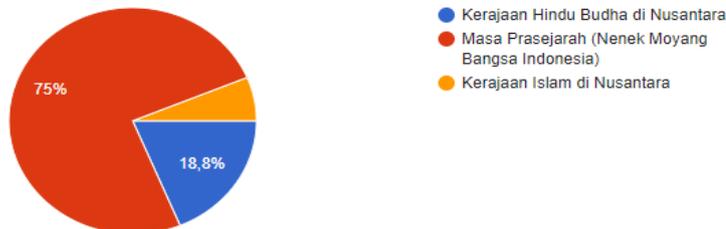


Figure 2. LKPD Teaching Material Needs

Diantara materi berikut, materi apa yang paling sulit dipelajari?

Salin

jawaban



2. Mengapa anda merasa kesulitan dalam mempelajari dan pembelajaran sejarah nenek moyang bangsa Indonesia?

Salin

28 jawaban



Figure 3. Material Difficulties

The needs analysis stage has been carried out, then the next step is the product validation stage to material experts, learning design experts and linguists. Here are the results of the LKPD validation data analysis

Table 7 Results of LKPD Product Validation Analysis

No	Aspects	Validator (Expert)	Score	Category
1	Design	FAR	83 %	Highly Valid
2	Material	HD	84 %	Highly Valid
3	Language	ZA	78 %	Valid
Average			82 %	Highly Valid

After the testing stage of the material, learning design, and media is completed, the next stage is a *small group*. At this stage, it aims to find out the practicality of learning products that have been designed and have been assessed by experts based on the views of students. The results of the questionnaire recapitulation that have been given to students during *the small group* are as follows.

Table 8 Small Group Results Recapitulation

No.	Learners	Average Score	Category
1	AR	84%	Very Practical
2	DS	86%	Very Practical
3	RS	86%	Very Practical
4	RP	88%	Very Practical
5	BS	94%	Very Practical
6	RA	78%	Practical
7	DA	74%	Practical
8	ZF	76%	Practical
Average		83%	Very Practical

The next stage is the evaluation of the effectiveness of LKPD products on improving student learning outcomes. Here is a comparison of learners' scores at the time of pretest and posttest:

Table 9 Recapitulation of Student Learning Outcomes

Value Interval	Number of Learners		Percentage (%)		Information
	Pretest	Posttest	Pretest	Posttest	
86-100	0	7	0	23.3%	Excellent
71-85	5	19	17%	63.3%	Good
56-70	6	4	20%	13.3%	Enough
40-55	15	0	50%	0	Less
0-39	4	0	13%	0	Very Less

Table 10 Recapitulation of *Average Pretest, Posttest, N-gain* Results

<i>Average Pretest</i>	<i>Posttest mean</i>	<i>N-gain</i>
52.83	81.33	0.60
Category		Keep

DISCUSSION

Aspects of student learning styles are known to be 75% of students like audio-visual learning styles, learning styles refer to psychological traits that affect how learners perceive and respond to the various stimuli given (Yaumi, 2017). Aspects regarding the needs of LKPD obtained data of 78.1% of students answered that they needed teaching materials in the form of LKPD to support the history learning process. This is in line with the opinion according to Yanuar the purpose of compiling LKPD is as a tool for students to understand the subject matter interestingly, improve student achievement results by training students to answer the assignment questions given, educate students to be willing to learn independently and think creatively, help teachers in delivering lesson materials (Amin & Hernawan, 2017).

In the aspect of analysis regarding the conditions and problems of learning history, a total of 75% of students answered the difficulty of understanding the historical material of the ancestors of the Indonesian nation. Considering that historical events occurred centuries ago and not all components can be presented in the class especially class X (ten), so the material will be difficult for learners to understand for it needs to be explained clearly and this material relates to the cultural heritage of the ancestors which are ancient relics of great value as historical resources and creative resources for the life of our nation today and in the future. Therefore, efforts are needed to better understand and maintain its cultural values (Retno Susanti, 2017).

Students said that the difficulty in learning history was due to several factors, including 57.1% of students stated that the material was only a teacher's explanation, 25% of participants stated that the book used was not interesting, and 17.9% of students answered the lack of additional teacher references to the historical material presented. History learning is the process of learning about the past. History learning provides information about events that have occurred in the past (Havekes et al., 2019).

The results of the validation of the three validators showed that the scientific-based LKPD with improvements in the resulting category was very valid and the average percentage obtained was 82%. This is also in line with research that has been carried out by Septina, et al (2018) that the results of the study of developing student worksheets with a scientific approach based on problem-solving skills were declared feasible with research results showing that the assessment of experts is very feasible (86% of material experts, and 85% of media experts).

The results obtained from *small group* activities show that this LKPD is categorized as very practical with a percentage processed which is 83%. This is in line with research conducted by Utariadi, et al (2021) which stated that the results of the practicality of LKPD based on a scientific approach were given to 145 students, obtained an average score of 61.04 which was in the very practical category (N.K.D. Utariadi et al., 2021).

The last thing that was carried out was a *fieldt* test or field test which was carried out with the aim of seeing the effectiveness of student learning outcomes after empowering this product in the form of LKPD in History learning activities, especially historical material for the ancestors of the Indonesian nation. The significant comparison on the average pretest is 52.83 then there is an increase in posttest after learning to use a scientific-based LKPD of 81.33 so that it can be calculated that the N-gain score is 0.60 in the medium category. This shows that this LKPD is effectively used to help improve student learning outcomes in history learning, especially the historical material of the ancestors of the Indonesian nation.

CONCLUSION

The results of this study show that the use of teaching materials in the form of LKPD is needed, then the content of the material that needs to be presented in the LKPD is in the form of interesting material, image visualization displays, material summaries and practice questions. The elements in the LKPD aim to assist students in doing practice questions contained in the LKPD. Scientifically based LKPD refers more to problem solving to improve the ability to analyze students. In the conditions and problems of historical learning methods and media, innovative teaching materials are needed on the historical material of the ancestors of the Indonesian nation because students find it difficult to understand the material. So that the development of an interesting and innovative LKPD is needed to facilitate students in solving learning difficulties in the classroom.

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