



# Developing Batobo-Based Worksheet as Teaching Material in Elementary School

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**Abstract.** The current study was intended to develop and create students' worksheet based on Batobo tradition as teaching material in elementary school. The Batobo-based worksheet was a task developed by integrating Batobo tradition which contain material, summary and the instruction to do the task. The students' worksheet can be developed by teachers without ignoring the local wisdom around students. This study was conducted in Kuantan Singingi in Riau Province. The subject of the study were fourth grade students of elementary school. It employed Research and Development 4D design. The worksheet was validated by educational technology media expert, and material expert. The result signified very high validity score of 90,8; and very high material validity of 88,5. Thus, it could be concluded that Batobo-based worksheet was feasible as teaching material in elementary school.

**Keywords:** batobo-based · elementary school · worksheet

## 1 Introduction

Education is one of the ways that can improve human resources quality. Indonesian national education according to Law no. 20 year 2003 functions to develop the capability, character, and civilization of the nation for enhancing its intellectual capacity, and is aimed at developing learners' potentials so that they become imbued with human values who are faithful and pious to one and only God; who possess morals and noble character; who are healthy, knowledgeable, competent, creative, independent; and as citizens, are democratic and responsible [1]. To realize those goals, the learning process carried out must be able to facilitate students to reach the goals. One of the method is by using teaching materials that could facilitate the students' needs and characteristics without ignoring their local wisdom around them.

Teaching material is one of the most important teaching instruments in achieving learning objectives. It is defined as materials such as information, tools, and texts that are systematically arranged to portray complete competencies that should be mastered by students and to be used during the learning process to plan and conduct the lesson [2]. One of the teaching materials is worksheet which is called as Lembar Kerja

Peserta Didik (LKPD) in Indonesia. Moreover, student worksheet as one of the teaching materials contains material, summaries, and instructions to do the tasks theoretically or practically [2]. LKPD aims to activate and assist students to find and develop concepts as an alternative to motivate students' active participation. In addition, worksheet is one of the teaching materials used to support learning activities. In conclusion, worksheet is a teaching material that contains materials, summaries and instructions to do the tasks done by students.

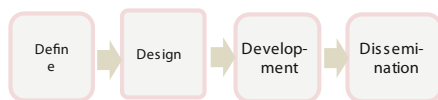
The use of student worksheet as teaching material can be developed by teachers in accordance with the local wisdom around the students. However, during the interview with some teachers in an elementary school it was found that they still used the available worksheet which is not integrated with the local wisdom. It resulted on students' lack of knowledge about their local wisdom. In addition, the teaching materials only focused on textbooks and used teacher-centered learning [3]. The teachers rarely use teacher-made worksheets [4]. This is caused by the teacher difficulty in choosing the right teaching materials for students [5], and the learning process that emphasize on students' cognitive aspects without considering the affective and psychomotor aspects [6].

In response to the aforementioned problems, developing worksheet or LKPD based on local wisdom such as Batobo tradition is needed. The Batobo tradition is one of the traditions existed and still being developed in Kuantan Singingi community as a farmer group with a mutual cooperation system called *tobo*. This farmer group or *tobo* consists of young people at the same age, housewife, and both adults and young people working on their members' fields in turns. Batobo means working together in the field starting from preparing the land until they harvest the rice in all *Tobo* members consecutively [7–10]. Batobo, a tradition that has been preserved in the local community, can be used in education by including the Batobo tradition as a teaching material, one of which is worksheet.

The Batobo-based worksheet developed in this study as a teaching material is a worksheet integrated with local wisdom as a learning concept in ethno-pedagogical studies. Ethnopedagogy is the implementation of education based on local wisdom in various domains [11]. Thus, the Batobo-based worksheet can assist and inspire teachers and students to conduct an active and more meaningful learning by connecting academic content with traditional context around the students' area. The worksheet which synergizes teaching materials with local wisdom can make learning more meaningful, active, challenging and fun.

## 2 Research Methods

The research design used to develop student worksheets (LKPD) based on the Batobo tradition was Research and Development (R&D) 4D design. The 4D stages consist of define, design, development, and dissemination. Define construes the activities of determining the product to be developed and its specifications, and needs analysis through research and literature study. The second stage is design, in which the product is designed based on the determined concept. The next stage is development, in which the design is carried out into product and then it is validated to create a valid product. The last stage is dissemination, in which the product is disseminated to be used by individuals [12]. The 4D design stages can be seen in Fig. 1.



**Fig. 1.** The 4D design development stages

**Table 1.** Likert scale criteria (Adapted from Sugiyono [12]).

No	Score	Criteria
1.	4	Very Valid
2.	3	Valid
3.	2	Less Valid
4.	1	Not valid

**Table 2.** Validity Criteria (Adapted from Sugiyono [12]).

Interval (%)	Categories
$81,25 < \text{score} \leq 100$	Very High
$62,5 < \text{score} \leq 81,25$	High
$43,75 < \text{score} \leq 62,5$	Intermediate
$25 < \text{score} \leq 43,75$	Insufficient

To acquire the data, some instruments were used in this study such as questionnaire with Likert scale for product validity and teachers and students' responses toward the product. Moreover, data analysis technique refers to the Likert scale which can be observed in Table 1 and Table 2.

$$\text{Meanscore} = \frac{\text{Score}}{\text{Total Score}} \times 100$$

### 3 Results and Discussion

The development of student worksheets based on Batobo tradition was carried out using 4D research and development design (define, design, development and dissemination). The activities carried out in each stage of the research are explained more as followed.

#### 3.1 Define

There were three activities carried out in the first stage. First, analyzing the curriculum used by the school. The curriculum analysis was aimed at mapping the material being studied to integrate the local wisdom with the current curriculum. The use of local

wisdom in the learning was referred to local content subject in the implemented curriculum. This condition provided an opportunity for teachers to develop teaching materials such as worksheet based on the students' environment, such as local wisdom. Second, needs analysis. The needs analysis was conducted to determine the needs of the worksheet being developed based on Batobo tradition in achieving the learning objectives. It was concluded that the worksheet used by teachers was still focused on the available worksheet. The material in the ready to use worksheet only focused on the textbook. The teacher did not connect the material with the existing local wisdom. Therefore, the developed worksheet was based on Batobo tradition to fulfill the students' needs and to preserve the cultural values and characters in line with the Indonesian culture and national education goals. The last stage was literature study. The literature study was conducted by reading some related reference such as books, articles, or through online media relevant to product development.

## **3.2 Design**

The activities carried out at the design stage are as followed.

1. Determining the development team, namely researchers as the main developers, and validators of media, material and language.
2. Determining the required resources related to the ability to use computers in creating worksheet as a product.
3. Setting timeline  
A timeline was set to complete the product. It aimed to focus and direct the product development.
4. Determining the material  
The material being developed was from grade four theme number seven, namely "the beauty of my country's diversity" with the sub-theme of "cultural diversity in the environment where I live". Thus, the worksheet was developed based on the culture or tradition in students' environment such as Batobo tradition. The Batobo tradition is one of the traditions found in the students' neighbourhood as one of the culture elements.
5. Determining Product Specifications  
Product specifications in the form of worksheet based on Batobo tradition consisted of cover, basic and core competencies, learning objectives, instructions for using the worksheet, and evaluation.

## **3.3 Development**

### **3.3.1 Product Development**

Product development activities started from designing the cover of Batobo-based worksheet, designing the figures of Batobo tradition used in the material, writing Batobo tradition in the worksheet as material, and designing learning activities using the Batobo-based worksheet.

**Table 3.** Media Expert Validation Result

No	Aspects	Mean Score (%)	Validity Criteria
1	Cover Design	88,5	Very High
2	Content	91,6	Very High
3	Size	92,2	Very High
	Mean	90,8	Very High

**Table 4.** Material Expert Validation Result

No	Aspects	Mean Score (%)	Criteria
1	Content	83,5	Very High
2	Language	92	Very High
3	Presentation	90	Very High
	Mean	88,5	Very High

### 3.3.2 Product Validation

The product created was in the form of worksheet based on Batobo tradition which was developed and then validated by media, material and language experts. It aimed to obtain valid and appropriate product for supporting the learning process. The result of the validation from media expert is presented in Table 3 and the result of material validation can be accessed in Table 4.

Table 3 shows that the result of the worksheet validation by media experts as a whole from all the aspects assessed, namely cover design, content and size obtained an average score of 90.8% with very high criteria. The result indicates that the worksheet based on Batobo tradition is valid and feasible to be tested in the field.

Table 4 illustrates that the result of Batobo based worksheet validation by material experts covering three aspects, namely content, language and presentation obtained an average score of 88.5% with very high criteria. It demonstrates that the content, language and presentation of the worksheet is valid and feasible to be disseminated (Fig. 2).

### 3.3.3 Product Dissemination

Referring to the result of the media and material expert validation presented in Tables 1 and 2, a product trial was conducted to determine teachers and students' responses as users of Batobo-based worksheet at State Elementary School Number 009 (SDN 009) Parit Teratak Air Hitam in Kuantan Singingi. The result of the limited product trial showed that the mean score of the worksheet was 85% for its attractive presentation which is considered as very high criteria. In addition, the result from the field dissemination indicated the mean score of 90% with very high criteria. Therefore, the Batobo-based worksheet was feasible to be used. In addition, the teachers' response to the developed



**Fig. 2.** Batobo-based worksheet

worksheet acquired mean score of 88.5% considering the worksheet in very high criteria. Furthermore, the students' responses to the worksheet based on the Batobo tradition attained an average score of 86.8% with a very high category.

Based on the results of the validation of material and media experts; and the result of the dissemination and teachers and students' responses to the worksheets, it can be concluded that Batobo-based worksheet is valid and feasible to be used in the learning process as one of the teaching materials integrated with the local wisdom.

## 4 Conclusion

Student worksheet or *Lembar Kerja Peserta Didik* (LKPD) is one of teaching materials to support learning activities. The Batobo-based worksheet developed by the researcher had been validated by media and material experts. The media aspects included the cover design, content and the size of the worksheet. In general, media expert validation obtained a score of 90.8% with very high criteria. In addition, the aspects validated by material experts included the content, language, and presentation of Batobo-based worksheet. The aspects acquired a score of 88.5% with very high criteria. Thus, it can be concluded that the Batobo-based worksheet is feasible to be implemented in learning process.

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