

# DEVELOPING BILINGUAL WORKSHEET WITH LOCAL WISDOM BASED VALUES FOR YOUNG LEARNERS

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## Abstract

Learning English for young learners through bilingual worksheet with local wisdom based values is the way for children acquire their foreign language. Teacher taught bilingual worksheet with local wisdom values to improve their daily communication relate real situation in currently culture of their life. Commonly worksheet used by the teacher without local wisdom values. The aim of this study was the developing bilingual worksheet with local wisdom based values for young learners especially Banten culture in the bilingual program at the SDIT Assa'adah Global Islamic School (AGIS), Serang City. Banten regional culture contents for young learners in a bilingual program with L1 and L2 through worksheet developing. Researchers also simultaneously introduce foreign languages that are commonly used. This study used Research and development in the ADDIE (Analysis, Design, Development, Implementation, and Evaluation) method, the result of this study was a drafted 4<sup>th</sup> grade bilingual mathematics worksheet was validated by 3 experts recommended worthy of being tested with criteria of validity is very high on young learner's students.

**Keywords:** *Bilingual, Local Wisdom Values, Banten Culture, Mathematic worksheet*

## INTRODUCTION

English-Indonesian worksheet for elementary school students should develop based on student characteristic as young learners. The existing elementary worksheets for the fourth grade were considered too difficult and it made the students not interested in learning especially for students in bilingual program. This study is conducted to develop an English-Indonesian worksheet with local wisdom values for the fourth grade students. The procedure of this project is conducting a need analysis, developing material, revising and final the product. English for young learner is commonly practice through bilingual learning. Learning means the effort of student to get information, knowledge, skill and new challenging as their experience in environment interaction.

The newest curriculum in Indonesia is the 2013 curriculum, different from KTSP in this curriculum; an English lesson is categorized as an additional subject. Although English has been placed as one of an additional subject, it is very important to teach English since it is helpful for students when they learn English in Junior High school. Students under 7 are Very young learner and 7-12 are Young Learners students.

Young learner should have fun with English; the purpose of this project is to develop a bilingual worksheet based on theory and practice of teaching young learners in the EFL classroom. The learners will engage in enjoyable activities for young learners. The first is how do children learn language? It will focus on the characteristic of young learners and their learning style that affect second language acquisition. The theories can be applied TEYL classroom situation.

### How Children Learn

|  |  |
|--|--|
| Children are active learners and thinkers (Piaget, 1970)               | Children construct knowledge from actively interacting with the physical environment in developmental stages. They learn through their own individual action and exploration   |
| Children learn through social interaction (Vygotsky, 1962)             | Children construct knowledge through other people, through interaction with adult. Adult/teacher work actively with children in the zone of Proximal development (ZPD)   |
| Children learn effectively through scaffolding by adult (Bruner, 1983) | The adult's role is very important in a child's learning process. Like Vygotsky, Bruner focused on the importance of language in a child's cognitive development. He show how the adult uses "scaffolding" to guide a child's language learning through finely-tuned talk ( Cameron, 2001) |

Based on characteristics of young learners, exactly teaching English in Elementary school is not an easy because the young learners do not have an idea the reason for learn English. The teacher has to understand the characteristics of young learners and have to manage the classroom. Then, the teacher is not only required to be able to teach well but also to be able to design the material of teaching learning appropriately. The material design for language teaching is important things for learners' success in mastery English. Most of students have difficulties in pronunciation because lack of vocabulary, the students should be taught vocabularies word by word until they pronounce correctly. Additionally give fun activities such a game and practice. It can be focusing on the worksheet development is going to be develop uses colored pictures.

2013 curriculum as guidance in teaching English, and developed English-Indonesian worksheet is simple but is able to cover the students need and also the basic competence which should be mastered by the fourth grade students of Elementary school. Developing bilingual worksheet can improve student's skill in English. Furthermore the project focuses on material



development for the fourth grade. To develop the material, Hyland (2003) administers there are : 1) selecting : it consists of gathering material from many sources; 2) adding or deleting : it deals with adding supplementing or extending material what the source offers with extra color, the natural picture, or omitting repetitive, irrelevant, potential, unhelpful or difficult items; 3) modifying : it concerns with rewriting examples, activities or explanation to improve relevance, impact or clarity; 4) Simplifying it focuses on rewriting to reduce the difficulty of task, explanations, or instruction and 5) reordering it is in parallel with changing the sequence of topic or activities to fit more coherently with the goal.

The worksheet has developed use the framework and approach. It became appropriate for Elementary Student at fourth grades; they will learn English with fun and improve their vocabulary, integrated skill and mastery in English as basic level. Worksheets can be exercises and activities which are drawn, written or word processed and photocopied. They are clear, simple and attractive. The worksheets features are the instructions are clear or in the pupils' own language; each worksheet provides an activity which lasts a designated period of time; there are opportunities for the worksheets to be personalized, for example, colored, and labeled, and so on.

LKS (student worksheets) is an instruction sheet for students to carry out an activity in the learning process, as well as a list of tasks and a place to record observations (Astuti, 2017). Student worksheets are also sheets containing assignments that must be done by students. The width of this activity is usually in the form of instructions, steps to complete a task (Majid, 2006). Student worksheets are student guides used to carry out investigate or problem-solving activities. Student worksheets are a learning tool that can assist teachers in delivering learning material. Student worksheets can be in the form of guides for cognitive aspect development exercises as well as guides for developing all aspects of learning in the form of experimental or demonstration guides. Adding student worksheets contains a set of basic activities that must be done by students to maximize understanding in an effort to form basic abilities according to indicators of achievement of learning outcomes that must be taken (Triyanto, 2015).

According to Piaget, as children grow and mature, they pass through four stage of cognitive development: sensor motor, preoperational, concrete operational, formal operational. Younger children deal with their world in more concrete. In this case the children on concrete operational (7-11) can solve concrete problem in logical fashion, able to classify. Here they are able to use bilingual to understand what the communication from L1 or L2. Children can apply language in this situation from natural situation rather than classroom situation. Bilingualism as an academic field logically, linguistics is divided into theoretical and applied disciplines. Applied linguistics includes many areas such as foreign language teaching and bilingualism.

According to ( Madrid and Huges, 2011; 20-28) Bilingualism used Balanced Theory it represents two languages coexisting in equilibrium, the

second languages increases at expense of the first. It can be seen from the theory balance with L1 and L2. It symbolic from upper floor and balanced bilinguals, it describes the relationship between cognition and the level of bilingualism. The closer students are to being bilingual, the greater the chance they have of obtaining cognitive advantages. Bilingual applied can be motivation and commitment for students in learning second language, for improving their English skill as general in L1 development, as positive family, social, and cultural environment. Teaching the subject helps consolidate writer knowledge of the field making one responsible to fill in gaps not previously investigates.

Bilingual in education program have benefit, It have the advantages of applying it in education they have positive relationship between bilingual individuals and thought process, organization skill, reasoning and visual and spatial skills. For all competences in subject taught in L2 are similar to those acquire in L1 and there are no significant differences. Beside that the level of knowledge in L1 has a strong influence in the result obtain in L2 instruction, in school subject matter such as math and English, is being balance of them in daily learning. Student learn math using bilingual worksheet in their daily learning.

Therefore, the children apply communication in the classroom by using bilingual worksheet in learning. The worksheet interact them using target language and improve their communicative skill to learning achievement and motivation to improve their ability.



### Local Wisdom

Local wisdom can be comprehended as human effort by using his cognitive to act and has attitude to and object or event in certain room (Ridwan 2007). The local wisdom in live environment is explained with terminology of traditional ecology science. Local wisdom has the value especially for young learners to explore and protect their heritage and having advantages. Local wisdom can be learning medium for all human being to be smart, clever and wise person (Mulyani, 2011; Hamer, et al., 2017). local wisdom



has positive values to be transform to student to form positive personality. Some of positive side there is there is develop value about how to communicate well between parents and young people. The conclusion of positive and negative side of local wisdom values to young learners express by someone and will be done right now.

### **The method of providing basic local wisdom**

1. Teacher integrated values into learning material, so student have conceptual idea about guided values that can be developed in developing individual characters.
2. Exemplary shown by teacher in local language means that it is listened and imitated from model prepared by teacher
3. Deciding priority that will be effective assessment target during learning
4. Priority fraction life field or values that becomes priority in character education learning
5. Reflection is conducted to know the failure and the success character education that has been integrated in descriptive text learning.

Local wisdom-based education is education that teaches students to always be attached to the concrete situations they face. Local wisdom is a noble character building asset. Local wisdom should also be preserved to develop regional culture, but it is more often ignored in learning, only briefly conveyed to students, not discussing the roots of regional culture. This is only understood and cannot be applied in everyday life (Ulfah, 2018). Learning tools based on local wisdom developed in valid categories so that they are quite effective in improving students' problem solving abilities (Wahyuni, 2015). Furthermore, learning that is oriented towards local wisdom gives a more contextual impression in learning therefore students easily understand the material being studied (Fannie, 2014).

Mathematics is a science that plays an important role in life and is a useful branch of science for engaging and socializing in society (Purwanti, 2016). In fact, there are many problems faced, namely the ability of students to solve math problems is still low, this is because when learning mathematics students tend to memorize formulas, and only imitate the examples given, thus each time a different question is given, the student has not been able to work on the question even though the student has been given handbook (Anggoro, 2015). Currently, not only for senior high school (SMA) and junior high school (SMP) there are bilingual programs, but also at elementary schools (SD) there are also bilingual programs. One of them is mathematics. Mathematics in bilingual programs is still a very scary paradigm, because mathematics has a very abstract nature (Hasbullah, 2018).

Student Worksheets are generally used in Indonesian and have no regional values. With the contents of student worksheets that describe the situation as a whole or general or national. In addition, with the diversity of student worksheets, students cannot get to know their own area. The contents of student worksheets must also be able to develop students' thinking skills. This

is in accordance with the research that has been done that student worksheets should be able to support and encourage students to be able to think, analyze, and compile the results of their own activities (Hernawati, 2015). Mathematics subjects in elementary school education units include the following aspects: (1) Numbers, (2) Geometry, (3). Data Processing. Number coverage includes numbers and figures, calculations, and estimates. The scope of geometry includes two-dimensional, three-dimensional, transform and symmetric shapes, location and, arrangement related to coordinates. The scope of measurement relates to the comparison of the quantity of an object, the measurement of the unit of measure and, the measurement. This is stated in the syllabus for the fourth grade of elementary school (SD) at first semester in curriculum 2013. Using bilingual student worksheets in mathematics learning can improve students' ability to solve math problems in English with an indicator of success in research is the increase in students' ability to solve math problems in English with the attainment of the minimum completeness criteria (KKM) (Zuraidah, 2015).

Most of the students feel bored, lazy, and sleepy when the teacher presents the mathematics material in the textbook. The current worksheet of student in bahasa, although students in bilingual school needs English skills for their daily communication orally or written especially for their material, it can be used for students' to improve their English math skill for Olympiad in regional, national or international area. Bilingual worksheet is the innovation product can be used to prepare student achieve the good result, they could solve their problem in math in English question. By using the ADDIE method, the researchers drafted a pictorial bilingual math worksheet, that it could help and encourage students to learn mathematics in English. the ADDIE method developed by Dick and Carrey, developing local wisdom bilingual worksheet in Math that have been validated by material experts, media experts, linguists and trials, the average score is very good in the material category, the media gets very good scores and very good also in the field of language (Sandiyanti, 2018).

## **RESEARCH METHODOLOGY**

### **Data Collection Instruments**

The instruments used in this study were: a) validation sheet of learning tools for experts, b) teacher and student questionnaire responses to local wisdom-based bilingual worksheet of math.

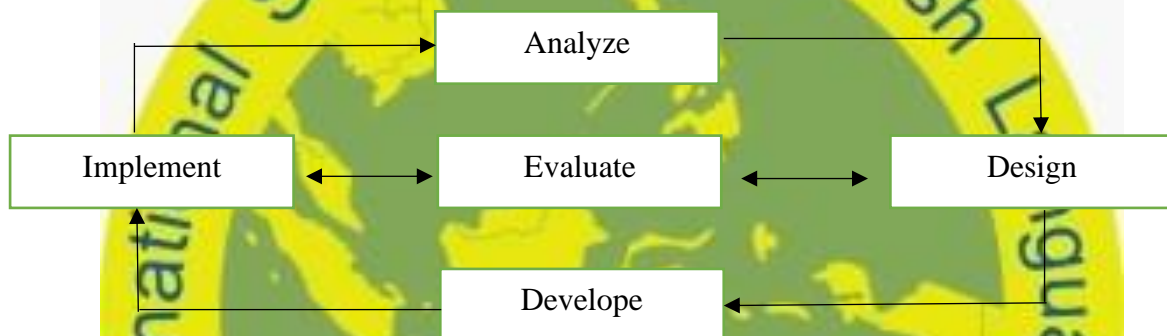
### **Data Collection Techniques**

The data analysis techniques in this study were: 1) the questionnaire used to obtain data about the level of validity of the Student Worksheet developed when used in mathematics learning. The questionnaire is given to the experts. 2) Questionnaire for the responses of teachers and students (as users) to the developed student worksheets.



## Data Analysis Techniques

The data analysis technique used in this research is descriptive analysis, namely by calculating the average score of the validity score of each validity indicator of the student worksheet (student worksheet) and the average used response score. Validation score given by the expert as a result of validation. The feasibility of student worksheets developed from user response scores (on a small-scale trial). This research is a research and development (Research and Development). This study uses the ADDIE research model, namely analysis, design, development, implementation and evaluation (Gunaydin, 2016). The development model used in this study uses the ADDIE research model. The systematic process is represented by the acronym ADDIE, namely analysis, design, development, implementation, evaluation (Aldoobie, 2015). This research is in accordance with the ADDIE research stages, which begins with the analysis process and the evaluation process. The development design used in this study is ADDIE, describing the ADDIE design stages as follows.



At the analysis stage, the researcher conducted a learning analysis. From the learning analysis activity, it is found that the learning is centered on the teacher. The student worksheets made by the teacher used have not been able to fully assist students in learning objectives because the concepts proposed are still very general, the examples of stories presented do not contain elements of local wisdom that are appropriate to the child's learning environment. Students are passive and less motivated. In addition, there are still many students who have difficulty solving story questions. Based on the analysis, the use of bilingual mathematics student worksheet based on local wisdom is one way to overcome this problem. Therefore, the researchers developed a Bilingual Mathematics student worksheet based on local wisdom. At the design stage, the writer determines the format and design (student worksheet) of bilingual local wisdom that is interesting, and determines the appropriate bilingual story questions. From this stage, a local wisdom-based bilingual mathematics student worksheet design is obtained which consists of two chapters. Written story questions relate to the problem of the operational properties of counting numbers, multiples and number factors. At the develop stage, the designs obtained from the design stage are developed into bilingual Mathematics Worksheets based on local wisdom.

At the implementation stage, the researcher conducted the validity of the mathematics, language and design learning expert test by using

questionnaires. The response of teachers and students about the developed bilingual worksheets local wisdom based is good. The last stage is evaluation as the final stage of the draft student worksheet produced in revision according to expert noted that later be tested in mathematics learning.

The implementation of this research and development, the researcher used two types of data collected, namely, quantitative data and qualitative data. The data collection technique used to obtain data on student responses to illustrated bilingual student worksheets used a questionnaire by distributing a G- form link. Meanwhile, to obtain teacher responses, researchers provide a link and also an interview. The instrument used in this study was a validation sheet to determine whether the designed student worksheet was valid or not. The validation sheet is given to experts who are competent in their fields.

The validated questionnaire aims to determine the validity and provision of criticism and suggestions on the bilingual student worksheet which includes the design expert test, the linguist test and the material expert test. The teacher response questionnaire aims to determine the response to the learning, as well as the appropriateness of illustrated bilingual student worksheets with the suitability of material and local wisdom. Student response questionnaires are used to determine student responses to this bilingual student worksheet. The instrument used has 4 answers, namely very good with a score of 4, good enough with a score of 3, not good with a score of 2 and very bad with a score of 1.

Table 1. Guidelines for Questionnaire Assessment Scores

| No | Category  | Score |
|----|-----------|-------|
| 1  | Very High | 4     |
| 2  | High      | 3     |
| 3  | Low       | 2     |
| 4  | Very Low  | 1     |

(Source: Sugiyono, 2015)

Furthermore, the calculation of each question item is carried out using the following formula:

$$P = \frac{\sum x}{\text{maximum score}} \times 100\%$$

Noted:

P = Percentage of eligibility

$\sum x$  = Total score

The final step is to conclude the calculation results based on aspects by looking at table 2.



Table 2. Categories of the validity of the design student worksheet format

| Percentage                  | Category      |
|-----------------------------|---------------|
| $75\% \leq \bar{x} < 100\%$ | Very Good     |
| $50\% \leq \bar{x} < 75\%$  | Enough        |
| $25\% \leq \bar{x} < 50\%$  | Not Good      |
| $0\% \leq \bar{x} < 25\%$   | Very Not Good |

The development product will end when the assessment score on this student worksheet has met the eligibility requirements with the suitability level of the material and design, which is categorized as very attractive. By having the following categories:

Table 3. Categories of validity of student worksheet contents

| No | Percentage                 | Category  |
|----|----------------------------|-----------|
| 1  | $3,25 \leq \bar{x} < 4$    | Very High |
| 2  | $2,50 \leq \bar{x} < 3,25$ | High      |
| 3  | $1,75 \leq \bar{x} < 2,50$ | Low       |
| 4  | $1,00 \leq \bar{x} < 1,75$ | Very Low  |

The criteria for drawing conclusions on the developed student worksheet are defined as follows:

- Each component of the assessment for the student worksheet format is declared valid if the validity is high according to table 3.
- Each component of the assessment of the contents of the student worksheet is declared valid if each statement on the indicator gets a score of 3 and 4, the validity is high or very high according to table 2.

Table 4. Criteria for LKS User Response

| No | Response Interval    | Category Response |
|----|----------------------|-------------------|
| 1  | $3,25 \leq R < 4$    | Very High         |
| 2  | $2,50 \leq R < 3,25$ | High              |
| 3  | $1,75 \leq R < 2,50$ | Low               |
| 4  | $1,00 \leq R < 1,75$ | Very Low          |

(Source: Sugiyono, 2015) [15]

Practicality (user response) student worksheets based on local wisdom, seen from the responses of teachers and students to student worksheets. Student worksheets are declared fit for used if the user's response is in the high or very high category.

## FINDING AND INTERPRETATION

The development of student worksheets based on local wisdom that has been carried out show the following results:

Table 5. The results of the validation of the student worksheet design format

| No | Aspek Penilaian                  | Validasi     |     |
|----|----------------------------------|--------------|-----|
|    |                                  | V-1          | V-2 |
| 1  | <b>appearance</b>                |              |     |
|    | Paper size                       | 4            | 4   |
|    | width                            | 4            | 3   |
|    | layout                           | 3            | 3   |
|    | Font size                        | 3            | 3   |
|    | numbering                        | 3            | 3   |
|    | colours                          | 3            | 4   |
|    | Clearness of written             | 3            | 3   |
|    | readable                         | 3            | 3   |
| 2  | <b>consistency</b>               |              |     |
|    | Page layout                      | 3            | 4   |
|    | Line spacing                     | 3            | 3   |
| 3  | <b>Picture of Story Question</b> |              |     |
|    | intresting                       | 3            | 4   |
|    | Appropriate with material        | 3            | 4   |
|    | communicative                    | 3            | 4   |
|    | <b>Jumlah</b>                    | 41           | 45  |
|    | <b>Rerata Skor</b>               | <b>3,305</b> |     |
|    | <b>Kriteria</b>                  | Sangat Baik  |     |

Based on the expert validation above, design format of worksheet got average score 3,305 was very good criterion. It means that format of worksheet design was valid to be used as material development that propose by researcher.

Table 6. The results of the validation of the contents of the student worksheet width

| No | Criteria  | Validation |     |
|----|---|------------|-----|
|    |   | V-1        | V-2 |
| 1  | The cover is attractive                                   | 4          | 4   |
| 2  | The use of letters is clear, appropriate and easy to read | 4          | 4   |
| 3  | Typing neat and clear                                     | 3          | 4   |
| 4  | Spacing is appropriate and consistent                     | 3          | 4   |
| 5  | Logical material arrangement                              | 3          | 4   |
| 6  | Clear and attractive appearance                           | 3          | 4   |
| 7  | The learning objectives are clear.                        | 3          | 3   |
| 8  | The learning objectives are written in detail.            | 3          | 3   |
| 9  | Learning objectives as needed                             | 3          | 4   |
| 10 | Topics according to the needs and interests of students   | 3          | 3   |



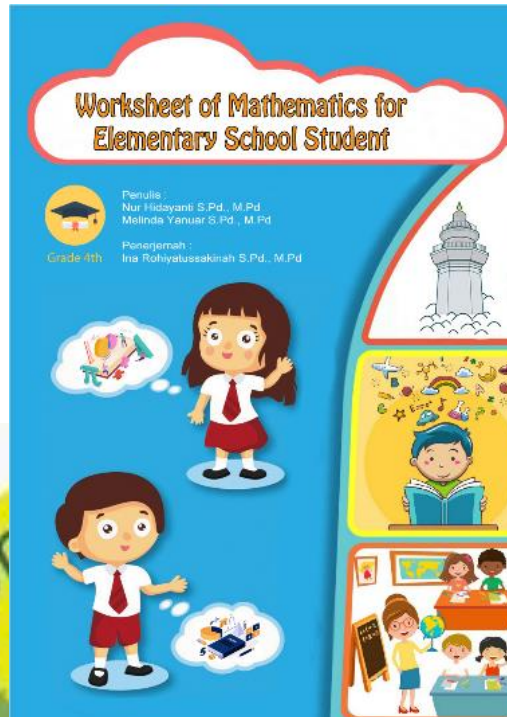
|    |  |           |    |
|----|--|-----------|----|
| 11 | Summary and review of material relevant to student needs   | 3         | 3  |
| 12 | The example are clear and appropriate the example can define concepts clearly and adequately   | 3         | 3  |
| 13 | Tasks given are in accordance with the material. Tasks about communicative stories and in accordance with local wisdom. Tasks can reach and cover all students.  | 3         | 4  |
| 14 | Instructions clear and appropriate   | 3         | 4  |
| 15 | The material coverage is in accordance with the students' needs and interests. The material coverage is in accordance with the students' thinking level. The material coverage represents the aspects of the students' mathematical abilities. | 3         | 3  |
|    | SUM  | 47        | 54 |
|    | AVERAGE SCORE  | 3,37      |    |
|    | CRITERIA   | Very Good |    |

Based on validation experts Questionnaire, got average score 3,37 was very good criterion. It means that *worksheet* was valid to be used for 4<sup>th</sup> grade students of AGIS kota serang as their material, exercise and references in their learning. In this research and development, the researcher drafted material into bilingual worksheet of mathematic with local wisdom values and without disseminated to large group test because the pandemic of Covid 19, the student learns at home by daring and also the drafted need more critic to be great product.

Table 7. Results of validation of student worksheet user responses

| User    | Average | Category  |
|---------|---------|-----------|
| Teacher | 4       | Very good |
| Student | 3,6     | Very good |

Score of questionnaires from teacher and students as user of development product delivered by G-form on Whatsapp given for teacher and students, it got average score very good criterion. it could be references for the researcher to be continue the worksheet development until disseminated and granted ISBN and HAKI and could be useful for students 4<sup>th</sup> elementary school in Banten or Indonesia.



## CONCLUSION AND SUGGESTION

The development of student worksheets on bilingual mathematics subjects based on local wisdom can provide opportunities for students to increase knowledge and build creativity in learning English. Through this learning strategy, researchers make teaching materials that can help teachers in the classroom in providing material and students can easily understand the material provided by the teacher in class. In making student worksheets, researchers used expert tests for validation. As well as mathematical knowledge, the use of English, the context of the suitability of the use of animation, the suitability of the cover design. In this case, the researchers only make a draft student worksheet consisting of 2 chapters, namely the operation of counting numbers and multiples and a factor of a say according to the additional output in submitting a research grant proposal for novice lecturers.

In addition, it will be continued in the next grant by making textbooks for grade 4 elementary schools, therefore that researchers can contribute creative works to the world of education. This is almost the same as the research which explains that the developed worksheets are declared valid where the validity of the student worksheet format is high. This is similar to research that describes the results of the feasibility test for teaching material products in the form of bilingual worksheets with a contextual approach both from the test of material experts, media experts, linguists, teachers and students that can be used or valid, therefore it can help teacher learning in class [16].



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