

The Development of Student Activities Sheet Based on The Problem-Based Learning Model of Social Science Learning Class IV Elementary School

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Abstract: The results of this study are: 1) the results of the questionnaire on the needs of students and teachers indicate that there is a need for LKPD based on the PBL model on theme 6 sub-theme 1 of the social studies lesson on natural resources, 2) The LKPD development process is carried out in 8 steps. LKPD is designed with A4 paper size, made attractive with colorful pictures, and contains pictures of natural resource materials that are associated with everyday life, 3) LKPD based on the PBL model is feasible to use after validation by material experts and teaching materials experts. The material expert gave a total score of 54 with a very good category, and on the validation, the teaching materials expert gave a total score of 100 with a good category, 4) The results of the effectiveness test of LKPD based on the PBL model based on statistical analysis that the LKPD based on the PBL model is feasible to use in learning based on the sig value of 0.000 greater than 0.05 and t-count 17.75000 > t-table 8.1876. As a result, LKPD teaching materials have been effective and suitable for use by fourth-grade students.

Keywords: Student activity sheet (LKPD), problem-based learning (PBL), social sciences (IPS)

1. Introduction

Elementary school is one form of educational institution in the formal pathway that underlies secondary education. An elementary school is a place of learning to apply basic knowledge, good personality, creativity, independence, noble character, and skills to live independently and attend further education. Learning is an attempt to describe how people understand the complex process of learning, as stated by Abadi, Pujiastuti, & Assaat (2017), learning is a change that occurs through practice and experience. The learning process in schools is a process that involves students, teachers, and learning resources to achieve the desired student learning outcomes in a learning environment, as well as in the social sciences learning process.

Social Sciences is a science that studies society. Afrina, Abbas, & Susanto (2021) state social studies learning is a process of interaction between teachers and students that involves developing thinking patterns and processing logic in a learning environment created by teachers with various methods so that social studies learning programs grow and develop optimally and students can carry out learning activities effectively and efficiently by using materials teach. Teaching materials are an important component of learning used by teachers as learning materials for students and assist teachers in carrying out teaching and learning activities in the classroom. teachers must be proactive in providing learning materials. Learning materials can be in the form of books, modules, student worksheets, teaching aids and other materials needed so that the learning process can run smoothly and effectively.

Hattarina et al. (2022) state student worksheet (LKPD) is an alternative source of appropriate learning for students because LKPD helps students to add information about the concepts learned through systematic learning activities. LKPD is used to guide students to learn independently and can draw conclusions about the subject matter studied. Dewinta et al. (2021) argue that the presentation of material or subject matter. In general, LKPD can encourage students to develop creativity in learning. In the implementation of social studies learning in elementary schools, teachers only use student books and teacher books for social studies lessons from the government. Students being taught using social studies books from the government has not increased students' motivation and social studies learning outcomes (Ho et al., 2017). Based on the results of the researcher's observations on Saturday, May 8, 2021, it is known that the social studies books provided

by the government have not been able to guide students to build student independence to build knowledge in their minds from various variations of information through interaction in the learning process.

The presentation of student books and teacher books in social studies learning that is commonly used can result in not achieving the objectives of social studies subjects optimally. The limitations of student books and teacher books in social studies learning also make students find it difficult to understand the material in working on questions. Based on the problem, the researcher needs to develop teaching materials in the form of LKPD in social studies learning that is interesting, effective, and efficient by using the Problem Based Learning (PBL) model. This is because social studies learning requires LKPD which presents short material and examples of questions that can make it easier for students to understand the material. Analysis of the need for LKPD that can facilitate students in learning, researchers know from a needs analysis questionnaire that researchers distribute to several students. The selection of LKPD development using the PBL model because this model encourages students to learn based on problems with various materials and tools that are not always done in the classroom, but in the library or computer laboratory, while others are out of school.

Through the PBL model, students who study in small environments or in small groups will help the development of these students to learn. According to De Hei et al. (2018) working in groups also helps develop the essential characteristics needed for success after students graduate, such as verbal communication, written communication, and team-building skills. According to Anugraheni (2018), the PBL model is student-centered, requiring as much or more planning effort.

This study aims to 1) describe the needs analysis of students and teachers on the development of LKPD based on the PBL model in social studies learning for grade IV Elementary School, 2) develop LKPD analysis of the needs of students and teachers on the development of LKPD based on the PBL model in social studies learning for grade IV Elementary School, 3) find out the effectiveness of developing LKPD based on the PBL model in social studies learning for grade IV elementary school.

2. Literature Review

LKPD is defined as teaching materials that are printed in the form of sheets of paper containing materials, summaries, and instructions for completing learning tasks carried out with reference to the basic competencies that have been obtained by students. Student Worksheet (LKPD) is a tool to facilitate and facilitate teaching and learning activities for effective interaction between students and teachers to increase student involvement to improve educational performance.

Student Worksheet (LKPD) is one of the teaching tools that play an important role in learning (Syafitri, 2020). LKPD is a worksheet that must be done by students. Student activity sheets made by teachers to help to learn in the classroom are part of the learning materials. Understanding teaching materials are all materials teachers use to help them carry out teaching and learning activities at the school. The LKPD consists of several pages and is printed as special teaching materials for use by units at certain academic levels. Usually, this includes a brief explanation, a topic summary, dozens of multiple-choice questions, and additional questions.

Student Worksheet (LKPD) is one of the means to facilitate and facilitate teaching and learning activities to create effective interactions between students and teachers and improve student performance in teaching activities. LKPD is given after students have completed their studies on a particular topic (Wahyuni et al., 2021). The teaching materials packaged in the LKPD are primarily intended to deepen and apply didactic content in textbooks.

The advantages of LKPD include applying a scientific approach in the science learning process, motivating students in the learning process, helping to develop concepts, training to explore and develop practical skills, and playing an important role as a mentor for teachers and students. It helps students understand the learning process.

In presentation, Noprinda & Soleh (2018) explained that LKPD consists of six main components: titles, assignments, core competencies/subject content, supporting information, action items, and assessments. A good LKPD is one that meets the author's standards and includes the appropriate components or structures. According to Suratmi, Rauhat, & Fitrianti (2019) in general, the structure of the LKPD is that the introductory section has topics or contents that are arranged according to basic competencies, and the teaching objectives section is in accordance with basic competencies that have knowledge of teacher needs. What will be the availability of materials to develop LKPD according to the needs and objectives of the curriculum features and requirements for solving learning problems (Sari et al., 2021). Teaching problems include the teacher's lack of understanding about LKPD, the availability of LKPD materials that are difficult for teachers to find, and the teacher's low motivation to create LKPD that can be used in classroom learning.

3. Methodology

In this study, the researcher used the Research and Development (R&D) type of research. Borg and Gall described ten steps for conducting Research and Development (R&D) research (Aka, 2019). However, in this study due to time and cost limitations, the researcher took 8 steps. The steps are as follows, stage 1) potential and problems, 2) data collection, 3) product design, 4) design validation, 5) design revision, 6) product trial, 7) product revision, and 8) trial use. The technique used by researchers in collecting research data uses test techniques and non-test techniques, namely interviews, questionnaires, observation, and documentation (Gustiani, 2019). Analysis of the data using needs analysis, expert

validation, instrument testing consisting of validity test, reliability test, the test difficulty level of questions, test of differentiating power of questions. Prerequisite test using normality test, homogeneity test, and effectiveness test (t-test).

The population of this research is 90 grade 4 students from three elementary schools in Jepara City. The sampling technique in this study used a stratified proportional random sampling technique. Stratified proportional random sampling. To conduct the research, permission was approved by the division supervisor and the secondary school principal.

4. Findings and Discussion

4.1 Expert Validation

Validation was carried out by material expert lecturers and media expert lecturers. Based on the validation carried out by material expert lecturers, they provide an assessment of the quality of the material in the LKPD in terms of aspects of content feasibility, aspects of language feasibility, aspects of presentation feasibility. The material expert lecturer gave a score of 54 in the very good category. The material expert lecturer advises if the material used by the researcher is good and deserves to be continued (Mulyani et al., 2021). Meanwhile, based on the validation carried out by media expert lecturers, they assessed the quality of the LKPD in terms of the media display aspect, the graphic quality aspect, and the teaching material content aspect (Susilawati, 2022). The media expert lecturer gave a score of 100 in the good category. Media experts advise if the cover design is still simple and uses only standard colors. Referring to the advice of media experts, the cover underwent a few changes which are illustrated in the following image.



Fig. 1 - Image before revised.



Fig. 2 - Image after revised.

4.2 Test Instrument Analysis Results

4.2.1 Question Validity Test

The analysis of the test results of the multiple-choice test instrument showed that there were 20 valid questions and 5 invalid questions.

4.2.2 Question Reliability Test

The analysis of the test results of the test instrument test shows that the instrument is declared reliable. Where the value of the r-count obtained is compared with the r-table with a significant level of 5%. The amount of data in the test

instrument trial was 20 so an r-table of 0.44 was obtained. The result of the r-count is 1.023 which is bigger than the r-table of 0.44. Its mean the analysis data is reliable.

4.2.3 Test Difficulty Level of Questions

The analysis of the test results of 25 questions shows that there are 4 questions with difficult criteria, 14 medium criteria, and 7 easy criteria.

4.2.4 Test the Differential Power of Questions

The analysis of the test results showed that there were 18 questions with sufficient criteria, 12 bad criteria and nothing was discarded.

4.3 Prerequisite Test Results

4.3.1 Initial Data Normality Test

The data tested in the initial data prerequisite test is the result of the students' pre-test scores. Testing in this study can be done with the help of SPSS software version 25 using non-parametric statistics, namely Kolmogorov-Smirnov, with the test criteria = $5\% = 0.05$. If a significance value $\geq 5\%$ is obtained, the null hypothesis is rejected, which means that the sample comes from a population that is not normally distributed. The results of the normality test with the help of SPSS software version 25 using non-parametric Kolmogorov-Smirnov statistics, based on the students' pre-test scores, the significance values were obtained as follows, (Pre E1) of 0.009, (Pre E2) of 0.026. Both classes obtained a value of ≥ 0.05 . It can be concluded that the group population is normally distributed.

4.3.2 Initial Data Homogeneity Test

Testing in this study was carried out with the help of SPSS version 25 software using the test of homogeneity of variances, namely with the criteria = $5\% = 0.05$. If a significance value $\geq 5\%$ (0.05) or F-count $< F$ -table is obtained, then H_0 is accepted, which means that the sample group has the same variance (Banerjee et al., 2009). The results of the homogeneity test with the help of SPSS software version 25 using the test of homogeneity of variances, namely based on the homogeneity test, the pre-test value obtained a significance of 0.206, then H_0 is accepted. So that the pre-test data is homogeneous or the same. Likewise, when compared with the F value, the results obtained by the value of F-count 0.206 $< F$ -table 3.3, then H_0 is accepted, which means that the sample group has the same variation.

4.3.3 Final Data Normality Test

The results of the pre-test scores for the normality test of the student's final data obtained the following significance values, namely, (Post E1) of 0.035, and (Post E2) of 0.026. Both classes obtained a value of ≥ 0.05 . It can be concluded that the group population is normally distributed.

4.3.4 Final Data Homogeneity Test

The results of the homogeneity test with the help of SPSS software version 25 using the test of homogeneity of variances, that is, based on the homogeneity test, the post-test value obtained a significance of 0.902, then H_0 is accepted. The post-test data is homogeneous or the same. Likewise, when compared with the value of F, the results obtained by the value of F-count 0.902 $< F$ -table 3.3 then H_0 is accepted, which means that the sample group has the same variation.

4.3.5 Effectiveness Test Results

The effectiveness test was carried out through statistical tests based on student learning outcomes, but the effectiveness of the implementation of the development of the LKPD module based on the PBL model was also presented descriptively based on the results of observations during the learning process. The application of development of the LKPD module is effectively used in learning, this can be seen in the student learning outcomes. The improvement of student learning outcomes between before and after the use of the LKPD module based on the PBL model was carried out. The learning process is efficient, where teachers and students can follow the steps of the learning process well. An effective learning process, where teachers can deliver structured learning. increasing student learning motivation, being able to make students easy to follow directions from the teacher, students being able to work well together, and student's ability to solve problems well. The learning objectives are maximally achieved, so it can be said that the development of the LKPD module based on the PBL model is effectively used in learning.

The effectiveness test was also carried out through statistical tests. After the field trials, prerequisite trials were carried out, then the effectiveness of the PBL-based LKPD module development in social studies learning was carried out. Analysis of the effectiveness test using the t-test on the results of the pre-test and post-test.

The test criteria are if the price t-count $> t$ -table then H_a is accepted. The t-table value is obtained by looking at the t-value in the table with an error rate of 5%. Based on the calculation results, the results obtained that the two schools

with the criteria H_a were accepted. So can be concluded that there is a significant difference between before and after using the LKPD module based on the PBL model conducted in elementary schools. The results of the effectiveness test of LKPD based on the PBL model can improve students' social studies learning outcomes.

Based on the analysis of instruments that have been filled out by teachers and students in the early stages of research, it can be concluded that the development of LKPD based on the PBL model is needed. It is known the social studies learning process is considered less attractive to students because the books used by students are printed in black and blurry so that the images contained in the material are not visible, which makes students less enthusiastic about learning. Learning resources used by teachers are only textbooks and worksheets printed in black. Students feel bored, it can be seen from the crowd in the class. The lack of enthusiasm of students in social studies lessons causes the value of students' social studies learning outcomes to be not optimal. As shown by the average value of student learning outcomes 68.

The LKPD development needs questionnaire given to students explained that the teaching materials used by the teacher often made students bored. This is because the prints on the teaching materials are not colored, so they are not attractive to students. In addition, the delivery of material using the lecture method also causes boredom to students. Students want fun learning in the classroom. At the time of learning, students use social studies worksheets which are printed on black and opaque paper. Students feel happy when the researcher shows the PBL model-based worksheets that are printed on white and colored paper. Although the PBL model is not yet known to students, students are interested in following the steps. This is following the purpose of Dita et al. (2021), that images as graphic media have the aim of attracting attention, clarifying material, and illustrating facts and information faster when illustrated with pictures.

5. Conclusions and Recommendations

Research on the development of LKPD teaching materials for fourth-grade elementary school students has been carried out based on the R&D stages of Sugiyono's (2010) version covering eight steps. The results of research conducted by researchers, it can be concluded as follows:

- a. Based on the analysis of instruments that have been filled out by teachers and students in the early stages of research, it can be concluded that the development of LKPD based on the PBL model is needed in learning.
- b. LKPD development is carried out in 8 steps, namely: 1) potential and problems, 2) data collection, 3) product design, 4) design validation, 5) design revision, 6) product trial, 7) product revision, and 8) trial use. LKPD is designed with A4 paper size or the equivalent of 21x29.7 cm. LKPD is made attractive with colorful pictures, containing pictures of natural resource materials that are related to everyday life. The physical form of LKPD is in the form of print media made with variations in layout, choice of colors, variations of letters according to needs so that they are interesting to read and learn.
- c. The feasibility test was carried out by means of a validity test from material experts and teaching materials experts. Material experts provide an assessment of the quality of the material in the LKPD in terms of content feasibility aspects, language feasibility aspects, and presentation feasibility aspects. Based on the questionnaire filled out by material experts, the score was 54 which was categorized as very good. The material expert gives advice if the material presented in the LKPD is good and can be continued. Meanwhile, the teaching materials expert gave an assessment of the quality of the LKPD in terms of the media display aspect, the graphic quality aspect, and the content aspect of the teaching material. Based on the questionnaire filled out by the material expert, the score was 100 which was categorized as good. It can be concluded that the LKPD teaching plan based on the Problem-Based Learning model is feasible to use.
- d. Based on the discussion of the results of research and development of teaching materials.
- e. LKPD has been described previously, it can be concluded that the product of LKPD teaching materials have been effective and suitable for use by fourth-grade students. This is based on the results of the assessment of the LKPD teaching material products from material experts and teaching materials experts, as well as the assessment of the results of product trials, and usage trials that have been described in the previous chapter, further evidenced by normality test, homogeneity test, and paired sample t-test. which shows that the LKPD based on the Problem Based Learning model is effectively used in theme 6 sub-theme 1 social studies lessons for grade IV elementary school

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Conflict of Interest

The authors declare no conflicts of interest.

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