Development of Problem Based Learning LKPD in the Subject of History in Class XI IS-1 of SMA Negeri 3 Padangsidimpuan

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Abstract. This study aims to determine the increase in learning outcomes after implementing learning at SMA Negeri 3 Padangsidimpuan. Differentiated Learning is a form of effort in a series of learning that pays attention to the needs of students in terms of learning readiness, student learning profiles, interests and talents. Differentiated learning is in line with the philosophy of educational thought according to Ki Hajar Dewantara, that education provides guidance for all the natural strengths that children have. This research was conducted in Class XI IS-1 at SMA Negeri 3 Padangsidimpuan for the 2022-2023 academic year. The research subjects were 20 students. The method used in this study is the ADDIE method which consists of 4 stages, namely define, design, develop, and disseminate.

Keywords: Development,LKPD, Problem based learning, History.

1 Preliminary

The rapid progress of education demands a change in the educational goals to be achieved. Educators are also required to address the challenges that exist. At this time there is a tendency that teachers use learning strategies that do not mobilize students in an effort to foster student creativity and activeness.

Learning in the 2013 curriculum is so that students can find out for themselves and are required to be able to solve their own problems which aim to be able to improve cognitive, effective, and psychomotor abilities. While the teacher is only a facilitator in teaching and learning activities. Teachers in learning must emphasize the involvement of students in thinking when delivering material so that students do not only listen to the explanations given by the teacher, so as to create active learning in accordance with the current 2013 curriculum.

The learning demands of the 2013 curriculum require an educational process that provides opportunities for students to be able to develop all their potential. Learning in the 2013

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curriculum requires learning that leads to empowering all potential students to become human beings who are competent in life. Potential associated with aspects, attitudes, knowledge, and skills. These aspects are developed so that they can be meaningful in the life of society, nation and state, as well as for the welfare of fellow human beings.

History subjects are very important to add insight into the nation and state as well as students' knowledge. History lessons must be taught in schools at every level, from elementary, middle, high school to tertiary institutions. The main purpose of history in Indonesia is to foster awareness of the state, attitudes and behavior that love the motherland and are based on national culture, insight into the archipelago, and national security in prospective successors to the nation who are currently studying and will master science and technology. Therefore, student worksheets (LKPD) as a solution to the problem of using LKPD are considered as a suitable learning alternative for students, because LKPD helps students add information about the concepts learned through systematic learning activities.

Problem Based Learningconsidered capable of training students' critical thinking with the process of solving the problem. According to Sani (2017) PBL learning requires students to actively carry out investigations in solving problems and the teacher as a facilitator or mentor. This learning will be able to form higher-order thinking skills and improve students' abilities.

As stated by Norman and Schmidt (1992) that students who are familiar with the application of the PBL model will have more motivation, are high, are more able to solve problems, and have high thinking skills or critical thinking.

In the research by Park et al (2014: 192-196), and Setyorini (2011: 52-56) stated that the problem-based learning model can improve students' critical thinking skills better than traditional learning. Research by Masek and Yamin (2011: 215-220) also states that the problem-based learning process (PBL) affects students' critical thinking skills.

Based on the description above, the researcher is interested in further analyzing the development of problem-based learning worksheets in history subjects at SMA Negeri 3 Padangsidimpuan, which can be concluded that the goal is to find out how effective and the benefits are when implementing problem-based learning worksheets..

2 Method

The device development model as suggested by Thiagrajan, (in Trianto, 2010: 93) is 4.D, which consists of 4 stages of development namely, define, design, develop and disseminate. The flowchart of the process of developing and compiling student worksheets based on problem based learning which will be implemented and adapted from the Thiagarajan development model with 4-D design (define, design, develop, disseminate). Broadly speaking, the development procedure can be described as follows.

Image 1. Source: (Trianto, 2011)

The cycle consists of the following:

1) Defining stage (Define)

The purpose of this stage is to determine and define the needs of the lesson by analyzing the objectives and limitations of the material. Activities in this stage are the beginning-end analysis, student analysis, concept analysis, analysis of assignments and specification of learning objectives.

2) Planning Stage (Design)

This stage aims to design a learning device prototype. The results at the design stage are called Draft A. The learning tools that will be produced are the Learning Implementation Plan, and student worksheets (LKPD). Activities at this stage are as follows: (1) format selection, (2) initial design, there are two parts (a) RPP, (b) LKPD.

3) Development Stage (Develop)

The aim of this stage is to produce a revised draft of learning tools based on input from experts and data obtained from field trials. At this stage there are two steps taken, namely valiexpert tie and u'i try the field namely (1)Expert Validation/Assessment, (2) Trials,

4) Stage of Deployment (Disseminate)

This stage is the stage of using LKPD teaching materials. The disseminate stage is carried out by disseminating the results of student worksheet development research through journals so that they can be used as an alternative for teachers, especially when teaching and for readers in general. Dissemination was also carried out by distributing hardcopies of PBL-based student worksheets for teachers to use in teaching class XI IS-1 SMA Negeri 3 Padangsidimpuan.

The four stages are the stage of conducting problem-based learning-based student worksheet research.

3 Results and Discussion

a. The feasibility of LKPD is based on problem based learning

The effectiveness of problem-based learning-based worksheets is obtained from student learning outcomes in the form of tests of students' critical thinking skills. The results of the

study in the form of students' critical thinking skills were known using the descriptive test. This test aims to improve students' understanding of the material between colonialism and imperialism. This test was conducted on 20 students of class XI SMA Negeri 3 Padangsidimpuan. This test was also carried out in two stages, namely pretest and posttest.

The pre-test was carried out before using the Problem-Based Learning-based LKPD and the results of the data obtained showed that the value of students' critical thinking skills was still low and had not yet reached the completeness criteria. This is evidenced by the average value data obtained at the pretest, namely 68 with a classical completeness percentage of 50%. The results of this percentage indicate that the indicators of classical student learning completeness have not been achieved.

The post-test was carried out after using Problem-Based Learning-based LKPD and the results of the data obtained showed that the student's score had reached the completeness criteria. It is known from the average value obtained 80.167 with a classical completeness value of 85%. Based on the data that has been obtained, the Problem-Based Learning-based LKPD is in fact able to improve students' critical thinking skills because PBL steps lead students to think of finding their own ideas in learning, this is in line with constructivism theory which emphasizes the principle of learning that requires students to find or apply their own ideas in learning and consciously use their own strategies for learning (Wheatley, 1991).

The average score obtained in the pretest was 68 with a classical completeness percentage of 50%. Then it experienced an increase in the post-test, namely the average value obtained was 80,167 with a percentage with classical completeness of 85%. Based on this increase, LKPD is able to guide students in stages in accordance with humanistic learning theory which guides students in gradual lessons should be able to form an emphasis that the learning process continues to want and need to learn and know how to learn (Goodman in Hitipiew, 2009: 117).

The improvement of students' critical thinking skills is also influenced by other components in the Problem Based Learning model, namely the learning experience in discussion with the total group. Through this group discussion leads students to interact with each other to exchange ideas to solve problems. This is consistent with Vygotsky's theory (Arends, 2008: 47) that social interaction spurs the construction of new ideas and can enhance students' intellectual development. This was reinforced by Vygotsky (Rusman, 2013) namely, problem-based learning is an attempt to associate new information with existing cognitive structures through learning activities in social interactions.

In addition, by continuously providing PBL-based worksheets, students will get used to analyzing and evaluating their own thought processes and be able to make conclusions from the knowledge found with guidance and instructions from teachers or friends. This is in line with Vygotsky's theory (Arends, 2008) which states that social interaction with other people, both teachers and peers, refers to the construction of new ideas and enhances students' intellectual development. By being given challenges in the form of scaffolding, namely proper assistance from teachers and peers who are more capable, students will advance to the (ZPD) Zone of Proximal tem Development where new learning takes place.

When viewed individually from the 20 students there were 17 students who received a complete score in the good to very good category. The remaining 3 students scored under

completeness. This is in line with the research of Tarmizi, et al (2017: 87). The results showed that learning using PBL-based worksheets could improve students' critical thinking skills in learning about light at SMA Negeri 3 Padangsdimpuan. This can be seen from the high acquisition of the average N-Gain score in the experimental class of 0.86 compared to the control class which was only 0.74.

Research that is relevant to this research includes research conducted by Astuti, Danial, and Anwar (2018: 90) with the title Development of PBL (Problem Based Learning) LKPD to Improve Students' Critical Thinking Skills in Chemical Equilibrium Material. The results of this study indicate that the developed PBL-based LKPD has been validated which is stated to be very valid. PBL-based LKPD is said to be practical and effective, because in the practicality test related to: (1) the implementation of the LKPD, it shows that all aspects of learning are in the fully implemented category, (2) the teacher gives a positive response to the LKPD used, and (3) the suitability of the teacher's activity with the problem-based learning model is at the limit of the tolerance interval.

Based on the results of the descriptive analysis in this study, it was found that the students' critical thinking skills met the classical completeness criteria. This is because the material and problems that exist in the product (KPD) are developed according to the conditions of the student learning environment and refer to PBL-based learning. By implementing PBL-based worksheets, students will be actively involved in the process of solving problems and stimulate students to always think. critical of the problem or problem given.This is in accordance with the theory of Vygotsky (Trianto, 2009: 39) states that the learning process will occur if the problem is continuously accustomed to students to solve it and the problem given is still within the reach of students.

This is supported by the research results of Prana, Sadia and Private (2018 - 73) which concluded that providing worksheets with PBL learning model settings gives students freedom of expression to work on worksheets, especially in designing activities to be carried out, besides that students are trained to think rationally in solving problems. problems, and students more easily interact socially with colleagues and teachers.

Based on the results of the research and the support of previous research and the learning theory above, it appears that the developed problem-based learning worksheet learning tools can help students achieve mastery of teaching materials in a classical manner. Thus it can be concluded, that the use of Problem Based Learning-based learning questionnaires developed has met the criteria of effectiveness.

4 Conclussion

The Problem Based Learning-based LKPD that has been developed meets the criteria of being effective in improving students' critical thinking skills. The contribution of student worksheets to students can be seen based on the increase in students' critical thinking skills, obtaining a percentage of classical learning completeness of 85%. This shows that classically, students have thoroughly studied and students already have good critical thinking skills.

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