

# Development of Student Worksheets (LKPD) based on Project Based Learning in Vocational Basic Lessons to Improve Creativity of Vocational School Students

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## Abstract

*This study aims to develop Project Based LKPD Learning (PJBL) on basic vocational subjects of financial accounting and institutions that are valid, effective and practical in improving student learning outcomes. This study uses the research and development (R & D) method using a 4-D model. This model consists of 4 stages of development, namely defining, designing, developing, and disseminating. The product developed is in the form of Project Based Learning (PJBL)-based LKPD which is tested through validity tests, effectiveness tests and tests practicality. The subjects in this study were students of class X AKL SMK Negeri 1 Pagerwojo, Tulungagung for the academic year 2021/2022 as many as 115 students. The instrument used in data collection is a validation sheet for knowing the level of validity of the developed LKPD obtained from a team of experts, learning outcomes test to determine the effectiveness of LKPD and student response questionnaires as well as a teacher response questionnaire to determine the level of practicality of the LKPD that developed. The results showed that LKPD based on Project Based Learning (PJBL) on the basic vocational subjects of financial accounting and institutions that the researchers developed have a level of validity by a team of material experts and valid design experts, namely 3.28 assessment of student responses and teacher responses, the level of practicality of teaching materials is in the positive category with an average total score of 3.5. Learning outcomes test using Project-based worksheets.*

## Keywords

student worksheets (LKPD); vocational basic lessons; project based learning (PJBL)



## I. Introduction

Education is a very important human need because education has a duty to prepare Human Resources (HR) for the development of the nation and state (Pradana et al, 2020). Education is one of the efforts to improve the ability of human intelligence, thus he is able to improve the quality of his life (Saleh and Mujahiddin, 2020). Education is expected to be able to answer all the challenges of the times and be able to foster national generations, so that people become reliable and of high quality, with strong characteristics, clear identities and able to deal with current and future problems (Azhar, 2018). The latest curriculum implemented by the government is the school operational curriculum. The Decree of the Minister of Education and Culture of the Republic of Indonesia Number 17/M/2021 states that curriculum development is carried out by prioritizing non-technical skills (soft skills), work readiness characters and technical skills (hard skills). The development of teaching materials uses the principles of a) relevance/linkage, which is in accordance with core competencies/basic competencies. Education based on standards stipulates the existence of national standards as the minimum quality achieved by citizens,

while the competency-based curriculum is made to provide the widest possible learning experience for students to develop the ability to behave, have knowledge, skills, and think. This curriculum aims to prepare Indonesian people to have the ability to live as individuals and citizens who are faithful, productive, creative, innovative, and affective and able to contribute to the life of society, nation, state, and world civilization.

This requires the activeness of teachers in creating effective and meaningful learning by actively involving students in learning. Students are also required to search, process, construct and use their knowledge through the learning experiences provided by the teacher, for example training students to work on solving actual problems that are directly related to real life in the community.

The form of teaching materials that can be developed in the learning process is the Student Worksheet (LKPD). Student Worksheets (LKPD) are teaching materials that are commonly used in schools. The use of Student Worksheets (LKPD) can help students in the learning process, because the subject matter contained in the Student Worksheets (LKPD) is material that has been summarized from several relevant books, making it easier for students to learn the subject matter and the time required to learn is also more effective. The use of the Student Worksheet (LKPD) teaching media is very practical, because it does not require electricity and the price is also affordable so that even remote areas can use it.

SMK Negeri 1 Pagerwojo is a school that has implemented a school operational curriculum since the odd semester of the 2021/2022 academic year. For the initial implementation, it is carried out in class X while for class XI and XII still using the 2013 curriculum accounting lessons have not published books in accordance with the school's operational curriculum. So there are limitations of learning tools in the form of teaching materials that refer to the school's operational curriculum and require the development of teaching materials that use the school's operational curriculum.

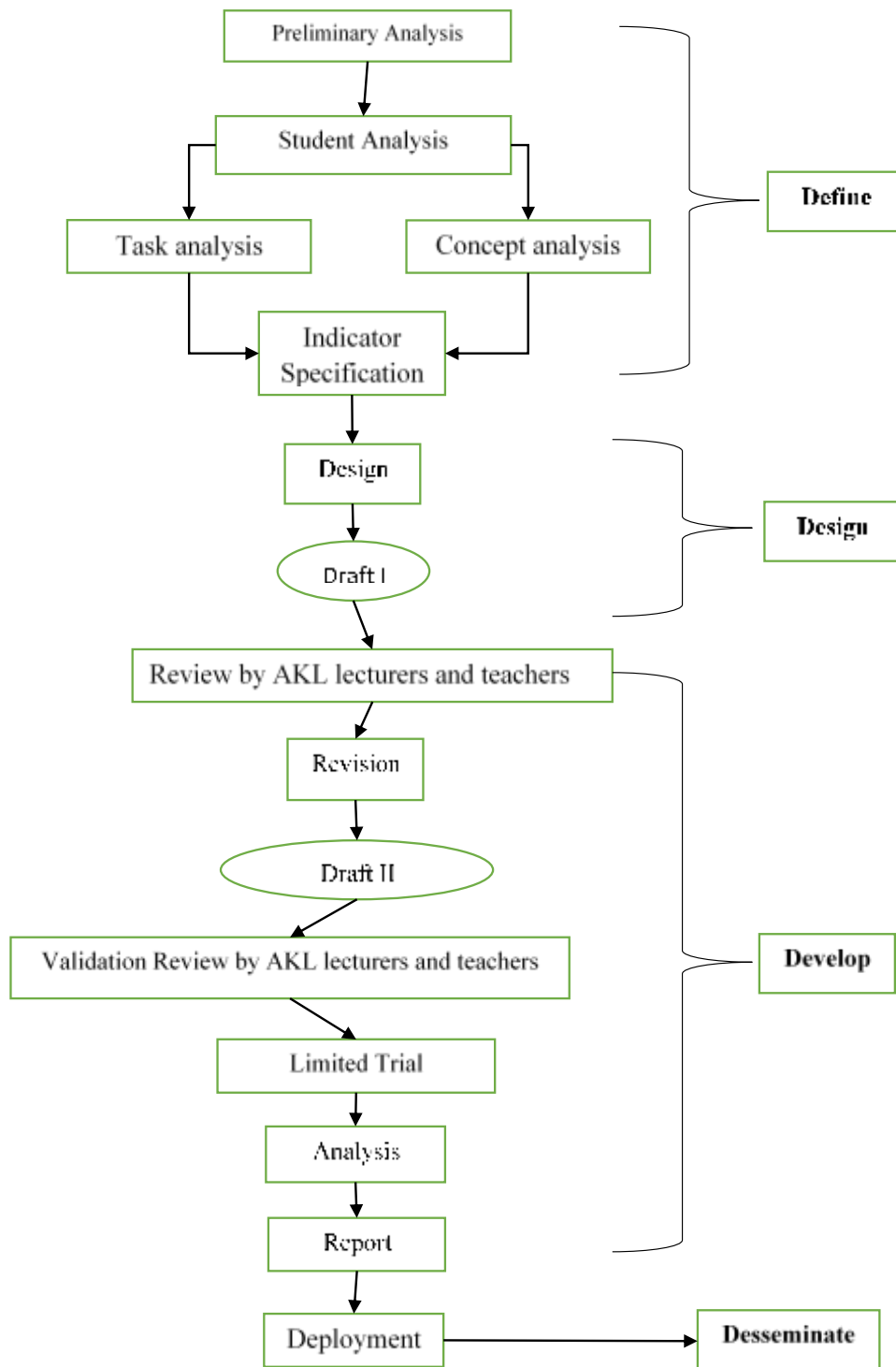
In accordance with the results of interviews conducted at SMK Negeri Pagerwojo, teaching materials in the form of Student Worksheets (LKPD) do not yet exist, especially Student Worksheets (LKPD) based on Project Based Learning (PjBL) which have never been applied to basic vocational learning in financial accounting and institutions. Students of class X Financial Accounting and Institutional Vocational School 1 Pagerwojo in learning basic financial and institutional accounting lessons in class only use textbooks as learning resources or no other sources. The use of teaching materials in the form of Student Worksheets (LKPD) has not been developed optimally in the learning process. This is because teachers only rely on learning resources in the form of textbooks to support the learning process. Whereas Student Worksheets (LKPD) can be given to students as learning support in addition to textbooks because the Student Worksheet (LKPD) is material that has been packaged in such a way that students are expected to learn effectively and focus on the learning material being explained by the teacher independently. In addition, the Student Worksheet (LKPD) can be used for training or a means of thinking for students to solve existing problems.

## **II. Research Method**

The type of research used is research and development (R and D). Research and Development (R and D) methods can be interpreted as a process or steps to develop new products or improve existing products. With a certain development model, it can provide a framework for research development in order to make improvements to the resulting product. In research and development must follow a cycle according to the development

model used. The development model used is the 4-D model (four-D model) developed by (Sugiyono, 2010)

Researchers want to produce and develop Student Worksheets (LKPD) based on Project Based Learning (PjBL). This development research refers to the 4D model (Four – D model). Thiagarajan (in Trianto, 2013: 189-192) is a 4-D development model (four D Models). This development model consists of 4 stages: the definition stage, the design stage, the development stage, and the dissemination stage.



*Figure 1. Design draft 4-D*

The trial subjects in the development of the Student Worksheet (LKPD) were students of class X Accounting at SMK Negeri 1 Pagerwojo as many as 115 students for a limited trial who were selected heterogeneously. The types of data obtained in this development are qualitative data and quantitative data. Qualitative data obtained from the results of a review by experts. Quantitative data in this study were obtained from the validation results in the form of a questionnaire validation sheet given to experts and student response questionnaires which were then analyzed using the percentage technique. In this study, there were three research instruments used, namely: 1) review sheet, 2) validation sheet, and 3) student response questionnaires. The review sheet and validation sheet were given to two material experts and one graphic expert. Validation data from material experts and graphic experts were analyzed descriptively quantitatively, using a Linkert scale with a score range of 1 to 4 with the following information: 1) a score of 1 represents a bad statement; 2) a score of 2 represents an unfavorable statement; 3) a score of 3 represents a good statement; 4) a score of 4 represents a very good statement. Student response questionnaires were given to students who were the subject of the trial as many as 115 students. Questionnaire analysis of student responses uses the Guttman scale with the following information: 1) a score of 1 represents a "yes" statement; and 2) a score of 2 represents a "no" statement. The results of the calculation of scores from material experts, graphic experts, and student responses are interpreted into the following categories:

**Table 1.** Interpretation of LKPD eligibility scores

Mean	Response criteria
<b>90-100%</b>	Very Worthy
<b>60-89%</b>	Worthy
<b>30-59%</b>	Not feasible
<b>0-29%</b>	Very Inappropriate

Based on these criteria, the Student Worksheet in this study is said to be feasible if the percentage is > 60%. The indicators used to determine the feasibility of the media include: 1) The percentage of all aspects of the response of accounting lecturers and accounting teachers to LKPD during validation > 60%, 2) Student responses to LKPD are positive if the overall percentage of aspects is > 60%

### III. Results and Discussion

Research on the development of Student Worksheets (LKPD) based on Project Based Learning on the basis of vocational accounting and financial accounting at SMK Negeri 1 Pagerwojo uses the 4-D development model (Four D models) developed by Thiagarajan, Semmel and Semmel. However, the development process is only carried out until the third stage, namely the development stage (Develop) due to the limitations of the researcher's ability, time, and cost. Defining Stage, this stage provides an overview of the learning objectives. In determining and determining the conditions for making learning materials, namely by analyzing the objectives and limitations of the subject matter. This stage consists of five steps, namely front end analysis, student analysis, task analysis, concept analysis, indicator specification.

Planning Stage (Design), this planning stage aims to design learning tools in the form of Accounting Student Activity Sheets (LKPD) based on Project Based Learning draft 1. Broadly speaking, this planning stage consists of compiling test and practice criteria, Selection of Participant Worksheet formats students (LKPD), and Design of Student

Worksheets (LKPD). The development stage (develop), aims to produce Student Worksheets (LKPD) based on Project Based Learning (PjBL) in basic vocational subjects of accounting and institutional finance in class X Accounting that are appropriate, which fulfill 4 components (content, presentation, language, and graphics) that have been determined by BSNP, and conformity with the Project Based Learning learning model. The feasibility of the developed Student Worksheet (LKPD) was measured through a study containing comments/suggestions and validation/assessment from material experts and graphic experts. Meanwhile, the effectiveness of the Student Worksheet (LKPD) is measured through the results of students' opinions regarding the Student Worksheet (LKPD) obtained from filling out student opinion questionnaires during the limited trial.

The results of the expert validation and limited trial will be analyzed and then included in the writing of the Project Based Learning Student Worksheet (LKPD) development report on the Basic Competencies of the financial statements of service companies in class X SMK Negeri 1 Pagerwojo. A study of Project Based Learning-based Student Worksheets (LKPD) is carried out to obtain input for the improvement of the developed LKPD. Improvements made to the LKPD based on input from material experts include: 1) The accuracy of the concepts/theories presented still needs to be revised; 2) The material presented must be adjusted again with the latest developments in accounting science; 3) The practice questions at the end of the chapter are good but the cash flow statement has not been seen or presented; 4) The breadth of the material presented still does not describe the substance of the material so it needs to be revised; 5) On the cover, subtitles in foreign languages should be italicized; 6) The material presented is not yet up to date and must be observed with the applicable account standards in accordance with PSAK; 7) It is necessary to pay attention to how to arrange questions for descriptions and the number of case practice questions needs to be increased so that they can train students to be more independent; 8) The systematic consistency of the presentation and the coherence of the presentation are not appropriate, so it is necessary to improve the concept in the presentation, 9) The description of the substance between chapters is not appropriate and in more detail; 10) The table of contents needs to be added again.

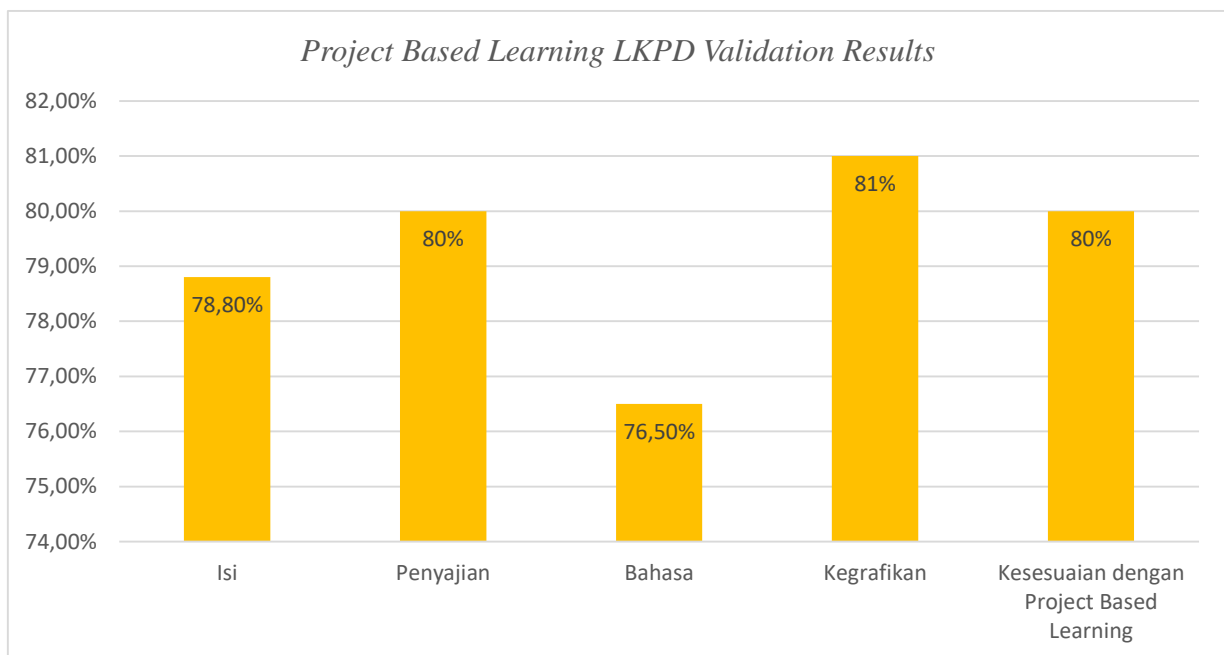
While the improvements made to the LKPD based on input from graphic experts, among others: 1) The logo was replaced with the logo of SMK Negeri 1 Pagerwojo; 2) On the cover of the worksheet it is necessary to include the author's name; 3) Corrected for the working paper table is not expected to be continued on the next page; 4) The title for Accounting is reduced, replaced with the financial statements of service companies; 5) In LKPD 2 activities, KI and KD are removed because they are already listed in LKPD 1 activities; 6) At the stage in the project-based learning syntax, namely making a schedule, it is necessary to clarify the processing time and completion by making a table; 7) In the LKPD instructions there are directions for groups that need to be removed because there are no group activities in the contents of the LKPD.

The feasibility of the developed Student Worksheet (LKPD) based on Project Based Learning (PjBL) can be seen from the validation results of material experts and graphic experts. The validation results are in the form of a closed questionnaire that uses a Likert scale assessment with information that "5" is very good, "4" is good, "3" is quite good, "2" is not good, and "1" is very bad. LKPD validation was carried out by 2 material experts and 1 graphic expert. Validation is used to determine the feasibility of LKPD. The material expert assessment includes four criteria, namely content criteria, presentation criteria, language criteria, and criteria for conformity with project based learning. Meanwhile, the graphic expert's assessment only covers the graphic criteria. The results of data processing

validation of LKPD Project Based Learning by material experts and graphic experts in the following Table 2:

**Tabel 2.** Hasil Validasi LKPD *Project Based Learning*

No	Component	Percentage	Result
1	Contents	78,8 %	Worthy
2	Presentation	80 %	Worthy
3	Language	76,5%	Worthy
4	Graphics	81 %	Worthy
5	Compatibility with Project Based Learning	80 %	Worthy
	Mean Percentage	79,26%	



**Figure 2.** Results of LKPD Validation based on Project Based Learning

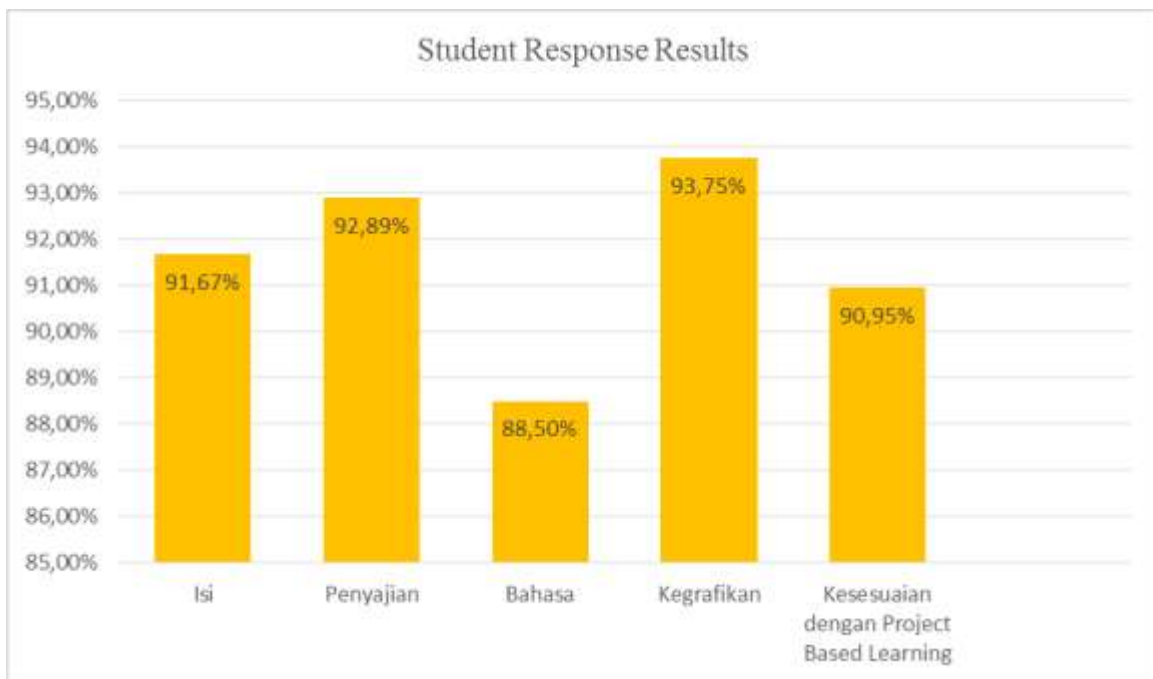
Based on the assessments of the material experts and graphic experts above, it was found that the feasibility of the Project Based Learning-based Student Worksheet Content (LKPD) was developed, which was 78.8% so it can be concluded that the feasibility of the developed LKPD content entered the "Eligible" criteria, the feasibility of presentation Student Worksheets (LKPD) based on Project Based Learning were developed, which amounted to 80% so that it can be concluded that the feasibility of presenting the developed LKPD is in the "Eligible" criteria, the feasibility of the language of the Project Based Learning-based Student Worksheets (LKPD) being developed, namely of 76.5% so it can be concluded that the feasibility of the developed LKPD language is in the "Eligible" criteria, the feasibility of the Project Based Learning-based Student Activity Sheet (LKPD) graphics developed, which is 81% so it can be concluded that the feasibility of the developed LKPD graphics is included in the criteria "Eligible", and suitability suitability with Project Based Learning, which is 80% so that it can be concluded that the feasibility of conformity with the Project Based Learning LKPD developed is in the "Eligible" criteria.

Student responses Test-based Student Worksheets (LKPD) based on Project Based Learning on the basic competencies of service company financial reports were carried out

at SMK Negeri 1 Pagerwojo using 115 students of class X Financial and Institutional Accounting. Basically, the Project Based Learning-based Student Worksheet (LKPD) trial aims to determine the students' responses to the developed LKPD. In this activity, data was collected through a student opinion questionnaire. In the student opinion questionnaire, students' opinions will be taken about the LKPD which was developed from the components of content, presentation, language, graphics, and conformity with Project Based Learning. Based on the results of a limited trial on 30 students of class X Accounting at SMK Negeri 1 pagerwojo, the data on student responses can be seen in Table 3, as follows:

**Table 3.** Student Response Results

No	Component	Percentage	Result
1	Contents	91,67 %	Very Worthy
2	Presentation	92,89%	Very Worthy
3	Language	88,50%	Worthy
4	Graphics	93,75%	Very Worthy
5	Compatibility with Project Based Learning	90,95%	Very Worthy
	Mean Percentage	91,55 %	Very Worthy



**Figure 3.** Student Response Results

Based on the results of student responses, the average percentage of student responses to the LKPD developed was 91.55%. According to Riduwan, the media developed was declared to have received a positive response from students if the percentage obtained from data analysis was > 60%. Thus, the Student Worksheet (LKPD) based on project learning on the basis of vocational accounting and financial institutions received a positive response from students and was very suitable for use in learning.

The researcher describes the overall development results in more detail and clearly. The things discussed are the development process that the Student Worksheet (LKPD) is based on Project Based Learning, the feasibility that the Student Worksheet (LKPD) is based on Project Based Learning, and student responses to that the Student Worksheet

(LKPD) is based on Project Based Learning on basic vocational financial and institutional accounting subjects. Student Activity Sheets (LKPD) based on Project Based Learning aims to make students systematic by providing opportunities for students to think, search, find, and apply the concepts of learning materials. The process of developing Student Worksheets (LKPD) based on Project Based Learning in basic vocational subjects of financial accounting and institutions has been adapted to the 4D development model, namely through the stages of defining, designing, developing, and disseminating. ) (Trianto, 2009: 189). The definition stage (Define), In this initial stage, it begins with a front-end analysis, namely to bring up a needs analysis of the gaps that occur (Trianto, 2009:190). From observation activities at SMK Negeri 1 Pagerwojo, information was obtained that in the 2021/2022 academic year students of class X Accounting had implemented the school's operational curriculum. While the problems that occur in the basic vocational learning of financial accounting and institutions are only using textbooks that are still based on the old curriculum 2013 curriculum. Based on this, other teaching materials are needed that already use the applicable curriculum, namely the school operational curriculum. Didik (LKPD) based on Project Based Learning as additional teaching materials for students.

The analysis was carried out through interviews with one of the financial and institutional accounting teachers at SMK Negeri 1 Pagerwojo until information was obtained, namely the students of class X Financial Accounting and Institutions in semester 1 who acted as respondents at the time of the trial were 14-16 years old and had academic abilities different ones. Students have participated in previous basic learning but have not used Project Based Learning-based Student Worksheets (LKPD). Task analysis is the identification of tasks that must be done by students in basic vocational learning of financial and institutional accounting. This analysis is carried out by delivering messages that discuss all the core material in basic learning of financial and institutional accounting, so that students can work on the tasks presented in Project Based Learning Student Worksheets (LKPD).

Concept analysis by using the basic vocational financial accounting and institutions listed in the basic syllabus of financial accounting and institutional accounting for class X semester 1. The concept is arranged systematically which will make it easier for students to understand the subject matter. The results of this analysis are included in the introduction to the developed LKPD. The formulation of learning objectives is carried out by analyzing learning objectives in accordance with KI, KD, indicators, and subject matter, so as to produce goals in using Project Based Learning-based Student Worksheets (LKPD) during learning.

Design stage. At this stage, Project Based Learning-based Student Worksheets (LKPD) are designed which include compiling test and practice criteria, selecting LKPD formats, and initial LKPD design (draft 1). To compose criteria tests and exercises, the results of the formulation of learning objectives are used as a basis (Trianto, 2009:190). In selecting the LKPD format, it is carried out in accordance with the components of the LKPD, namely the title, learning instructions, KD or main material, supporting information, tasks/work steps, and assessment (Prastowo, 2013: 208). In addition, it also uses a presentation format for Project Based Learning stages in accordance with the Project Based Learning Student Worksheet (LKPD) that has been developed to be able to activate students, make it easier for students to understand the material, and be rich in tasks so as to facilitate the implementation of learning (Prastowo, 2013). : 205).

The initial designs developed include the design of the front and back covers, the introduction, the body, and the closing up. On the front cover, information about the



development base is presented, namely the Project Based Learning learning model. In addition, images related to accounting activities are also presented as cover backgrounds to make it look more attractive. The introductory part of the LKPD consists of an introduction, a table of contents, instructions for using the LKPD, and a concept map. In the LKPD section there are 2 activity sheets, namely activity sheet 1 for a summary of material on financial statements of service companies and activity sheet 2 for Project Based Learning learning activities. At the beginning of the activity sheet will be presented the title page, KI page, KD, main material, and learning objectives, and continued with the presentation of material summaries, practice questions, and project activities according to the stages in Project Based Learning. Meanwhile, at the closing stage of the worksheet, a bibliography is presented. This design stage produces LKPD draft 1.

The development stage (Develop), at the development stage, many inputs and comments were obtained from experts and then improvements were made to the LKPD that was developed so that it was suitable for use in learning the financial statements of service companies.

This stage begins with a review process by material experts and graphic experts on Project Based Learning-based Student Worksheets (LKPD). During the study process, many suggestions were received by researchers, and these suggestions were divided into 3 parts, namely: first, the front page with changes in the font size in the title that must be enlarged and the removal of the SMK Negeri 1 Pagerwojo logo. Second, the content section is a change in the observation stage where previously there was an article but it had to be removed, improvements at the questioning stage, the table used must be corrected, the use of accounting terms must be updated, at the reasoning stage there is an improvement in making questions, and improvements at the stage of making a Project Based Learning learning schedule must be made a separate table to make it easier for students. Third, the back page (back cover), namely: on the author profile should be added again. From the review activities carried out, a revision of draft 1 will be carried out in accordance with expert advice and comments, resulting in draft 2 LKPD which is then validated by experts in accordance with the eligibility criteria for content, presentation, language, and graphics in accordance with BSNP, as well as conformity with Project Based Learning. After obtaining the score, it will be tested limited to 30 students of class X Accounting at SMK Negeri 1 Pagerwojo.

The feasibility of the Student Worksheet (LKPD) based on Project Based Learning on the basic competencies of the developed service company's financial statements is measured from a validation questionnaire sheet by experts. The feasibility of the developed LKPD is assessed based on the 4 feasibility components determined by the BSNP, namely the content, presentation, language, and graphic feasibility components. Due to the LKPD being developed on the basis of Project Based Learning, it will also be assessed according to the stages of the Project Based Learning learning model. The results of the assessment will be presented as a percentage and interpreted in accordance with the interpretation criteria of Riduwan (2013: 15), which is said to be feasible if each component of the feasibility get 60% yield.

Based on the feasibility component of the contents of the Student Worksheet (LKPD) based on Project Based Learning, the results obtained 78.8% with the "feasible" criteria based on Riduwan (2013: 15). Results the percentage is obtained from the aspects assessed on the content criteria. In the aspect of spiritual attitude which includes an invitation to live the religion adopted, got a score of 4 by accounting education lecturers and accounting teachers. The results of the assessment indicate that the description of the material is in accordance with the invitation to live the religion adopted. On the aspect of social attitudes,

namely social skills, got a score of 4 by the accounting education lecturer and a score of 3 by the accounting teacher. The results of the assessment indicate that there are descriptions, examples, and exercises to develop the ability to interact with others. In the aspect of material coverage, namely on the completeness of the material, each material expert got a score of 4.

The results of the assessment indicate that the material presented includes all the material contained in KI and KD. In the aspect of material accuracy which includes the accuracy of concepts/theories, it gets a score of 3 by the accounting education lecturer and a score of 4 by the accounting teacher. The results of the assessment indicate that the concepts presented do not give rise to many interpretations and are in accordance with the applicable definitions in the field of accounting correctly. On the aspects of up-to-date and contextual, namely conformity with the development of science, got a score of 4 by each material expert. The results of the assessment indicate that the material presented is up to date in accordance with scientific developments. On the aspect of skill coverage, getting a score of 4 by each material expert. The results point to that the activities presented can develop all aspects of the skills contained in KI and KD.

In the feasibility component of presenting Student Worksheets (LKPD) based on Project Based Learning, 80% results are obtained with the "feasible" criteria according to Riduwan's (2013: 15) eligibility criteria. The percentage results are obtained from the aspects assessed on the presentation criteria. In the aspect of presentation technique, namely the coherence of presentation, it gets a score of 3 by the accounting education lecturer and a score of 4 by the accounting teacher. The results of the assessment show that the presentation of concepts from easy to difficult, from concrete to abstract, and from simple to complex is in accordance with KI and KD. In the aspect of supporting the presentation of the material, it includes examples of practice questions in each chapter, getting a score of 4 by each material expert. The results of the assessment show that examples of practice questions can make it easier for students to understand the material.

This finding explains that the sentences used in the LKPD are simple sentences and go straight to the core of the discussion, there are no errors in the use of language, spelling, and italics for foreign terms, besides that the terms used in the LKPD are consistent, and the messages between sentences reflect the relationship between logical (BSNP 2014). Based on the components of the suitability of the LKPD with the Project Based Learning learning model, the overall results obtained 80% with the "feasible" criteria according to the eligibility criteria of Riduwan (2013: 15). The percentage results were obtained from the aspects contained in the project learning model in the LKPD, which got a score of 4 by each material expert. According to these results, it shows that this LKPD is able to arouse student interest, provide opportunities for students to explore concepts for themselves and develop their abilities, and encourage students to explain concepts (Wena, 2013: 171-172).

Based on the graphic feasibility component, it obtained a result of 81% with the "feasible" criteria according to the eligibility criteria of Riduwan (2013: 15). The percentage results are obtained from the aspects that are assessed on the graphic criteria. In the aspect of size suitability which includes the physical size of the LKPD, namely the conformity of the LKPD with ISO standards (A4, A5, and B5), a score of 4 by the lecturer of educational technology. In the aspect of skin design which includes layout, namely the composition and size of the layout elements (title, author, illustration, logo, etc.) proportional, balanced, and in rhythm with the layout of the content (according to the pattern), score 3 by the lecturer of educational technology. In the aspect of LKPD content design which includes the layout of LKPD contents, namely the placement of layout elements (title, subtitle, introduction, list of illustrations, etc.) In the aspect of skin design

which includes comprehension, namely the placement of decorations/illustrations as a background, it does not interfere with the title, text, and page numbers, a score of 4 by a lecturer of educational technology

This finding explains that this LKPD has the right physical size, the composition of the layout is proportional, balanced, and in tune with the layout of the content, the use of harmonious colors, and a good layout of the content (BSNP 2018). Based on the overall results of the validation of the Student Worksheet (LKPD) based on Project Based Learning from the experts, an average percentage of 79.26% was obtained with the "feasible" criteria according to the eligibility criteria of Riduwan (2013: 15), then the development of Student Worksheets (LKPD) based on Project Based Learning The assessment on the vocational basis of financial accounting and institutions in class X Accounting is declared "appropriate" according to Riduwan's (2013: 15) criteria to be used as learning because these results show that the Project Based Learning-based Student Worksheets (LKPD) developed are in accordance with BSNP (2018) which fulfills the components of the feasibility of content, presentation, language, and graphics. And has met the suitability of the stages in the Project Based Learning learning model.

Student Responses In addition to knowing the feasibility of the developed LKPD, this study also aims to determine the students' responses to the developed LKPD in terms of the criteria of content, presentation, language, graphics, and conformity with the Project Based Learning learning model. The developed LKPD trial was carried out on students of class X Financial Accounting and SMK Negeri 1 Pagerwojo institutions. Based on the results of student responses to the developed LKPD, the results obtained were 91.55% in the "very good" category according to the eligibility criteria of Riduwan (2013: 15). This shows that the response of students to the developed LKPD seen from the components of content, presentation, language, graphics, and conformity with the Project Based Learning model is positive.

#### **IV. Conclusion**

Development of Project Based Learning-based Student Worksheets (LKPD) adapting the 4-D development model from Thiagarajan, Semmel and Semmel. The development model used consists of the definition stage, the design stage (design), and the development stage (develop). At the development stage, Student Worksheets (LKPD) based on Project Based Learning are reviewed and validated by two materials experts and one graphic expert. Project-based Student Worksheet (LKPD)

Based Learning that has been developed is feasible to be used as teaching material with the Project Based Learning learning model for the vocational basis of financial accounting and institutions that meet the 4 feasibility components of the BSNP (2018), namely the components of content, presentation, language, and graphics, and are in accordance with the stages of the learning model Project Based Learning.

In the limited trial phase, it can be seen that the student's response to the Project Based Learning-based Student Worksheet (LKPD) in basic vocational subjects, financial accounting and institutions is positive with very good criteria. In accordance with the results of the analysis of student responses, Student Worksheets (LKPD) based on Project Based Learning can be recommended as complementary or additional teaching materials for students in exploring the basics of vocational accounting and financial accounting.

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