

Developing Teaching Material using Ambal Love as a Context to Promote Character Value of Students

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Abstract—This study aims to produce a set of learning material based on local wisdom in Maluku province and describe how the character value can be developed from the teaching and learning process. This is research using R & D type with formative evaluation. The technique of the data collection is documentation and test. The subjects were 25 students in second grade from SD Teladan Ambon. From the analysis of the documentation it can be concluded that (1) the set of learning material with using local wisdom especially using ambal love model as a context which are valid and practical; (2) based on the development process showed that the set of teaching material with using local wisdom especially ambal love model as as context can promote character value of second grades students such as love regional food, fair and be honest.

Keywords—*development research, local wisdom, ambal love, character values*

I. INTRODUCTION

The Government of Indonesia gives serious attention to character education by integrating it into formal education in schools through *intra-curricular*, *co-curricular* and *extracurricular* activities. Furthermore, in the Presidential Regulation [1] it is explained that, one of the objectives of Strengthening Character Education (PPK) is to develop a national education platform that puts character education as the main focus in the implementation of education for students with the support of public involvement through formal, non-formal and informal education by pay attention to the diversity of Indonesian culture. The rationale for character education in the national education curriculum is expressed in the Policy Brief [2] of the Indonesian Ministry of Education and Culture, namely (1) disorientation and not yet embraced the values of Pancasila; (2) limitations of integrated policy tools in realizing Pancasila values; (3) shifting a number of ethics in the life of the nation and state; (4) waning awareness of national cultural values; (5) threat of national disintegration; and (6) weakening of the nation's independence.

Character education is closely related to components: traditional moral knowledge, moral reasoning, compassion and altruism, and moral tendencies. Lickona [3] and Kirschenbaum [4] describes moral tendencies including conscience, loving kindness, self-control, humility, moral habits, and goodwill. Good character includes three main components, namely: moral knowing, moral feeling, moral action. Furthermore, knowing morality includes: moral awareness, knowing moral values, perspectives, moral reasoning, decision making and knowledge about oneself. Moral feeling includes conscience, self-esteem, empathy,

loving kindness, self-control, and humility. The moral action includes competence, goodwill, and habits.

In Indonesia, character education is a valuable education derived from the culture of the Indonesian nation itself in order to foster the personality of the young generation so that it becomes better [5]. While the character is a behavior based on values based on religious norms, culture, law, customs, and aesthetics [6]. Thus, character education must be sourced from the national culture to shape Indonesian people into valuable individuals in their lives, based on norms, so as to produce Indonesian people who have life skills that are important for the development of their lives.

Various research results are related to the role of the character and its relationship to student achievement. Davidson et al. [7] found the role of characters in all types of school performance, both curricular and non-curricular. Benninga et al. [8] also found that there is an association between the implementation of character education and academic achievement in elementary schools in California, United States. Furthermore, they also concluded that elementary schools that carry out serious and well-designed character education tend to have high academic performance.

Along with the implementation of character education in Indonesia, several issues concerning local wisdom are widely discussed by various parties, including education planners and managers. The local wisdom can be used as a nation's strength to strengthen students' character. The values of local wisdom can be used as a basis for character education in schools. Local wisdom is often conceptualized as local wisdom, local knowledge, or local intelligence.

Local wisdom is a term often used by experts to represent a system of values and norms that are organized, held, understood, and applied by local communities based on their understanding and experience in interacting and interacting with the environment [9]. Local wisdom is the order of life values that are passed on from one generation to another in the form of religion, culture or customs in the social system of society. The presence of local wisdom is the result of the process of adaptation to the environment and occurs from one generation to another in a very long period of time. Thus, local wisdom is an important characteristic that is both concrete and abstract, originating from the past and needs to be preserved because it contains moral values and experience or the truth of life.

Indonesia as an archipelagic country, especially Maluku which is called the province of a thousand islands that has many traditions and local values. It can be a very important

force in the framework of the survival of the nation and state in the era of globalization and the current information age. Education based on local wisdom is capable of giving meaning to the Indonesian community lively hoods. The idea of developing local wisdom-based education is based on the belief that each community has certain strategies and techniques developed to carry out life according to its context. Value-based education is needed to develop moral quality, personality, attitudes of togetherness which are increasingly eroded by the times [10].

Mathematics learning as part of education in schools must also integrate character education in learning by using various local wisdom in Maluku. This study aims to design a Mathematics learning model using the local wisdom of Maluku ('ambal love') to strengthen the character of elementary school students. With the local wisdom of "ambal love," students are taught to know and love traditional Maluku food and instill character values that have begun to fade. Cultural values that have been considered both in the form of local wisdom are used as a material or sources of educational material.

II. RESEARCH METHODS

This research is an R & D model to produce learning tools to strengthen students' character using Maluku local wisdom in fractional material for elementary school students. The development procedure used was the development plan of Plomp [11] which consisted of three stages, namely: (1) preliminary research: needs and context analysis, review of literature, development of a conceptual or theoretical framework for the study, (2) development or prototyping phase: iterative design phase consists of iterations, each being a micro-cycle of research with formative evaluation as the most important research activity aimed at improving and refining the intervention, (3) assessment phase: summative evaluation to include whether the solution or intervention meets the pre-determined specifications. As also this phase often results in recommendations for improvement of the intervention, we call this phase semi summative.

Learning tools that have been compiled are validated by 3 experts and then readability tests on 2 teachers, then a trial on a small class of 7 students. Next, field trials were conducted in class with a total of 32 students.

III. RESULTS AND DISCUSSION

Learning device development products in this study include Learning Plans, Teaching Materials, and Student Worksheets. The results of the assessment data analysis of the product are as follows:

A. Preliminary Research Phase

The results of the initial study indicate that there are two serious things that must be developed through education including learning mathematics such as; (1) Character values in the framework of Indonesian 'culture' specifically the Moluccan community have declined considerably, especially for children including elementary school students, (2) Maluku has various local wisdom, such as traditional and cultural food and songs that can be used in mathematics learning. However, based on the results of observations and interviews, many students almost forgot their local wisdom.

Students are more aware of the culture of other regions in Indonesia and even foreign cultures rather than Maluku's local wisdom. Therefore, based on the results of the identification, the researcher decided to design a learning model based on Maluku's local wisdom. Students need learning that is more focused on local wisdom to strengthen their character.

At this stage, researchers formulate a research plan, including the preparation of the skill needed in conducting the research, the formulation of the objectives to be achieved, and the steps to develop a learning model based on the results of the initial analysis. Researchers decided to use "ambal love" model to teach fractions and strengthen the value of character honest, fair, diligent, and hard work. Ambal love model is one of the local wisdom in the form of traditional Maluku food, specifically Southeast Maluku (Kei). At this stage, researchers prepare learning tools in the form of Learning Implementation Plans (RPP), teaching materials and students assessment (LKS) that are integrated into thematic learning and assessment instruments for the three learning tools. In addition, researchers also prepare "ambal love" to be used as "media" in explaining fractions and investigating the manufacturing process.

B. Development or Prototyping Phase

This stage aims to produce a prototype by validating all learning devices by giving it to experts then giving students the legibility test. Data regarding the validity of the learning model was collected through an assessment format conducted by three experts. Then revised based on their suggestions.

TABLE I. RESULTS OF EXPERT VALIDATION

Assessed device	Validator Assessment			Average	Qualification
	I	II	III		
Lesson Plans	4	4	4	4	Very good
Teaching Materials	3	3	4	3.33	Good
Student Worksheets	3	4	4	3.66	Very good
Average General Assessment				3.77	Very good

The data in Table 1 shows that the assessment of teaching material products as a whole is in the range of 3 to 4 which means being in good to very good qualifications so that it is continued for the readability test by the teacher. Moreover, readability test results indicate that there are several sentences in the teaching materials that need to be corrected and add an explanation in the teaching material so that students can understand well. After repairs, the prototype learning material then it continued with a trial in a small class with a total of 7 students. During the trial of the small class, it was found that there were some parts of the teaching material that was unclear and some of the questions on the LKS were not understood by the students. Therefore, improvements were made before field trials. Next, the field trial aims to determine the practicality of the developed learning model. In the field trial, three observers played a role in observing each learning process by paying attention to the activities of the teacher and students. Table 2 shows the results of field trials.

TABLE II. FIELD TRIAL RESULTS

Meeting	Teacher's Activity	Students' Activity	Teacher's Response	Students' Response
First	90.9	88.81	94	90
Second	85.3	86.57	86	93
Third	90.1	79.81	91	87

IV. DISCUSSION

Ambal love model is traditional Maluku food, especially Southeast Maluku, specifically the Kei Islands. It is called love because the shape of each object if broken down resembles love, and its full shape is 'rather round.' The form of 'ambal love' like Fig. 1.

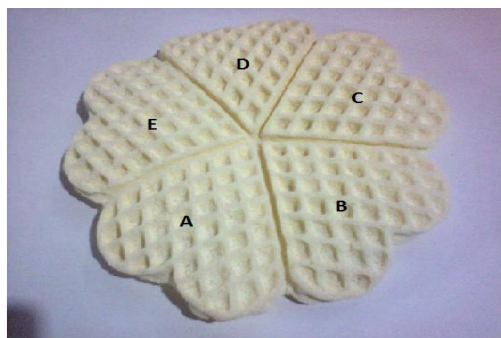


Fig. 1. "Ambal Love" intact

Ambal love is made from flour derived from poisonous cassava. This cassava must be processed by means of shredding and then dried to get the flour then burned in a shaped iron mold that will be processed into 'ambal love.' The processing of ambal love cake must be done diligently and carefully so that all poisons in cassava are removed and flour is completely dry. The character values obtained from the 'ambal love' processing process are perseverance, hard work, thorough, and creative. These values are instilled in students when they hold "ambal love" as a model of learning and pay attention to it. The teacher explains this traditional food by emphasizing that everything that is done seriously will give satisfying results.

'Ambal love' is also used in mathematics learning on the concept of fractions, fractions of value and the sum of fractions with the same denominator. This is possible because there are 5 parts in one al ambal love 'whole. Part A, B, C, D, and E (Fig. 1) are called fractions, and the magnitude of each part is $\frac{1}{5}$. When students hold 'ambal love' and solve it to form $\frac{1}{5}, \frac{2}{5}$ fractions and so on, it can be seen that students can quickly understand the concept of fractions, even for mixed denominations with the denominator 5. Students can easily deduce that fractions are the same part of the whole.

'Ambal love' serves as a bridge for elementary school students in understanding the concept of fractions. This bridge is needed because mathematics is a very abstract concept while elementary school students are still in the concrete and even concrete stages of thinking [12]. Abstract mathematical problems (containing symbols, symbols, and formulas) will actually make elementary students feel bored and not interested in learning mathematics so that their mathematics learning outcomes are always low, conversely learning with the context of local wisdom helps students understand abstract concepts. According to Freudenthal

[13], these objects around students can give them the opportunity to explore and build mathematical concepts. That is, mathematics must be related to the real world, close to students and related to human social life.

Local wisdom is used as a context in learning mathematics. Learning using 'ambal love' provides opportunities for students to be guided and rediscovered the concept of fractions without having to be explained by the teacher [14]. The rediscovery process arises by changing the contextual problem (ambal love model learning) into a mathematical problem (horizontal mathematization) and then making the problem structure at different levels. This is called progressive mathematization, which is the process of rediscovering mathematical understanding, knowledge, and procedures [15]. Horizontal mathematical processes occur by generalizing local wisdom and love concepts to a more general form, such as Fig. 2.

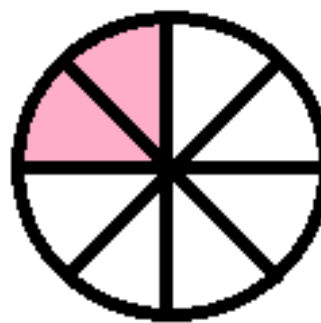


Fig. 2. General Form of Ambal Love

Generalization will help students to solve fraction problems without having to hold or work with ambal love cake. The learning process by using ambal love cake to find the concept of fractions has been stored in students' memory so that it can easily be generalized to abstract fractions. The use of the context of "ambal love" and a number of activities that emphasize the ability to think and argue through discussions that are intertwined with fellow students or teacher guidance enable students to solve fractions that are more common.

The argumentation of elementary school students is still dominated by inductive arguments [16]. The process of constructing the concept of fractions must be based on something tangible, which can be seen and touched. Students need fractional examples obtained from the context of local wisdom "ambal love" to understand the concept of fractions.

When learning fractions, the teacher emphasizes honest, fair and responsible character. Like the fraction concept which is the same part of a whole, the teacher teaches moral values that must be possessed. The value of unity is also taught by analyzing the parts of 'ambal love' which still have the same taste.

V. CONCLUSION

Learning using the context of Maluku local wisdom such as 'ambal love' provides several benefits for students: (1) Students can construct their own concept of fractions, and the teacher only acts as a facilitator, (2) Students learn to build arguments and present them in group discussions and class discussions, so confidence arises and the knowledge

they construct is stored for a long time in their memories, (3) Students can love the local wisdom of Maluku and preserve it, (4) Students can practice the character values instilled during learning, values contained in various wisdoms. local Maluku, so they can become Indonesian human beings with good character in the future.

The resulting learning tools proved to be valid, and practical and can be used in other schools in Maluku. The teacher can use the device that has been produced as a teacher guide and develops it for other learning materials. This learning model that has been developed if used correctly will help students' mathematics, also strengthen their character.

REFERENCES

- [1] P. Republik Indonesia, "Peraturan Presiden Republik Indonesia Nomor 87 Tahun 2017 Tentang Penguatan Pendidikan Karakter." Jakarta: Lembaran Negara Republik Indonesia Tahun, 2017.
- [2] P. Brief, "Pendidikan Karakter untuk Membangun Karakter Bangsa," Jakarta Direktorat Jenderal Pendidik. Dasar, 2011.
- [3] T. Lickona, *Character matters: How to help our children develop good judgment, integrity, and other essential virtues*. Simon and Schuster, 2004.
- [4] H. Kirschenbaum, *100 Ways To Enhance Values and Morality in Schools and Youth Settings*. ERIC, 1995.
- [5] K. P. Nasional, "Bahan Pelatihan Pengembangan Pendidikan Budaya dan Karakter Bangsa." Pusat Kurikulum. Jakarta, 2010.
- [6] K. P. Nasional, "Panduan pelaksanaan pendidikan karakter," Jakarta *Badan Penelit. dan Pengemb. Pus. kurikulum dan perbukuan*, 2011.
- [7] M. Davidson, T. Lickona, and V. Khmelkov, "Smart and good schools," *Handb. moral character Educ.*, pp. 370–390, 2008.
- [8] J. S. Benninga, M. W. Berkowitz, P. Kuehn, and K. Smith, "The relationship of character education implementation and academic achievement in elementary schools," *J. Res. character Educ.*, vol. 1, no. 1, pp. 19–32, 2003.
- [9] L. Agung, "The development of local wisdom-based social science learning model with Bengawan Solo as the learning source," *Am. Int. J. Soc. Sci.*, vol. 4, no. 4, pp. 51–58, 2015.
- [10] D. N. Aspin and J. D. Chapman, *Values education and lifelong learning: Principles, policies, programmes*, vol. 10. Springer Science & Business Media, 2007.
- [11] T. Plomp, "Educational design research: An introduction," *Educ. Des. Res.*, pp. 11–50, 2013.
- [12] L. C. Koch, "Revisiting mathematics," *J. Dev. Educ.*, vol. 16, no. 1, p. 12, 1992.
- [13] H. Freudenthal, *Revisiting mathematics education: China lectures*, vol. 9. Springer Science & Business Media, 2006.
- [14] M. Van den Heuvel-Panhuizen, "Realistic Mathematics Education as work in progress," *Theory into Pract. Math. Educ. Kristiansand, Norw. Fac. Math. Sci.*, 1998.
- [15] K. P. E. Gravemeijer, *Developing realistic mathematics education: Ontwikkelen van Realistisch Reken/wiskundeonderwijs*. CD-[beta] Press, 1994.
- [16] S. Ryu and W. A. Sandoval, "Improvements to elementary children's epistemic understanding from sustained argumentation," *Sci. Educ.*, vol. 96, no. 3, pp. 488–526, 2012.