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by Neviani Fpips 3

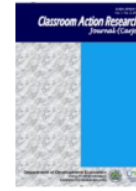## Image-Based Student Worksheet Development to Improve Student Learning Interest

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Abstract

Student Worksheet (LKS) is a printed teaching material in the form of sheets of paper containing material, summaries, and instructions for implementing learning tasks that must be done by students. This study aims to determine the image-based student worksheets used can increase student interest in economic subjects in class X in Sulek High School. Development research uses the ADDIE development model (analysis, design, development, implementation, and evaluation). The sample in this study were 20th grade X students. The results of the development of the image-based worksheet for the analysis phase showed that students needed material that connected the material to everyday life. The design phase designs student worksheets by adding learning objectives and concept maps in the preamble, and adding images related to the material. The development phase consists of two stages, step 1 adding images according to the material and in step 2 adding sources to the images. The results of the LKS validation that have been developed increase from stage 1 to 3.5, stage 2, which is 3.9 stage 3, which is 4.7 with very good criteria. After the implementation phase shows the learning outcomes of students before using the worksheet reached a percentage of 25% after using the worksheets the students increased, namely in the first phase reaching a percentage of 75%, in the second stage 80% and in the third stage until reaching the highest number of subjects completing the value of 90%..

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INTRODUCTION

Learning as a process built by the teacher to develop creativity and can increase student understanding. The use of appropriate learning models aims to support the growth of students' enjoyment of learning itself and make it easy for students to understand the lesson so that it causes students to achieve better learning outcomes. Student Worksheet (LKS) is a printed teaching material in the form of sheets of paper containing material, summaries, and instructions for the implementation of learning tasks to be done by students both theoretical and practical in nature referring to the core competencies and basic competencies that must be achieved students, and their use depends on other teaching materials (Prastowo, 2013). Student Worksheets (LKS) will be more interesting if presented in the form of drawings.

Based on the results of observations made on economics studies teachers along with a number of class X students at Sulek Islamic High School, in general students are less active in the learning process in the classroom on the material conveyed by the subject of study teachers so that it causes the learning process to be less effective, students do not pay attention to the material conveyed by the teacher because using the lecture method in teaching makes students less interested in learning, does not cause a sense of excitement towards students because the method used tends to be monotonous only using the method of continuous lecture that does not provide opportunities for students to actively participate in developing ideas creative students so that there is no reciprocal relationship between teacher and students in the ongoing learning process.

In accordance with Angelina Stella's research, titled "Development of Student Worksheets (LKS) with Image Media for Economic Learning for Class X High School Students" with the results of the LKS Product research with image media that are appropriate for students to use in learning. Research conducted has been through the validation stage by material experts, economics teachers, individual trials, small group trials, and field trials. Based on previous research there are similarities that show that developing learning media in the form of worksheets with the media of images as a learning support media. The formulation of the problem "how does the effect of drawing-based student worksheets used to increase student interest in economic subjects in class X at Islamic High School in Sulek"?

METHOD

This research is a development study using the ADDIE development model (analysis, design, development, implementation, and evaluation). To produce the product a needs analysis research is used and test the effectiveness of the product (Sugiyono 2008). The population in this study was the tenth grade students of Sulek Islamic High School with a total of 20 students. The sampling technique in this study uses saturated sampling technique. Saturation sampling technique is a technique for determining the sample if all members of the population are used as samples, (Sugiyono, 2014: 68).

1. Research Procedure

This development research process follows the R & D research procedure (sugiyono, 2016) which is level 3 development (researching and testing to develop existing image-based worksheet products). With the following steps:
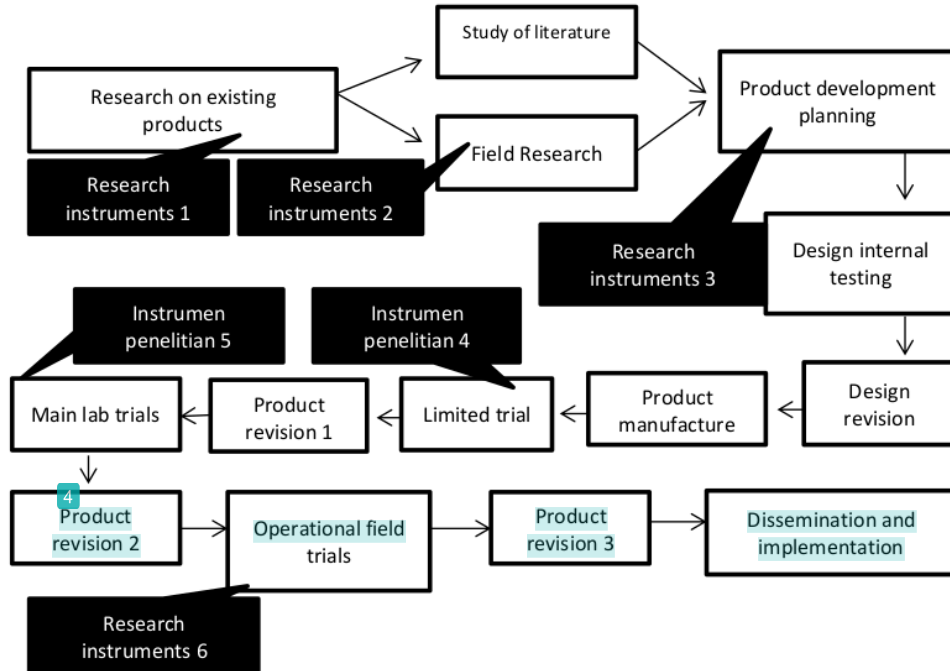
Figure 1. Steps for level 3 research and development procedures (Sugiyono, 2016)

2. Data Analysis Techniques

1. Data obtained from the development of student worksheets (LKS) are analyzed using a Likert scale with points 1 to 4

Then the research results are calculated as follows:

Percentage score $= \frac{\Sigma \ acquisition \ score}{\Sigma \ acquisition \ score} \times 100\%$

The percentage score obtained is then measured using the interpretation of scores for the Likert scale, namely:

Likert Scale Interpretation

Percentage	Interpretation
0% - 25%	Very bad
26% - 50%	Not good
51% - 75%	Well
76%- 100%	Very good

2. Increased completeness follows the school's provisions that students are declared to pass each test if the score obtained is 70 with a maximum score of 100. Then in this study also used the conditions set by the school, to determine the percent (%) of completeness.

Namely as follows:

$$\text{percentage of completeness} : \frac{the\ number\ of\ students\ completed}{total\ students} \times 100\%$$

RESULTS AND DISCUSSION
Results

The development of student worksheets (LKS) in economic subjects based on images on consumer behavior material for grade X Islamic high school students in Sulek refers to the ADDIE development model (Analysis, Design, Development, Implementation, Evaluation). The results of each stage are as follows:

1. Analysis

The results of this stage include needs analysis, material analysis, curriculum analysis and student characteristic analysis.

a. Need analysis

From the results of interviews and observations of the worksheets of students and subject teachers obtained information as follows: (a). Student worksheets use sentences that are difficult to understand so students are less active in economic learning activities and do not have good skills in understanding economic learning problems, (b). Student worksheets used at school tend to explain and practice questions so students are not invited to actively participate in finding concepts, (c) The ability of students to understand the material is difficult to understand the material.

b. Material Analysis

The material developed is adapted to the Research and Development research design, which is a research and development method that will produce certain products so that it helps students more easily understand the material and according to interviews with the teacher obtains information that class X student worksheets on economic subjects material consumer behavior and producers have the following shortcomings: a). Use sentences that are difficult to understand, b). Lack of emphasis on material, c). Examples on student worksheets are not all present in every material that helps students understand it more easily, d). There is no picture that links it to the material to help students know and understand the material. These results prove that the worksheets used do not help students to understand the material.

c. Curriculum Analysis

Curriculum analysis is carried out based on Education Unit Level Curriculum (SBC). The KTSP part analyzed is about Competency Standards (SK), Basic Competencies (KD) and learning indicators where the indicators do not use cognitive, affective and psychomotor assessments on the material role of economic actors in economic activities. The results of the curriculum analysis are as follows:

a) Competency Standards, understanding the role of economic actors in economic activities

b) Basic Competence

Analyze the role of economic actors in economic activities, and present the results of the analysis of the role of economic actors in economic activities

c) Indicator

Cognitive, explain and give examples of the role of economic actors in economic activity. Affective, develops nature and is curious in the learning process. Psychomotor, develops skills in linking theory in learning with daily life

d) Learning Objectives

Cognitive, students are able to understand and give examples of the role of economic actors in economic activities. Affective, students are able to develop the nature of curiosity in the learning process. Psychomotor, students are able to develop skills linking theory in learning with everyday life

d. Krakteristik Analysis of Students

Characteristic analysis of students was obtained from interviews with teachers of economics subjects in Sulek Islamic High School and based on observations during learning activities. The results of interviews with economics teachers can be concluded that high school students in class X are less active in learning, lack of interest in studying economic subjects and difficult to understand the material in fact still need the help of teachers or textbooks in learning activities which can be known from the results of learning students less than KKM that is equal to 7.5.

2. Design Stage

The stage of designing an image-based worksheet can be described as follows:

1) LKS Design

a. Designing LKS titles, Designing titles is determined by chapter titles determined by basic competencies. Therefore, the LKS compiled in this study is 1 chapter with the title LKS Consumer and Producer Behavior

b. LKS parts, On the student worksheet there are several things that need to be developed as in the following table:

Table 1. LKS Design

No	Design
1.	Openers, including competency standards, basic competencies, learning objectives and concept maps
2.	Student activities, there are pictures and materials
3.	Practice questions
4.	Front cover LKS, foreword and table of contents
5.	Key answers to practice questions

2) Preparation of Learning Implementation Plan (RPP)

The lesson plan is made as a guideline in implementing learning so that teaching and learning activities are in accordance with the learning objectives and directed. The following are the steps in the preparation of RPP

a. Write down the identity of the subject. Subject identity includes education units, subjects, classes, semesters, topics, and time allocation.

b. Writing Competency Standards. Competency standards are written based on 2006 content standards

c. Writing Basic Competencies. Basic competencies are written based on 2006 content standards

d. Write down indicators. Indicators are elaborated based on Basic Competence.

e. Formulate learning objectives. Learning objectives are formulated based on competency standards, basic competencies, and indicators

f. Determine learning material. Learning materials are formulated based on competency standards, basic competencies, indicators, and contextual aspects

g. Determine learning methods. The learning method is done by discussion and question and answer

h. Develop learning activities. Activities in the RPP include introduction, core, and closing activities

i. Determine learning resources. Learning resources include books and journals.

j. Determine the assessment. The form of assessment used in teaching materials is the form of question matter.

3. Development Phase

The initial product of teaching materials in the form of student worksheets is consulted to economics teachers and school principals to get criticism and suggestions for improvement. After revision and approval from the validator.

Development products that have been validated by economics teachers and school principals will then be used as a reference to make theoretical improvements to the development products.

1. Product Stage 1

Phase 1 product revision is an improvement of the worksheet after it is validated. At this stage an improvement is made about the shortcomings that exist in the worksheet based on the advice of the validator. The following are the results of the first phase of products that have been validated by the validator and the improvements that have been made

Table 2. Product Revision Phase 1

No	before revision	After revision
1	Cover LKS no picture only class identity and field of study	The LKS cover has a picture
2	The picture does not match the material on the subject of consumer and producer behavior	Picture according to the material
3	There is no description on the pictures of all subjects	There is a description in the picture
4	The numbering system on all subjects is not appropriate	The numbering system on the subject is appropriate

2. Product Stage 2

Phase 2 products are LKS products that have gone through the first product revision after being validated by the validator. The results of the two products that have been validated have flaws so that the product revision and the second phase improvement can be seen in the following table:

Table 3. Product Revision Phase 2

No	Before revission	After revission
1	Stage there is a reference source in the picture	There is a reference source in the picture
2	Image layout is irregular	Image regularly

4. Implementation Phase

After the student worksheets are declared ready to be distributed and used by the validator, then the next student worksheet can be implemented that is used as

teaching material in learning activities. The results of this trial will be used as a reference to revise teaching materials.

a. Student learning outcomes

Based on the results of tests conducted, it shows that the development of image-based worksheet can improve student learning outcomes. This can be seen from the test results before using up to using student worksheets that have been developed as in the student learning recapitulation table.

Table 4. Summary of Learning Outcomes

		Action							
		Before			Stage 1		Stage 2		Stage 3	
No	Score	Total	Percentage	Total	Percentage	Total	Percentage	Total	Percentage
1	≥ 75	5	25%	15	75%	16	80%	18	90%
2	≤ 75	15	75%	5	25%	4	20%	2	10%

5. Evaluation Stage

At this stage evaluating student worksheets based on pictures of economic subjects that have been developed based on the results of the validation sheet by the economics teacher and the school principal, the learning outcomes obtained at the stage of implementation. The evaluation results are as follows:

Table 5. Results of validation sheets

Average Validation Sheet				
Stages	Content eligibility	Language Feasibility	Feasibility of presentation	Graphic feasibility
Stage 1	3,6	3,7	3,6	3,3
Stage 2	4	3,9	4,3	3,7
Stage 3	4,8	4,8	4,6	4,6

Total stage averages 1 = 3.5

Total stage averages 2 = 3.9

Total stage averages 3 = 4.7

Percentage score = $\frac{\Sigma\ acquisition\ score}{\Sigma\ acquisition\ score}$ x 100%

Percentage score = 32 : 4 x 100% = 80%

Discussion

      The analysis phase includes stages - analyzing needs, analyzing material, curriculum analysis and student characteristic analysis. Needs analysis based on interviews conducted, worksheets for students of class X economy class 3 with material the role of economic actors in economic activities based on images requires student worksheets that can involve students in learning activities actively and connect the material with the surrounding environment so as to increase knowledge, understanding, and student experience. The worksheet used is image-based worksheet with the aim that students can be actively involved, creatively and skillfully in solving economic problems, especially those related to daily life around students. Material analysis, from the results of interviews with economics teachers on student worksheet material should use sentences that are easy to understand, there are pictures and examples that relate to everyday life. Curriculum analysis, the curriculum used is the 2013 curriculum (K13) analyzed including competency standards (SK), basic competencies (KD) and learning indicators contained in the material, but indicators on the curriculum do not relate to basic competencies that should be assessed from cognitive, effective and psychomotor therefore the student worksheets are developed judging from cognitive, effective and psychomotor. Characteristic analysis of students, students are not active in the learning process and students find it difficult to understand the material resulting in student grades less than KKM of 75, with the existence of a picture-based student worksheet invites students to be more active in the learning process and students easily understand the material.

      The design phase is designing a worksheet where students share images developed with the following stages: collecting references taken from various sources as explained in the results of the design phase, references used are from sources deemed relevant and appropriate from the material developed. In addition to gathering references researchers also look for images that are in accordance with the material and understand, images take from various sources including, personal documentation, the internet and economic books relating to the material being developed. Designing student worksheets (LKS) based on images, the design in the first stage determines the title of the material to be developed, namely the role of economic actors in economic activities, the second stage is designing parts of student worksheets. The preparation of the lesson plan (RPP) aims to make worksheets of students who are ready to be implemented in accordance with the learning objectives of the lesson plan.

      Development stage, at this stage the product stage 1 of an image-based student worksheet that has been validated by two validators after being tried out for the first stage (limited trial) then revised the deficiencies found in the first stage

product to improve stage 2 products, deficiencies - deficiencies and improvements to the revision can be seen in table 2 of the product revision stage 1. Product stage 2 after making a revision of product 1, the product that has been validated by the validator then tried out the second stage (main lab trial), after being tested on the second stage of the student worksheet which was developed, the researcher consulted the validator to revise stage 3 or the last stage which was ready to be tested last stage (operational field trials). Revision and repair phase 2.

The results of trials carried out are as:

The first, second and third meeting of learning activities began with the researcher giving apperception and motivation as stated in the RPP, the implementation of the pretest, an explanation of how to use the subject LKS subject matter the role of economic actors in economic activities, and reading the learning objectives. Students are given a pretest problem, to determine the extent to which students master the material, and deliver the material and invite students to associate the material with the surrounding environment, then students form groups according to the instructions 4-5 people per group. Each group works on the activities described by the teacher, which summarizes and provides examples in the environment around students. At the end of the lesson, researchers and students reflect to briefly review the material that has been studied and ask students to read the next sub material. The implementation of the learning process in the second stage is 80%. The fourth, fifth and sixth meeting is a phase 2 trial. Learning begins by giving apperception and motivation as in the lesson plan, implementing the pretest, explaining how to use the worksheets, and reading the learning objectives, the learning process takes place as the first stage of the learning process. The implementation of the learning process in the second stage of 80% can be seen from student learning outcomes. The seventh and eighth meeting is the final stage (operational field trial). Student worksheets that have been revised and are ready to be distributed. The learning process at this stage is the same as the learning process in the previous stage but the implementation of the learning process at the last stage is 90% and can be seen from the student learning outcomes that are sufficient for KKM which is 75 and 90% of students are sufficient for KKM.

In this study the use of image-based student worksheets proved that student learning outcomes improved. After using the LKS the first stage reaches a 75% percentage increase to 80% in stage 2, at this stage the percentage of mastery learning reaches mastery which is said to be complete when 78% of students achieve a KKM value of 75 and in stage 3 it increases to 90%. Improved learning outcomes can be seen in the diagram of student learning outcomes. The criterion for achieving the highest number of 90% is very good learning outcomes.

The evaluation stage is the stage of evaluating the results of the development of an image-based student worksheet that has been validated by 2 validators and is ready to be used and distributed. The results of research on the development of student worksheets after validation obtained data from the development of worksheets, namely the image-based student worksheets reached an average of 4

obtained validation sheets with good criteria. Validation of the feasibility of the contents of the two validators gives an average value of 3.6 and has an increase in the second stage of validation that is equal to 4 and in the third stage the validator gives an average value of 4.8 ie good criteria, from 3 stages of the validation get an average total value an average of 4.1 is good criteria.

Validation of the feasibility of the language of the two validators, from the three stages of development, the total average score of 4.1 was included in both criteria. From the first stage get an average value of 3.7 increased to 3.9 in stage 2 and in stage 3 increased with an average score of 4.8, which is a good criterion. Validation of the feasibility of the presentation in the first stage of the two validators gave a score of 3.6 increased in the second stage to get an average score of 4.3 and in the third stage it increased to 4.6 which is a good criterion, from the three stages of the total average score validation value ie 4.1 is in good criteria. Validation of graphic feasibility, validation of two validators get a score of 3.3 in stage 1 and then an increase in stage 2, with an average score of 3.7 and in stage 3 increasing to 4.6. From the feasibility of graphics obtained an average total of 3.8 which is quite good.

Improved validation of the four validations of the feasibility of the feasibility of the content, the feasibility of language, the feasibility of presentation. Of the four validations of eligibility, the total average score gets an average score of 4, which is a good criterion for developing student worksheets. The results of the development of student worksheets that have been validated by the validator prove that the development of student worksheets based on images is very valid. The results of the development of image-based student worksheets that have been assessed by economics teachers get results with an average score of 4 with the criteria of strongly agreeing that the student worksheet reaches a KKM of 75. The percentage of scores obtained reaching an presentation of 80% falls into very good criteria.

CONCLUSION
Based on the results and discussion, it can be concluded that the development of image-based student worksheets influences student learning outcomes in stage 3, with a percentage of 90% with a total of 18 students achieving KKM scores above 75. According to the validators based on the components of content worthiness, presentation, language and graphics. The student worksheets that have been developed have increased from stage 1 to 3.5, stage 2 to 4 and to stage 3 to 4.7 are good criteria.

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