



## A Touch of Culture in Learning: Teaching Materials My Food is Healthy and Nutritious for Elementary School

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### ABSTRACT

**Purpose of the study:** This research aims to design teaching materials grounded in local wisdom and to evaluate the feasibility of these materials for the elementary/MI level, specifically focusing on Theme 9 "My Food is Healthy and Nutritious" and Subtheme 1 "My Food is Healthy and Nutritious."

**Methodology:** The research employed the Research and Development (R&D) method utilizing the ADDIE model. The participants included one class teacher and two lecturers who provided feedback through validation questionnaires and teacher response questionnaires.

**Main Findings:** The findings indicate that the responses from both lecturers regarding the development of teaching materials based on local wisdom were valid, with lecturer II's responses being highly valid. The teacher's feedback also confirmed the high validity of the teaching materials developed. Based on these results, it can be concluded that the designed teaching materials are suitable and effective for use in learning activities.

**Novelty/Originality of this study:** This research represents a significant advancement in the design of teaching materials by creatively integrating local wisdom to enhance the understanding of Class IV SD/MI students about health and nutrition through Theme 9 and Subtheme 1. Adopting an innovative design approach, this study pioneers a new direction in Class IV SD/MI learning, exploring effective strategies to incorporate local wisdom into teaching materials to strengthen students' comprehension of healthy and nutritious food.

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## 1. INTRODUCTION

Teaching materials are an important aspect in the world of education, because teaching materials are a means to support the learning process [1]–[3]. If the teaching materials used in the learning process are developed according to the needs of teachers and students and used correctly, they will be one of the important factors that can improve the quality of learning [4]–[6]. The development of teaching materials that are fun and instill moral values in students is very necessary [7]–[9]. This is to improve the quality of students in the realm of knowledge, skills and attitudes which are the core of the current curriculum.

The current curriculum requires teachers to be more creative in its implementation. Therefore, teachers are required to develop learning tools that can be used during the teaching and learning process [10]–[12]. Not only teachers, students must also have factual and conceptual abilities through thematic learning based on local

wisdom. Local wisdom is the result of certain communities through their experiences and is not necessarily experienced by other communities [13]–[15]. These values will be very strongly attached to a particular society and these values have gone through a long period of time, throughout the existence of that society. Curricula at international, regional and national levels have unique characteristics that reflect the needs and values of each educational context. At the international level, several countries participate in efforts to develop global standards, aimed at creating equality and accessibility of education throughout the world [16]–[18] Organizations such as UNESCO play an important role in establishing global curriculum guidelines and frameworks to ensure holistic education, inclusive, and sustainable [19].

At the regional level, several countries within a region may have a common curriculum framework or share views on education. This regional collaboration aims to improve the quality of education and promote cultural and knowledge exchange between the countries involved [20]. An example is ASEAN which has an initiative to increase the harmonization of education in the Southeast Asia region. Meanwhile, at the national level, Indonesia has a curriculum prepared by the Ministry of Education, Culture, Research and Technology [21]. The curriculum reflects local and national values, with an emphasis on developing student character, understanding local wisdom, and preparation to face global challenges [22]–[24]. Although there are differences in approach and focus, each level of this curriculum aims to create a learning environment that supports holistic growth and student readiness to face the complexities of the modern world.

The learning process does not only involve educators and students, but the role of teaching materials is also very much needed [25], [26]. Teaching materials are materials or subject matter that are arranged systematically so that they can be used by teachers and students in the learning process [27] – [30]. Meanwhile, according to Prastowo, teaching materials are all forms of materials used to assist teachers or instructors in carrying out the learning process in the classroom.

Based on the results of interviews conducted at MIN 11 Banda Aceh with class IV teachers, problems in learning were found. These problems are (1) Students do not understand the material in the Student Book, (2) students still do not understand the local wisdom that exists in their respective regions, (3) There is only one teaching material used by teachers and students, namely the Teacher's Book. and Student Books obtained from the government. Based on this problem, teachers should be able to develop their own teaching materials according to the material presented, according to examples related to the student's environment so that the expected goals in the learning process can be achieved. The results of the interview are used as a basis for making conclusions regarding the analysis of teacher and student needs.

The results of the analysis of teacher needs show that teachers need teaching materials that can help students understand the subject matter, present the material and questions appropriately with appropriate illustrations or pictures and more contextual learning material. Meanwhile, students need teaching materials that contain material that has real examples in their social life. A good learning process is a learning process that can relate learning material to real life situations, thereby encouraging students to be able to apply it in their lives and students can directly see the objects being taught. This is in accordance with Jean Piaget's opinion which states that the thinking stage of elementary school students is still at the concrete operational stage, so students need real learning around them so that students can build their knowledge. For elementary school age children, the learning process still depends on concrete and contextual objects. For this reason, the teaching materials used should adopt contextual learning. Contextual learning can help students relate the material studied to real situations and encourage students to make connections between the knowledge they have and its application in their lives.

Previous research regarding the design of teaching materials based on local wisdom was carried out by Wulandari et al., (2020) [31] where the research stated that the existence of teaching materials based on local wisdom is expected to increase the sense of nationalism or love for regional culture in the hearts of students so that Local culture can be realized and is not easily lost in this era of globalization. The novelty of this research is that students' knowledge about nutrient-rich local foods increases with the use of teaching materials based on local wisdom, encouraging cultural preservation and healthy eating patterns.

The urgency of conducting this research is that local wisdom related to food and nutrition is integrated into teaching materials, helping students recognize and appreciate the richness of local culture and traditions. In addition, the use of these teaching materials encourages the preservation of cultural values and positive habits related to healthy and nutritious food in the community. Based on these problems, we need teaching materials that are interesting and easy to use so that they can foster a desire to learn, make learning more meaningful, increase students' understanding, and can be used by students independently. So the aim of this research is to design teaching materials based on local wisdom at the SD/MI level, theme 9 sub-theme 1 and assess the feasibility of teaching materials based on local wisdom at the SD/MI level, theme 9, sub-theme 1.

## 2. RESEARCH METHOD

This research uses research and development methods or what is usually called Research and Development. Research and Development is a research method used to produce certain products and test the effectiveness of these products [32]–[34]. The Research and Development (R&D) method is a research method that produces a product in a certain field of expertise, which is followed by by-products and has the effectiveness of a product [35]–[37]. From this description it can be concluded that the R&D research method is a research method used to produce the product you want to develop.

### a. Research Procedure

In this study, researchers used the ADDIE model research procedure to develop scientific-based teaching materials. The procedures are analysis, design, development, implementation and evaluation [38]–[40]. Research procedures are the steps used as a tool to collect data and answer questions in research. The ADDIE model procedures in research and development are visually shown in the following picture:



Figure 1. ADDIE Model Procedure

### b. Research Instrument

The data collection instruments used in this research are: Validation sheet by 2 validators. The validation sheet in this research will contain input in the form of suggestions, criticism and responses to the teaching materials being developed. In order to know the validity of the teaching materials used, a validation sheet will be given to the validator who will then give a score to the development of the teaching materials by ticking the rows and columns that match the criteria, then the validator will write input on the development of the teaching materials at the point of suggestions and criticism. Validation will be carried out by 2 expert validators, namely the PGMI lecturer validator and the class teacher. The validation sheet observed in the research was a validation sheet for teaching materials. Validator research consists of 4 criteria, namely (1) poor (not yet usable), (2) sufficient (can be used with many revisions), (3) good (good for use with a few revisions) (4), very good (can be used without revision).

### c. Data Collection Technique

Data collection techniques are very important in research because one of the main objectives of research is to obtain data. Data collection is intended so that researchers can see accuracy and relevance according to the research objectives. The data collection technique used in the research is a validation sheet by a validator.

### d. Data Analysis Technique

In this research, the data obtained from the validation sheet is quantitative data which is converted into qualitative data which is then described in sentences so that it is descriptive qualitative. There is only one data analysis in the research, namely data analysis of the results of the validation of teaching materials. According to Widoyoko, the analysis from the validator is qualitative descriptive in the form of suggestions and comments, while the data used in validating teaching materials refers to the following 4 assessment criteria:

Table 1. Validation Assessment Criteria

No	Criteria	Points	It means
1	Very Valid	4	If the assessment is very good/very in accordance with the statement
2	Valid	3	If the assessment is good/in accordance with the statement
3	Less Valid	2	If the assessment is not good/inappropriate
4	Invalid	1	If the assessment is very poor/very less in accordance with the statement

Previously, data was obtained using the data collection instruments discussed previously using analysis techniques and percentages according to a predetermined formula, as follows:

1. Calculating the average score of each aspect can use the equation.

$$X = \frac{\sum X}{N}$$

Information :

X = average score of assessments by experts

N = Number of questions

2. Analysis of validation questionnaire data

$$\text{Eligibility percentage} = \frac{\text{Average of all aspects}}{\text{highest scale of assessment}} \times 100\%$$

The quality criteria for teaching materials used in this research are as follows:

Table 2. Quality Criteria for Teaching Materials

No.	Value	Criteria
1.	$0.81 < x = 1.00$	Very worthy
2.	$0.62 < x = 0.81$	Worthy
3.	$0.43 < x = 0.62$	Not Worth It
4.	$0.25 < x = 0.43$	Not feasible

### 3. RESULTS AND DISCUSSION

Basically, every society has its own customs which can usually influence a person's behavior in their daily life. Customs are habits that cover all aspects of life which in their implementation are followed immediately without external coercion, and it is not uncommon for customs to have certain sanctions or punishments for people who violate them. This kind of custom is usually called customary law [41] –[43]. Here researchers will examine the customs and culture that exist in South Aceh. Examples of local wisdom that exist in South Aceh society are as follows:

- a) Rabe, typical food of South Aceh



Figure 2. Typical food of South Aceh

Rabe is a typical food from Kluet which has a source of protein, fat and vitamins that are good for the body because the ingredients are made from real beef which is only made at certain times, namely during meugang events. With a mixture of several spices such as cayenne pepper, shallots, lemongrass, lime, ginger, coriander and roasted coconut. Kerabu or Rabe food still decorates dishes on Megang day. In fact, before the 1980s, all types of food such as Rabe became traditional food so some people said that without kerabu and Rabe you don't need to be a Kluet person. In my opinion, we must protect and preserve typical food so that our children and grandchildren can also enjoy typical food in our respective regions.

## b) Paku Curry



Figure 3. Typical food of Gulai Paku

Gulai Paku is a food that is quite popular in South Aceh, especially in the Kluet area. This curry is made from fern leaves (paku), seasoned with coconut milk chilies, galangal, green cayenne peppers, sunti sour shallots, star fruit and turmeric.

## c) Bamboo Curry



Figure 4. Typical Bamboo Curry Food

This bamboo curry is also one of the typical foods of the South Aceh region which is much liked because of its crunchy texture, sweet taste and distinctive aroma. This bamboo contains carbohydrates, protein and twelve important amino acids which are really needed by the body. The ingredients for making this curry are shallots, cayenne pepper, coriander, turmeric, candlenuts, lemongrass, lime leaves, turmeric and coconut milk.

This research produces a product in the form of teaching materials based on local wisdom. These teaching materials are designed in an attractive way so that students can easily understand independently and can be used easily. This local wisdom-based teaching material was developed by following the stages of ADDIE model development using only 3 of the 5 development stages, namely: analysis stage, design stage and development stage.

**a. Analysis Stage**

One of the first steps in developing a product is needs analysis. In this case, the needs analysis that the researcher carried out was direct observation and interviews regarding thematic learning. Observations were carried out at MIN 11 Aceh Besar. During observations and interviews with teachers at the school, several problems were found, the most dominant of which was that students had difficulty understanding the material in the student handbook.

**b. Design Stage**

The second stage is designing teaching materials based on local wisdom. At this stage, the presentation of material in teaching materials really needs to be paid attention to. The presentation of material must contain criteria for good and correct writing of teaching materials, the presentation of teaching materials also connects the materials with the context of students' lives. Teaching materials are designed to be as attractive as possible by containing pictures so as to enable students to be interested in learning by using teaching materials, containing LKPD that can be done by students in groups. In the material description there are pictures and phenomena that students often encounter in everyday life. After the material description, it is followed by LKPD, evaluation questions along with answer keys and a glossary.

**c. Develop Stage**

The third stage is the development of teaching materials based on local wisdom. In the third stage, the

development steps that must be taken are: (a) The first step is selecting the theme and subtheme to be developed. (b) The second step is to determine basic competencies and indicators of competency achievement in accordance with the syllabus. (c) The third step is to prepare teaching materials based on local wisdom at the elementary/MI class IV level.

After this teaching material has been made, a product quality test is needed to determine the quality of this teaching material, so that it can be declared suitable or not suitable for use. Product quality testing is carried out using validation tests. The validation test was carried out by giving validation sheets to two experts, namely the PGMI lecturer and the class teacher. Validation of teaching materials is carried out with the aim of obtaining feasibility assessments, suggestions and input.

### 1. Results of Validation of Teaching Materials by expert I

The calculations from the validation results can be seen as follows:

$$\text{Equality} = \frac{\sum \text{score is obtained}}{N_{\text{maximum score}}} = p = \frac{79}{3} = 26,3$$

Next, to calculate the feasibility index, the data is calculated as follows:

$$\text{Feasibility index} = \frac{\text{average of all aspects}}{\text{highest scale of assessment}} \times \frac{2,91}{3} = 0,97$$

Based on the results of research on the quality of teaching materials, it can be seen that the assessment of each aspect evaluated by expert lecturers on local wisdom-based teaching materials has an average of 3 or good categories. This can be concluded that the teaching materials that have been developed are suitable and can be used properly. slight revision.

### 2. Results of Validation of Teaching Materials by Expert II

The calculations from the validation results can be seen as follows:

$$\text{Equality} = \frac{\sum \text{score is obtained}}{N_{\text{maximum score}}} = p = \frac{99}{4} = 24,75$$

Next, to calculate the feasibility index, the data is calculated as follows:

$$\text{Feasibility index} = \frac{\text{average of all aspects}}{\text{highest scale of assessment}} \times \frac{3,66}{4} = 0,915$$

Based on the results of research on the quality of teaching materials, it can be seen that the assessment of each aspect evaluated by lecturer 2 on local wisdom-based teaching materials obtained an average of 3.66 or very good category, this can be concluded that the teaching materials that have been developed are worthy and can be used without revision.

### 3. Results of Validation of Teaching Materials by Teachers

The calculations from the validation results can be seen as follows:

$$\text{Equality} = \frac{\sum \text{score is obtained}}{N_{\text{maximum score}}} = p = \frac{42}{4} = 10,5$$

Next, to calculate the feasibility index, the data is calculated as follows:

$$\text{Feasibility index} = \frac{\text{average of all aspects}}{\text{highest scale of assessment}} \times \frac{4,22}{4} = 1,05$$

Based on the results of research on the quality of teaching materials, it can be seen that the assessment of each aspect evaluated by expert lecturers on local wisdom-based teaching materials obtained an average of 4.2 or very good category, this can be concluded that the teaching materials that have been developed are worthy and can be used with minor revisions.

This research is in line with research conducted by Mudiartana et al., (2021) [44] where, in this research, results were obtained in the form of this development producing digital teaching materials with local wisdom based on Android on hot topics and their transfer for class V elementary schools which are very valid and very practical. The novelty of this research from previous research is that this research presents an



innovative design of teaching materials that combines modern knowledge about nutrition with local wisdom, encouraging cultural preservation and the next generation being aware of the importance of healthy eating.

The impact of this research is that the integration of local wisdom in learning increases awareness and appreciation for local culture and traditions, encouraging their preservation for future generations. This teaching material raises awareness and concern for personal health and the environment, encouraging the younger generation to become agents of positive change in their communities. So it can be concluded that the design of teaching materials based on local wisdom has the potential to produce significant long-term impacts in various aspects, including health, culture, education, economics and the environment [45]–[47]. Its sustainable implementation can provide benefits for present and future generations.

The design of local wisdom-based teaching materials for theme 9 "My Food is Healthy and Nutritious" has the potential to produce long-term positive impacts, such as a healthier generation, preserving culture, and improving the quality of education. However, it should be remembered that there are several limitations, such as data availability, teacher skills, costs, and diversity of local wisdom. Efforts to overcome these limitations, such as developing teacher training modules, providing digital platforms, and further research, need to be carried out to ensure successful implementation.

#### 4. CONCLUSION

Based on the research and development carried out by researchers, it can be concluded that the design of teaching materials entitled Development of Teaching Materials Based on Local Wisdom for Elementary/MI Class IV Theme 9 "My Food is Healthy and Nutritious" Sub-theme 1 "My Food is Healthy and Nutritious" refers to the development design ADDIE model uses only 3 of the 5 development stages, namely: analysis stage, design stage and development stage. The feasibility test of this local wisdom-based teaching material was carried out using a validation test with a validation sheet by two experts, namely lecturers and teachers, who stated that this teaching material was suitable and could be used in the learning process.

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