





## Learning innovation: Development of student worksheets based on problem based-learning model in primary school

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### ABSTRACT

This research and development aim to develop innovation in learning through Problem Based Learning Student Worksheets. The research method used in this research is Research and Development. This method is used to develop existing products and test the feasibility of the designed products. This study's population used 49 students. The development steps in this study used the steps of Richey and Klein level 3. The analysis technique used descriptive percentages. Quantitative data from product assessments that have been developed during the trial were analyzed using descriptive percentage analysis. This data analysis technique was used to determine the validity and reliability of the questionnaire used for material experts, linguists, and teaching materials experts in testing the feasibility of the product.

The results of the product validation test came from material experts who got an average score of 4 with a total score of 124 and a percentage of 80%. Meanwhile, the linguist test gave an average score of 3.9 with a total score of 117 and a percentage of 78%. The teaching materials expert test showed an average score of 3.9 with a total score of 117 with a percentage of 78%. The three validation tests are then totaled to get a comprehensive picture of the two internal tests that have been carried out. The three tests got a total score of 358 with an average answer of 3.9 with a percentage of 78%, and then the student worksheets passed the test. Validation by giving an average assessment of student worksheets as "good."

### KEYWORDS

learning innovation; school teaching; student worksheets; problem based-learning model;

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## Introduction

Teaching Buddhism is a lesson that cannot be separated from theory and practice. All the values contained in Buddhism must be put into practice, not just a theory. Still, before putting the theory into practice, one must understand the meaning of the theory being studied. It aims to make students human beings with ethics and morals, in accordance with the educational objectives contained in Law No. 20 of 2003 concerning the National Education System (UU RI No. 41, 2003). Every Indonesian citizen has the right to get a proper education for his future. Education is a must for the Indonesian nation for the sake of development development, because the basis of strategic development is education (Hakim, 2016).

Students tend to be less enthusiastic about reading books and less interested in taking the lessons, even though they is only taught once a week. A teacher must be able to understand the problems experienced by students and understand things that can affect the teaching and learning process, both supporting and hindering. The media or teaching materials used by a teacher must be considered, whether the teaching materials attract interest in learning and activate students to learn optimally or not. A teacher must also have a teaching style that can make students interested in learning because a teacher teaches to make students understand the material presented. Teachers are required to be able to encourage student creativity, student curiosity, and change teaching methods during this time so it can train student skills (Rahmi et al., 2014).

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The effectiveness of the implementation of the teacher's role as a learning agent depends on the competency level of the teacher concerned (Widarsih & Faraz, 2016). Teachers in schools are still limited in the use of learning media because making media is considered too difficult. Thus, teachers sometimes avoid making new learning media and prefer to use improvised media. The Buddha states the habit of laziness, sluggishness, and disrespect for a time as a factor that causes failure. Someone said it was too early to work, too late to work, still too hungry to work, too complete to work. The use of teaching materials limited to Buddhist education books is a significant problem in formal education learning. Teaching materials in Buddhist education books are still considered less attractive in the field of knowledge. The teaching materials used are also not up to date following the latest revision of the 2013 curriculum. Using these teaching materials can make learning monotonous because the learning method focuses on the lecture method, so students are less enthusiastic about participating in class learning. Another effective teaching material is to increase students' interest in education and make it easier for teachers to deliver the material in the Student Worksheet. Student Worksheets are learning resources teachers can develop as facilitators in which students must take steps to stimulate curiosity.

Based on observations, learning in class is less attractive due to limited teaching materials. Buddhist education teachers focus on teaching materials in Buddhist education books, which researchers feel are less supportive of the material. , the lack of development of teaching materials that can be associated with natural conditions following the material. In addition, students tend to be silent and embarrassed to have an opinion when the teacher asks, so what happens is a one-way interaction and learning seems passive, and student learning outcomes are still unsatisfactory. Based on the existing background, the researcher intends to develop teaching materials in the form of student worksheets based on problem-based learning or assign tasks to students to solve problems in the surrounding life associated with the material. This problem-based learning-based Student Worksheet is deemed suitable by researchers to be applied in, especially in Buddhist education, to make students more active in learning, think analytically, and gain knowledge through their efforts without having to from the teacher. Student Worksheet is an alternative choice more suitable as learning media in the child's learning process, through questions interesting pictures are expected to be interesting student learning interest (Ramadhan & Setiadarma, 2014). Teachers will also be paid attention to when speaking to students so that teachers will also feel respected, and student learning outcomes are expected to increase. In this discussion, the researcher took the research titled development of Student Worksheets Based on Problem Based Learning in Buddhist Education.

## Literature review

Based on observations and looking at the results of previous research conducted by Eli Rohaeti et al in 2010 with the research title Development of Student Worksheets (LKS) for Chemistry Science Subjects for Junior High Schools, the qualification results were "Good". Fifth overall LKS compiled can be said to have advantages in providing direct experience to students, LKS design good and the pictures are attractive in appearance and relate and support the explanation of the concept (Rohaeti et al., 2009). from the results of this study the researcher was interested in taking research and developing Student Worksheets (LKS) based on Problem Based Learning in the subjects of Buddhist Education with more emphasis on LKS that explored problem solving.

## Methods

The research method used in this study is a research and development method. This method is used to produce products and tests the effectiveness of these products. This study aims to develop student worksheets based on problem-based learning in the tenth-semester grades of Buddhist Education at the State High School following the learning objectives. This research and development method is a way to research and develop existing products, so the research steps follow the level 3 research and development steps, according to Richey and Klein ( Sugiyono, 2015:). The first stage of this level 3 research is to examine existing products to find out the specifications, advantages, and disadvantages of these products. Based on the advantages and disadvantages of these products, the researchers then conducted a literature study (relevant theoretical studies and research results/experiences). The researchers made product designs based on the literature study that perfected/developed existing products. The resulting product must be more effective, efficient, and practical than existing products (Sugiyono, 2015).

The research time used in this study was six months, starting from March 2017 to September 2018. This research occurred at Senior High School 1 Negerikaton Sidomulyo, Lampung, Indonesia. The researcher used the Richey and Klein level 3 research and development model in this study. The product testing in this study was limited to the tenth-grade teacher as the subject of field feasibility testing and operational testing. Data analysis of the test design using one group pretest-posttest can be described as follows.

$$O_1 \times O_2.$$

This design is used to determine the extent to which the product developed can achieve the goals and objectives that have been set. The research was carried out at SMAN 1 Negerikaton with validators as a data source for validating the feasibility of materials, language, and teaching materials with nine students as research subjects.

## Participants

The research subject is a brief description of something that is researched normatively in this study, the subjects of the research were students of class X SMA Negeri 1 Negerikato Pesawaran totaling 9 students, consisting of 5 male students and 4 female students. The object of this research is the student worksheet (LKS) based on problem based learning in even semester X grade Buddhist education

## Instruments

Data collection techniques in this study using tests and questionnaires. Data collection by Test can be done to determine the initial condition of the object before being treated with a new product (pretest) and after being treated with a new product. Data collection by test is done by giving a number of questions to the subject under study to be answered. Data collection technique using a questionnaire is a data collection technique in which participants/respondents fill out questions or statements, then after filling them out completely return them to the researcher

## Data analysis

Data analysis of the test design using one group pretest-posttest can be described as follows.

$$O_1 \times O_2.$$

Information:

$O_1$  = value before using interactive multimedia

$O_2$  = value after using multi-media

X = use of interactive multimedia

Multimedia effect is calculated by  $(O_1 \times O_2)$  (Sugiyono, 2015)

This design is used to determine the extent to which the product developed can achieve the goals and objectives that have been set. The research was carried out at SMAN 1 Negerikaton with validators as a data source for validating the feasibility of materials, language, and teaching materials with nine students as research subjects.

## Results

The field study in this research was carried out at senior high school, in this stage, the researcher will describe: a). General description of the implementation of the teaching of Buddhist religious education and manners for class X even semesters; b). Forms of effective learning implementation; c). Responsibilities of productive teachers; d). Availability of adequate facilities and tools. The implementation phase and the results of the development of Problem Based Learning-Based are carried out by analyzing the development needs, designing, and making Problem Based Learning-Based LKS, followed by the application by validating the experts, namely linguists, materials experts, and teaching materials experts. The validation results get a good assessment and are feasible, although the validator gives many suggestions and inputs before product testing is carried out. The results of product validation that experts have carried out are described in the following table.

**Table 1.** Result of Product Validation by The Experts

Aspect	Media Expert			Media Expert			Teaching materials expert			Total		
	Score	Mean	Category	Score	Mean	Category	Score	Mean	Category	ST	MT	KT
active aspect eligibility	25	4.1	well	24	4	well	24	4	well	73	4.03333	well
interesting aspect feasibility	46	4.4	well	42	3.7	well	41	3.7	well	129	3.86667	well
holistic aspect feasibility	33	4.1	well	31	4	well	32	4	well	96	3.96667	well
authenticity aspect	20	4	well	20	4	well	20	4	well	60	4	well

The product validation test conducted by media experts got an average score of 3.9 with a total score of 358, and a percentage of 78%, the LKS as a whole has passed the validation test with an average rating of the LKS in the "Good" category. The product trial in the form of a Problem Based Learning and Based Learning Worksheet with a test design was carried out at a senior high school with a total number of Buddhist students. The resulting data was used to determine the results before and after using the LKS. The researchers used the Paired Sample T Test to determine the significant difference between the scores obtained before using the SWS and after using the SWS. Based on the results of the Paired Sample T Test, it can be concluded that there is an increase in student scores before using SWS and after using the SWS.

## Discussion

Judging from the results of research on making Student Worksheets (LKS), it is obtained:

1. With this research, it shows that teaching materials such as Student Worksheets (LKS) are very much needed for students to support independent learning both at school and anywhere. Students can learn individually or in groups without having to stick to a teacher, and this will make it easier for teachers as educators. By knowing this, a teacher should be motivated to develop teaching materials, especially student worksheets (LKS), which are more creative, innovative and varied.

2. From the results of the research, it shows that the Student Worksheets (LKS) made are feasible to use. Student worksheets (LKS) made in this study can be used as an alternative as teaching materials that are more practical and effective. Based on the product test, it was found that the difference in the average value of Buddhist education before using the Student Worksheet (LKS) and after using the Student Worksheet (LKS) had increased
3. Hopefully in the future the teachers can develop Student Worksheets (LKS) that are even better and in accordance with the conditions of students, so as to grow motivation to study harder.

## Conclusion

The results of the research and development of this product are in the form of Student Worksheets based on Problem Based Learning for students during learning Buddhist Education. Based on the validation of the experts, the average result from material experts was 4.0, with a percentage of 80%. The validation test from linguists got an average value of 3.9 with a percentage of 78%. Meanwhile, teaching materials experts get an average score of 3.9, with a percentage of 78%. The three validation tests are then totaled to get a comprehensive picture of the internal tests that have been carried out. The results of the three tests get a total score of 358 with an average score of 3.9 and a percentage of 78%, the SWS as a whole has passed the validation test with an average of assessing that SWS is classified as good.

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