

Development of Student Worksheets based on Problem-Based Learning

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Development of Student Worksheets based on *Problem-Based Learning*

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Abstract :

Student worksheets based *Problem Based Learning* is a Student Worksheets which students are given a problem, consisting of 5 phases. During work on the student worksheets, students do a phase 1 (student orientation on the issue), phase 2 (organized the students to learn), phase 3 (individual and group investigations Guide), phase 4 (developing and present⁶ the results of the work), and phase 5 (analyzing and evaluating the process of problem solving). The purpose of this research is to produce the end product be based *Problem Based Learning* on subjects of tax administration material of value-added tax, knowing the process of ¹⁶development, the level of feasibility, and student response against is developed. The method of this research is the development of research methods and using the development model according to the 4-D Thiagarajan. However, research is limited only to the development phase only. The data collected using the now open and the now closed. The results of the calculation of the ¹⁵percentage obtained calculation a score according to a Likert scale and Guttman. The results showed that the results of the validation material experts get a score of 87.27%, validation linguist 76.92%, validation graphics 87.64%, compliance student worksheets based *Problem Based Learning* 86%. Result whole obtained a score of 85.02% and student response to worksheets based Problem Based Learning of 95.41% with the criteria very well.

1 INTRODUCTION

According to (KBBI) in the Big Indonesian Dictionary (Damsar, 2011: 8) education is the process of changing attitudes and procedures of behavior or groups of people in human mature businesses through training and teaching efforts. From the above opinion can be seen that one of the goals of education is to develop individual attitudes and code of conduct. The process of forming or changing the attitudes and behavior of individuals as bearer governance of education. Learners embodied in various activities such as counseling, teaching or training so that learners can play an active role in the life of the future.

Education is capable of supporting the future is ¹¹education that can develop the potential of students, so concerned is able to face and solve the problems of life faces. Education must touch the inner potential and the potential competence of learners.

Because learners should be able to apply what is learned in school to deal with problems encountered in daily life and in the future (Al Tabany, 2015: 5).

Based on Act No. 20 ¹⁴ars 2003 (in Mulyasa, 2013: 20) the purpose of national education is to develop the skills and character development and civilization of the dignity of the nation in the context of the intellectual life of the nation. Education aims to develop students potentials to become a man of faith and fear of God Almighty, noble, healthy, knowledgeable, skilled, creative, independent, and become citizens of a democratic and responsible. One of the government's efforts in the development of continuous education implemented the curriculum. Improvements and changes continue to evaluate how much of the curriculum successfully. Then the target of education is also set so that it appears the concept of the curriculum according to

the needs in the future. The latest applied by the government is the curriculum of 2013. Based on Law No.20 of 2003, in the (Damsar, 2011: 124). The National Education System states that the curriculum is a set of plans and arrangements regarding the objectives, content and learning materials as well as the means used to guide the implementation of learning to achieve certain educational goals. based on The curriculum is understood not just textbooks, issues, a series of lessons, content or educational program, is not just a special subject, but the curriculum can investigate, organize, monitor, and evaluate aware of the personality development of students.

Implementation Curriculum 2013 is the actualization of learning and competence and character formation of students (Mulyasa, 2013: 125). It requires the activity of teachers in creating effective and meaningful learning by involving students actively in learning. Students are also required to search for, cultivate, construct and use knowledge through learning experiences provided by the teacher, for example, to train students to work solving real problems that are directly related to the real life in the community.

In the process of teaching and learning materials is an important part of the implementation of school education. Widodo and Jasmadi (in Lester, 2012: 1), define a set of teaching materials as a means of containing learning materials, methods, limitations, and assessments designed to systematically and attractive in achieving competence mastery learning. In other words, teaching materials are all kinds of materials that are used to assist teachers in implementing the learning activities in the classroom. The material in question can be written materials and materials not written. Teaching materials are independent, meaning that it can be studied by students independently because of systematic and complete. In addition, according to (Hamdani, 2011: 122) the classification of the print instructional materials one of which is the Student Worksheets (LKS).

LKS is a printed instructional material in the form of sheets of paper containing material, summaries, and directives implementation of learning tasks that must be done by learners who refers to the basic competencies that must be achieved. The purpose of the LKS are: 1) Presenting instructional materials that allow students to interact with the material provided, 2) Present tasks that improve student mastery of the material provided, 3) Train independence of student learning, and 4) Make it easy for teachers to give assignments to the

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students (Prastowo, 2015: 206). Efforts to create an interactive learning process, inspiring, fun, challenging, and motivate students to participate actively can be done by using a model of learning.

According to Soekamto (in Al-Tabany, 2015: 2-10) Expressed the intention of learning models, a conceptual framework that describes a systematic procedure in organizing learning experiences to achieve specific learning objectives, and serves as a guideline for the designers of learning and teacher in planning learning activities. This, the learning activity is an activity aimed at systematically arranged. One model that can be used in the learning curriculum of 2013 is a model of learning Problem Based Learning (PBL), in the learning helps students to gain knowledge and skills, develop and solve problems, and to build a concept invented by the students themselves (Savary, 2006).

Problem Based Learning is one innovative learning model that can provide an active learning condition for students (Arends (in Al-Tabany, 2015: 64) Problem Based Learning is a learning approach where students work on authentic problems with a view to construct their own knowledge, develop inquiry and higher-level thinking skills to develop independence and confidence. According to Duch (in Riyanto, 2014: 285) Problem Based Learning is a learning model that confronts learners with the challenge of "learning to learn". Students actively work together in groups to seek solutions to problems. In these problems is used as a reference for students to formulate, analyze, and solve it.

One of the learning in class XII SMK Negeri 4 Surabaya Accounting skills program is the subject of tax administration in which there are materials of value-added tax. Value added tax is a tax on consumption of goods and taxable services in the Customs Area. Sale or delivery of goods that have been processed or processed so changed from its original form into nature or new items that increase the value or power use is subject to VAT (Sudirman, 2016: 276).

Based on interviews from Tri Kusmawati as teacher of the tax administration SMK Negeri 4 Surabaya on the 13th February 2017, obtained information that the application learning in the curriculum in 2013 still cannot be fully implemented because there is no independent handbook for students, supporting books in the library facilities-based curriculum 2013 for productive subjects still exist, and obtained information that the learning in the classroom in presenting the material, teachers tend to focus on theory without associating with the

real world.

This has resulted in only a clever student who can catch the teacher's subject matter, while the other students feel indifferent to learning because they think the material is unattractive and difficult to understand, so that there is a condition where not all students take an active role in learning. This prompted the researchers to create a more varied teaching materials by linking the real story in the life of students on the material value-added tax. Therefore, it is expected by the LKS-based Problem Based Learning will increase student engagement in the learning process. So that it can create a uniform learning experience for learners in order to achieve a goal of learning.

Based on the phenomenon that occurs in SMK Negeri 4 Surabaya needed alternative teaching materials to support the learning curriculum in 2013 that the development of students' worksheet (LKS) Problem Based Learning Based on the subject matter of tax administration value-added tax.

There is previous research relevant to the research to be conducted, which has been done by Novianti (2014), entitled Development-Based Student Activity Sheet Problem-Based Learning (PBL) In the Matter of Human Digestive System in Class XI. The results showed Problem Based Learning on the human digestive system material which can be developed otherwise very decent with LKS validation results of 97%.

Research others developed by Ananda (2016), entitled Development of LKS Oriented Problem Based Learning To Train Creative Thinking Skill In the Material Chemical Equilibrium can be feasible with the results of the validation Worksheet 1 and Worksheet 2 on the criteria of content, presentation, graphics, and linguistic respectively for 91.7%; 88.3%; 91.7% and 79.2%.

Another research Priyadi (2016), entitled Development-Based Student Worksheet Contextual Teaching and Learning on Subjects Taxation Class X Semester 1 Vocational High School may be feasible with LKS validation results by 96.63%.

Based on above description, the researchers are interested in doing research material development with the title "Development of Student Worksheets (LKS) Problem Based Learning Based on Tax Administration Subject Matter of Value Added Tax Accountancy Class XII SMK 4 Surabaya".

2 LITERATURE REVIEW

2.1 Teaching materials

15 Is a set of teaching materials arranged in a systematic matter whether written or unwritten so as to create the enabling environment or atmosphere for learning (Hamdani, 2011: 219).

According to Prastowo (2015: 204), LKS is a printed instructional material in the form of sheets of paper containing materials, summaries and directives implementation of learning tasks that must be done by the students, which refers to the basic competencies that must be achieved. The tasks given to students can be the tasks of theoretical or practical tasks. The example is theoretical task form task read a particular article, creating a resume for presentation and so forth. As for the practical tasks can be either laboratory work or field work.

2.2 The function of Student Worksheets (LKS)

According to Lestari in Pandoyo (2011: 75) the advantages of LKS users are: learn to increase interest, Encourage students to be able to work alone, and guide students directly towards developing concepts.

2.2.1 Strengths and Weaknesses of Student Worksheets (LKS)

Student worksheets are included in the print media, according to Kemp and Dayton (in Azhar Arsyad, 2014: 39), student worksheets have advantages including: Learners can learn and progress according to the speed of each, Students can repeat their own learning material that has been delivered at the time of theory, the combination of text and images can increase attraction so as to facilitate the delivery of information presented in verbal and visual formats, students will be more active in participating because they must respond to questions and questions arranged, and print media can be reprinted and distributed easily.

Student Worksheets (LKS) also have disadvantages, namely:

Printing costs are expensive if you want to display colored images, the process of printing is often time-consuming, the compilation is designed so that it is not too long, requires better care, and cannot display motion.

Problem Based Learning

According to Arends (in Warsono and Hidayanto, 2016: 147) Problem Based Learning or problem-based learning is a learning model which is based on constructivism and accommodate the student engagement in learning and engage in problem-solving context.

Purpose of Problem Based Learning (PBL)

The main purpose of Problem Based Learning (Problem Based Instruction) according to Fathurrohman (2015: 214-215) is not the delivery of a large amount of knowledge to students, but is oriented to the development of critical thinking skills and problem-solving abilities while developing students' ability to actively build their own knowledge. Learning objectives are designed to be able to stimulate and involve learners in problem-solving patterns. This condition will be able to develop learning skills in the field directly in identifying problems. In the context of cognitive learning a number of related goals are direct and independent learning, knowledge and problem-solving. So as to achieve success, students must develop learning skills and be able to develop strategies in identifying and finding problems, evaluating and also learning from various relevant sources.

Excess Problem Based Learning (PBL)

According to Warsono (2016: 152) that the strength of applying the PBL / PBI method includes:

Students will be accustomed to facing problems (problem posing) and feel challenged to solve problems, not only related to learning in the classroom, but also facing problems that exist in everyday life (real world), cultivating social solidarity by being accustomed to discussing with group friends then discussing with classmates, and increasingly familiarizing teachers with students.

Lack of Problem Based Learning (PBL)

According to Warsono (2016), the disadvantages of problem-based learning are:

Not many teachers are able to deliver students to problem-solving, often requires an expensive and long time, and student activities carried out outside the school are difficult for teachers to monitor.

Value-added tax

According to Sudirman (2016: 276) ⁹ Value Added Tax is a tax levied on the consumption of goods and taxable services in the Customs Area. Sale or delivery of goods that have been processed

or processed so changed from its original form into nature or new items that increase the value or power use is subject to VAT.

3 METHODS

³ Types of research is a development (Research and Development), which developed the Student Worksheet (LKS) Problem Based Learning based on the subject matter of tax administration value-added tax. LKS development uses the model of development of the 4-D (four D Models) proposed by the Thiagarajan, and Semmel Semmel (in Trianto 2011: 189). This development model consists of four phases: the first phase, the definition phase (define), which stage aimed to determine and define the needs of the lesson; second, design phase (design), the prototype design phase learning device: the third, stage of development (develop), the phase that aims to produce a learning tool; four, stages of deployment (disseminate), namely the use of a device developed stage. This development model chosen by the researchers because of this development model is composed programmatically using the sequence of activities in a systematic learning problem-solving efforts in accordance with the characteristics of learners.

Subjects tested in the research development consists of experts consisting of experts Material Material 1 is a lecturer of Accounting Education University of Surabaya, Drs. Joni Susilowibowo, M.Pd., Matter Expert 2 the Tax Administration teachers SMK Negeri 4 Surabaya Dra. Tri Kusmawati, Graphic Expert is a lecturer in the Education Technology University of Surabaya, Drs. Soeprajitno, M.Pd which will determine eligibility graphics to Student Worksheets (LKS) developed. Filling in the questionnaire study by graphics experts conducted on April 28, 2017. And the third study of data from Linguist ie lecturers Indonesian Language and Literature Education State University of Surabaya Mr. Mohammad Rokib, S.Pd., M.Pd 20 Accounting learners in class X SMK Negeri 4 Surabaya.

The instrument used in the bingo game development accounting as a questionnaire enrichment media is an open and closed questionnaire. The open questionnaire consists of sheet material and sheet expert study media expert study. While the enclosed questionnaire consisted of expert validation sheet material, media expert validation sheet and questionnaire responses of learners.

The data have been obtained in the form of the open questionnaire will be analyzed qualitatively to get your suggestions, comments or feedback from subject matter experts and media experts. While the data in the form of the closed questionnaire will be analyzed quantitatively. The results of the validation of subject matter experts and media experts will be analyzed using the Likert scale calculations while the results of the questionnaire responses of learners will be analyzed using the Guttman scale. Results of the analysis will be adapted to the criteria of interpretation of a score as follows:

Table 1: Criteria Score Interpretasi

Percentage (%)	Criteria Interpretation
1-20	Very Unsuitable
21-40	Not feasible
41-60	Decent enough
61-80	Worthy
81-100	Very decent

Source: (Riduwan, 2016: 29)

Based on the table above criteria, enrichment media deemed worthy to be applied in learning if the interpretation of $\geq 61\%$.

4 RESULTS

Student Worksheets (LKS) Based Problem-based Learning aims to make students think, search, find, and apply the concepts to real-world material. In PBL, students are trained to become independent learners, functioning effectively in their respective teams to solve real-world problems. There is no doubt that both elements of motivation; 1st) 1) contextualization and 2) Self-learning is very important to motivate students (Harun, 2012).

Prosise development Student Worksheets (LKS) Based Problem Based Learning on the subjects of the tax administration of material value-added tax has been adjusted to a development model 4D namely through the stages of definition (define), design (design), development (develop), and the spread (disseminate) (Al-Tabany, 2015: 233). However, due to lack of expertise, time, and cost of the development process is only done until the third stage, namely development (develop) [16]

In this initial phase begins with the analysis of the front end is to bring analysis Needs on gaps (Trianto, 2011: 190). From observation SMK Negeri 4 Surabaya is known that in the academic year 2016/2017 Accounting class XII students are already implementing the curriculum 2013, While the

problems that occurred in the learning value-added tax is the application of learning in the curriculum in 2013 still cannot be fully implemented because there is no handbook independently for students, facilities supporting books in the library are based curriculum in 2013 for the subjects of productive still exist, and obtained information that learning in the classroom in presenting the material, teachers tend to focus on theory without associating with the real world. This resulted in only a clever student who can catch the teacher's subject matter, while the other students feel indifferent to learning because they think the material is unattractive and difficult to understand. 2013 it is necessary for the development of students' worksheets (LKS) Based Problem Based Learning as an additional teaching material for students.

Analysis of students conducted interviews with one of the teachers at SMK Negeri tax administration 4 Surabaya to obtain information that is 20 students of class XII Accounting 3 in the 2nd half which acts as a respondent at the time of trial 17-18 years old and has the academic ability is different. Students have followed the previous learning value added tax but not yet using Student Worksheet (LKS) Based Problem Based Learning.

The task analysis is the identification of tasks to be done by the students in learning the value-added tax. This analysis is done by delivering a message that addresses all of the core material in the learning [2], so students can undertake the task presented in the Student Worksheets (LKS) Based Problem Based Learning.

Analysis of the concept by using the material of value added tax contained in the tax administration syllabus for class XII Accounting for Semester 2. The concept of systematically arranged which will facilitate students in understanding the subject matter. The results of this analysis are listed in the appendix worksheets developed.

Purpose of learning is done by analyzing the learning objectives in accordance with KI, KD, indicators, and [2] subject matter, resulting in the use of interest Student Worksheets (LKS) Based Problem Based Learning at the time of learning.

4.1 Stage Design (Design)

This stage of the design Student Worksheet (LKS) Based Problem Based Learning Worksheets format that includes the selection and preliminary design LKS (draft 1). In the selection of LKS format, carried out in accordance with LKS components that title, Help to learn, KD or subject matter, supporting information, task / job step, and assessment

(Prastowo, 2013: 208). It also uses the format of the presentation of the stages of Problem Based Learning in accordance with the Student Worksheets (LKS) Based Problem Based Learning has been developed to be able to activate the students, enabling students to understand the material, and is rich in duties so as to facilitate the implementation of learning (Prastowo, 2013: 205).

Developed the initial design includes front and back cover design, introduction, part of the contents, and the concluding section. On the front cover presented the information regarding the model of learning development base of Problem Based Learning. In addition, also presented image and the color of bee-related taxes as a background to make it look more attractive cover. LKS introductory section consists of a preface, table of contents, instructions for use worksheets, and a concept map. On the worksheet there are two worksheets, namely Worksheet 1 for a summary of the material on the value-added tax and VAT returns and LKS second period for learning activity Problem-Based Learning. At the beginning of the Working sheet will be presented the page title, page KI, KD, subject matter and learning objectives, and the continued presentation of a summary of the material, exercises, and learning activities in accordance with the stages of the Problem Based Learning. While in the closing stages LKS presented bibliography. The design phase produces LKS draft.

4.2 Stage Development (Develop)

Stage of development gained a lot of feedback and comments from experts for later improvement against LKS developed to be eligible for use in learning the value added tax. This stage begins with a review process by the subject matter experts, linguists, and graphics experts to Student Worksheets (LKS) Based Problem Based Learning. During the review process, many suggestions received by the researcher, and suggestions are divided into three parts: first, the cover.

Based word subtitle Problem Based Learning a foreign language are in italics, the front page of worksheets that need to be addressed is the epitome of Curriculum 2013 is replaced with the symbol of the University of Surabaya and subtitle Student Worksheets (LKS) cover needs in scapegoating (Bold) to look dominant. Secondly, part of the content that needs to change in the purpose of learning materials of value added tax added up to points 9 to make students better understand worksheets that are presented, for the purpose of

learning SPT Masa PPN should be increased exercises of skill³ at this stage of reasoning about value-added tax should be in accordance with the purpose of learning, so that still need to be improved, and at the stage of trying to question the value added tax in the dressing easier to understand vocational students that need to be repaired. Third, changes in the author biography should be in paragraph form, more complete, and coupled with education history writer. In addition, the expert graphic of the word "Author Biography" which was originally a size 14 is replaced by the typeface size 18 Times New Roman. Of activities the study is done, will be revised draft 1 in accordance with the advice and comments of experts, resulting in LKS draft 2 which is then validated by experts in accordance with the eligibility criteria of content, presentation, graphics, language, and suitability in accordance with BSNP, as well as compliance with the Problem based Learning. Having obtained the value to be tested is limited to 20 students of class XII SMK Accounting 4 Surabaya.

5 DISCUSSION

Feasibility Student Worksheets as enrichment media were analyzed based on the validation sheet that has been filled by subject matter experts and media experts. The results of the validation of subject matter experts showed an average of 87% with a very decent criteria. The details of the acquisition of each component are: (1) The contents obtained feasibility component percentage of 82.67% with very decent criteria, (2) the presentation component obtain a percentage of 91.87% with very decent criteria (3) The components conformity with the Problem Based Learning percentage of 86% with very decent criteria.

While the results of the validation of linguists earn an average percentage of 90% with the details of the components of linguistic obtain a percentage of 72.92% with a decent criteria, while the results of the validation of expert graphic obtain a percentage of 90% component of graphic feasibility acquire a percentage of 87.64% with criteria very decent.

From the results of the above validation experts, can concluded that the average yield of the feasibility of the media is of 89% with very decent criteria.

5.1 Response of Students

But to know the feasibility of LKS developed, this

study also aimed to determine the response of students to the worksheets that are developed in terms of the criteria of content, presentation, language graphics, and conformity with the teaching model Problem-Based Learning. LKS developed trial was conducted on 20 students of class XII Accounting 3 SMK Negeri 4 Surabaya.

Based on 4:11 table for the results of students responded to the results obtained LKS developed 95, 41% to the category of "Very Good" according to the eligibility criteria Riduwan (2013: 15). This shows that the students' response to LKS developed views of the components of the content, presentation, language, graphics, and conformity with the teaching model of Problem Based Learning is positive.

6 CONCLUSION

Based on the process of development that has been to produce Student Worksheets (LKS) Problem Based Learning based on the basic competencies of value-added tax, as well as the analysis of research data that has been obtained, it can be concluded as follows:

1. Developing Student Worksheets (LKS) - based Problem Based Learning to adapt the 4-D model of the development of Thiagarajan, and Semmel Semmel. The model of development used comprising the step of defining (define), stage design (design), and the stage of development (develop). At this stage of development (develop) Student Worksheet (LKS) -based Problem Based Learning are reviewed and validated by two subject matter experts, a linguist, and a graphics expert.
2. Student Worksheets (LKS) - based Problem Based Learning has been developed very suitable as teaching materials learning model Problem Based Learning for basic competency of value-added tax by subject matter experts, linguists, experts graphics, and response of the students who have met the four components of BSNP (2014) is a component of content presentation, language, and graphics, as well as in accordance with the stages of the learning model Problem Based Learning.
3. There is a limited test phase, it can be seen the response of students to the student worksheets (LKS) on the basis of competence is a positive value-added tax with the criteria very well. In accordance with the results of the analysis of student response, Student Worksheets (LKS)

Problem Based Learning can be recommended as a companion or additional instructional materials for students in the basic competence precedes VAT.

ACKNOWLEDGMENT

1. Research suggests the next researchers who want to conduct research and development to be able to do research until the deployment phase (disseminate).
2. Student Worksheets (LKS) -based developed Problem Based Learning is limited to the basic competence of value-added tax. For subsequent researchers who want to conduct similar research able to produce with other basic competence.
3. Researcher only examine the feasibility of Student worksheets (LKS) -based Problem Based Learning, to further study could be done experimentally Student Worksheets (LKS) Problem Based Learning based on the subject matter of tax administration value-added tax.

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