



Development of thematic learning modules based on West Papuan local wisdom at SDIT Mutiara Insan Sorong regency

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ARTICLE INFORMATION

History:
Received 15 May 2024
Revised 21 September 2024
Published 1 March 2025

Keywords:

Module, Thematic, West Papua local wisdom, My neighborhood



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ABSTRACT

This study is expected to produce a thematic learning module based on West Papuan local wisdom on the subtheme of the environment where I live in grade IV SD that is valid, practical, and effective. The research method used is Research and Development (R&D) using a modification of the 4-D model to 3-D with the stages of define, design, and develop so that it focuses on the development stage. The research findings show: 1) This West Papua local wisdom-based thematic learning module shows a valid category with an average score of 84.91% based on validity test data from material expert validators, language experts, and design experts so that it is feasible to use. 2) Based on the average score of 90.55% of the practicality test results from the learner response questionnaire, this West Papua local wisdom-based thematic learning module shows a very practical category. 3) This West Papua local wisdom-based thematic learning module is in the high category because it averages 0.77 based on the effectiveness test data obtained through the n-gain test between the pre-test and post-test results. Based on this, the West Papua local wisdom-based thematic learning module is valid, useful, effective, and suitable for learning.

How to cite: Purnama, I.A, et al. (2025). Development of thematic learning modules based on West Papuan local wisdom at SDIT Mutiara Insan Sorong regency. *Jurnal Pemikiran dan Pengembangan Sekolah Dasar (JP2SD)*, 13(1). Doi:<https://doi.org/10.22219/jp2sd.v12i2.30825>

INTRODUCTION

The 2013 curriculum contains learning known by the wider community as thematic learning. This thematic learning includes various competencies that are integrated into multiple similar learning contents so that they become and are adapted to the development of students. The Ministry of Education and Culture has compiled the 2013 curriculum teaching materials in line with that. These teaching materials have made it easier for teachers to carry out the teaching and learning process (Alba & Akbar, 2019) addition,



the benefits of teaching materials include making it easier for students to obtain the required competencies (Murti & Lazuardi, 2019). Learners achieving predetermined competencies will also achieve learning objectives (Andini & Supardi, 2018). Toding Bua and Ady Saputra (2023) said that in preparing for learning, teachers should choose and develop teaching materials by paying attention to the environmental and cultural conditions where students are.

Integrating local wisdom into learning is one of the activities that students can do while learning (Khusna et al., 2018). According to Rahmatih (2020), the community widely interprets local wisdom as a good value, moral, and culture. Njatrijani (2018) argues that local wisdom is a way of life that comes from the habits used by people in the area to meet life's needs. As a result, teachers must be able to incorporate local culture into learning. In addition, the material will be easier to understand when they are familiar or close to the learners (Utami et al., 2023).

From this, education must be by the culture of the Indonesian people. Hidayat (2018) argues that education in Indonesia must be rooted in Indonesian culture because it has noble values. This can happen because local wisdom functions as a support and strengthening for the character education of Indonesian society (S. Nuraini et al., 2023). Local wisdom and education can be incorporated into learning modules to support the learning process provided by a teacher (Sari et al., 2023) as well as local wisdom found in West Papua Province, which is diverse and can be integrated into learning content, ranging from traditional dances, songs, philosophy, geography, batik, traditional houses, history and tourist attractions. By raising local wisdom in the local area, students can learn about local culture, and learning is more meaningful. Therefore, students must be introduced to local wisdom in their area, one of Indonesia's national cultures.

However, in reality, in its application, thematic education often does not go according to plan. Implementing thematic learning in schools often has several obstacles, including less varied teachers (Novika Auliyana Sari et al., 2018). Teachers and students only use learning resources limited to thematic teaching materials and LKPD that the School has prepared. The limited learning resources teachers use sometimes find it difficult to connect concepts between subjects, resulting in students finding it difficult to understand the material they must master (N. Nuraini & Abidin, 2020). To support a good learning process, using various sources, teaching materials, and media is needed in thematic learning (Sasmita & Fajriyah, 2018).

Based on preliminary research findings information collected from interviews with grade IV teachers of SDIT Mutiara Insan Sorong Regency on November 30, 2022, researchers obtained information that schools only use books published by JSIT (Integrated Islamic School Network) as a learning resource centre whose material is not much different from thematic books published by the Ministry of Education and Culture. Teachers argue that the learning content in thematic books on the subtheme of my living environment used is not yet based on the local wisdom of the Sorong Regency area. Moreover, most of the teaching staff are immigrants from the Javanese tribe. So, the teacher has difficulty delivering materials related to West Papuan local wisdom, such as folklore, Papuan language, and crafts from West Papua, which are not listed in the thematic book. So, the students taught are also considered less knowledgeable about their region.

In connection with these problems, it is necessary to develop thematic learning modules based on West Papuan local wisdom that are valid, practical and effective so that later, they can be used properly to help teachers when teaching and students understand

the learning process. This local wisdom-based learning module is the right solution to become a learning resource for gaining knowledge and understanding of the material being taught. Because local wisdom is closely related to the student's cultural environment activities, problems related to local wisdom will be easily solved by students (Pangestika et al., 2020). Therefore, it is expected that by studying, students will grow into a generation that appreciates and is responsive to the local advantages of West Papua Province, especially Sorong Regency.

METHODS

Research and Development (RnD) is the method chosen in this research. The Research and Development (RnD) method can be used in making certain products and evaluating their feasibility. The research design that will be applied refers to using the model developed by S. Thiagrajan co, mainly called the 4-D model. Researchers modified the 4-D research model into 3-D (Define, Design, Develop). The modification of the research model was carried out in order to save the limited time and costs required (Safitri, 2019). In this study, researchers wanted to develop a thematic learning module based on West Papua local wisdom in the subtheme of the environment where I live in grade IV SD. The 3D stage development procedure can be described as follows:

1. Define

The beginning-end analysis, learner analysis, task analysis, concept analysis, and specification of learning objectives are all carried out in this section by the researcher. This stage aims to find the problems in the research site for teachers and students at SDIT Mutiara Insan Sorong Regency. Then analyze the KI and KD in the 2013 curriculum to formulate indicators and learning objectives.

2. Design

After the next stage of definition, the researcher designs the product design. Researchers make product designs that will later be used as thematic learning modules based on West Papuan local wisdom.

3. Develop

At this stage of development, researchers will make products, namely thematic learning modules based on West Papua's local wisdom. Suggestions and input from expert validators and student trials will be used to develop the module. The data collection technique used in this study is quantitative and quantitative data. Quantitative data is obtained from the results of questionnaires and student tests. At the same time, qualitative data is obtained from the suggestions of validators. The distribution of student response questionnaires and tests will be tested on class IV students, totalling 15. This research was conducted in class IV SDIT Mutiara Insan Sorong Regency from May 15 to May 29, 2023.

The research instruments researchers use are validation sheets (material, language, and design), multiple-choice tests for students, and questionnaires. The data's validity, practicality, and effectiveness will be evaluated using data analysis techniques in this research and development. Researchers used a modified Likert scale of 1-6 in this study. According to Vikmawati(2019), using likert scales ranging from 1-6 is necessary so that there is no middle choice and respondents can choose a clear attitude and perception of the statement.

Table 1. Gain Index Interpretation

No	Criteria	Score
1	Strongly Agree	6
2	Agree	5
3	Somewhat Agree	4
4	Somewhat Disagree	3
5	Disagree	2
6	Strongly Disagree	1

(Source: Janah, 2021)

Module Validity Data Analysis Technique

Validity test data is obtained through suggestions and input from material, language, and design expert validators. The following formula from Murtiana et al. (2020) can be used to conduct a descriptive analysis of the validity assessment data:

$$NP = \frac{R}{SM} \times 100$$

Description:

NP = Percent Value

R = Initial score obtained

SM = Maximum score of the highest answer

100 = Constant number

Module Practicality Data Analysis Technique

The practicality test data is obtained from the results of student respondents through questionnaires. The response data will then be accumulated using the following formula (Pratiwi et al., 2021):

$$Vp = \frac{TSE}{TSH} \times 100$$

Description:

Vp = Practicality percentage

TSE = Total Empeiric Score

TSH = Total Maximum Score desired

100 = Constant numbers

The criteria in the following table are used to adjust the validity and practicality categories of the results that have been obtained

Table 2. Categories of Module Validity and Practicality

Achievement Value (Score)	Validity Category	Description
25.00-40.00	Invalid	Unusable
41.00-55.00	Less valid	Unusable
56.00-70.00	Valid enough	It can be used after major revisions
71.00-85.00	Valid	Usable with minor revisions
86.00-100.00	Very valid	Very good to use

(Source: Pradana et al, 2023)

Data Analysis Technique for Module Effectiveness

The average measurement data of the *gain* test provides an overview of the thematic learning module data's effectiveness. After obtaining the *pre-test* and *post-test* values, the *n-gain test* stage will then be carried out, which is formulated as follows. Further classification of the *n-gain test* results is based on the following criteria:

$$N \text{ gain} = \frac{\text{Skor tes akhir} - \text{skor tes awal}}{\text{Skor Maksimal} - \text{skor tes awal}}$$

Table 3. Gain Index Interpretation

No.	Coefficient Interval	Criteria
1	$g < 0,3$	Low
2	$0,3 \leq g < 0,7$	Medium
3	$g \geq 0,7$	High

RESULTS AND DISCUSSION

This research produces products in the form of thematic learning modules based on West Papua Local Wisdom on the subtheme of the environment where I live in grade IV SD, which are valid, practical, and effective and are carried out with development procedures with the 4D model modified into 3D (Define, Design, and Develop).

This defined stage is divided into several parts, as follows:

1. Final initial analysis: at this stage, the researcher makes observations to identify what problems occur at the school. This aims to find problems in class IV SDIT Mutiara Insan Sorong Regency.
2. Learner analysis: at this stage, researchers make observations by observing students to get information about the characteristics of students.
3. Task analysis: At this stage, the researcher conducts mapping or formulation of learning materials by analyzing Core Competencies (KI) and Basic Competencies (KD). This is because as a reference for compiling the format of the developed West Papua local wisdom-based thematic learning module.
4. Concept analysis: At this stage, the researcher will identify the things presented in the developed West Papua local wisdom-based thematic learning module. The first step in conducting a concept analysis is referring to the thematic printed book used at SDIT Mutiara Insan Sorong Regency, formulating indicators of achievement of the basic learning competencies and collecting that supports the preparation of West Papua local wisdom thematic learning modules.
5. Specification of Learning Objectives: at this stage, the researcher, after getting the objectives of task and concept analysis, will be converted into learning objectives. The basic skills listed in the 2013 curriculum learning book will also be taken because it is the basis for creating learning objectives.

Then, enter the design stage. At this stage, the researcher collects the sources needed and is interrelated with the material in the developed module. At this stage, the researcher takes several steps, namely by compiling research tools, selecting modules that will be adapted to the characteristics of students, and selecting the format used in making modules so that they can facilitate and help students to learn them, after that the next step is to design learning devices that suit the needs of students.

After the design stage is completed, the next step is the development stage. In this developing stage, researchers will make the final form of thematic learning modules based on West Papua local wisdom after going through revisions based on input from material expert validators and design experts used to see the validity level of the module and also through data from the results of student trials to see the level of effectiveness.

Testing the validity level of the product is through the test results of experts, namely material, language, and design experts. Meanwhile, to test the practicality of the module through student respondents and for the effectiveness of test results through the n-gain test results from the pre-test and post-test.

Module Validation

The following is a view of the module that has been designed and tested.



Figure 1. Display of Thematic Learning Module Based on West Papua Local Wisdom

After the researcher has successfully made the product at the development stage, the validation of material, language, and design experts will be carried out. Module assessment provides thematic learning modules based on West Papua local wisdom developed and validation assessment sheets for expert validators. The following table displays the results of module validation by expert validators:

Table 4. Results of Expert Validator Assessment of the Module

Validator	Total	Category
Material Expert	83,33 %	Valid
Linguist	83,33 %	Valid
Design Expert	88,09 %	Very Valid
Average	84,91 %	Valid

Based on Table 4 shows that the West Papua local wisdom-based thematic learning module that has been developed gets a value from material experts of 83.33%, so that it is in the "valid" category, validation from linguists with a value of 83.33% with a "valid" category, and design expert validation with a value of 88.09% so that it is in the "very valid" category. These results show that the overall thematic learning module, including material, language, and design, is "very valid" with a percentage value of 84.91%. Table 2. shows that the score range between 71.00 and 85.00 is considered valid (Luthfi et al., 2022). After being assessed by validators and proven to meet the valid criteria, the West Papua local wisdom-based thematic learning module that has been developed is feasible and can be used (Fatmawati et al., 2021). The average percentage category shows that thematic learning modules developed by researchers based on West Papuan local wisdom can be used in the field. The results of the validity of the learning module will have an impact on the quality of the learning process, which is reflected in the learning outcomes (Lestari, 2023).

Module Practicality

After the module is declared valid by experts, the module will be tested for practicality using a student response questionnaire. Data analysis for the practicality of this module was carried out on 15 students. The results of the learner response questionnaire can be seen in the following Table 5.

Table 5. Results of the Learner Response Questionnaire

No.	Aspects observed	Total Score	Percentage Score	Description
1	Learning with modules makes me enthusiastic about learning	85	94,44%	Very Practical
2	I can understand all the contents of this module well.	74	82,22%	Practical
3	I used my experience to solve the questions in the module.	82	91,11%	Very Practical
4	This learning makes me enjoy discussing with group members to solve problems.	87	96,66%	Very Practical
5	Learner activities and exercises in the module help me to develop my knowledge	82	91,11%	Very Practical
6	I gained new knowledge by following a series of activities in the module	81	90%	Very Practical
7	The presentation style of this module is boring	79	87,77%	Very Practical
8	The tasks or exercises in this module are too difficult.	81	90%	Very Practical
9	There is no material that I understand	78	86,66%	Very Practical
10	The content of this module is useful for me	86	95,55%	Very Practical
Average Learner Response			90,55%	Very Practical

The overall percentage result of the 10 aspects above obtained from distributing response questionnaires to fourth-grade students of SDIT Mutiara Insan Sorong Regency is 90.55%; the value is included in the "very practical" category, proving that students give a positive response. Learners are very enthusiastic, very happy, and active during the learning process using the thematic learning module. When converted to the assessment criteria, the average value is included in the very practical category to use (Oktaviana et al., 2022). The categorization refers to Table 2, as Pradana et al. (2023) explained in their table, that if the learner's response reaches 86-100%, it is categorized in a very practical assessment. This can be considered a very positive response (Salsabila et al., 2023).

The criteria for thematic learning modules based on West Papua local wisdom can be achieved with a very practical category. Developing thematic learning modules based on West Papuan local wisdom can be a learning tool for students to understand subtheme one material, "the environment where I live". In addition, the thematic module can increase students' interest in learning because the learning module is developed with an attractive design for students. The material and activity questions are systematically designed by paying attention to the use of sentences that are easily understood by students so that the learning objectives that have previously been made can be achieved optimally (Saputri et al., 2023).

This statement is supported by Rahma Febriani et al. (2020) opinion, which says that an approach based on local wisdom will positively influence understanding and improve student achievement results. The selection of local wisdom content is a very important aspect. Through applying local wisdom in the learning process, educators will increasingly realize the importance of local wisdom-based learning as an effort to preserve culture. Teachers are expected to develop students' academic abilities and help

students become individuals who love and appreciate local culture and diversity (Pamenang, 2021).

Module Effectiveness

The n-gain test was used to analyze the data to determine whether or not (Wahab, A., Junaedi & Azhar, 2021) the use of thematic learning modules based on West Papua local wisdom. The following table displays the results of the n-gain test analysis:

Table 6. N-Gain Test Analysis

	N	Minimum	Maximum	Mean	Std. Deviation
Ngain_Score	15	.60	1.00	.7779	.11959
Ngain_Percent	15	60.00	100.00	77.7944	11.95889
Valid N (listwise)	15				

According to table 6. SPSS 26 data presented above, the average n-gain test results for the pre-test and post-test of students is 0.77, so it is very effective or feasible to use. According to Savitri and Setiawan(2018), the effectiveness level is considered high when the $n\text{-gain} \geq 0.7$. This shows that students experience significant improvement after learning (Febrianti, 2021). This is also in line with the opinion of Purwasi and Fitriyana (2020), who said that the effectiveness of a teaching material product is considered achieved when it has reached the standard level of achievement or classical completeness set and received positive responses from students. These results prove that using thematic learning modules based on West Papua local wisdom is very effective and interesting for learning.

In explaining the results above, research on developing thematic learning modules based on West Papuan local wisdom at SDIT Mutiara Insan Sorong Regency shows that the modules are valid, practical, and effective. The module development process carried out by researchers is through the stages of defining, designing and developing. The define stage includes preliminary end and learner analysis to identify problems in class IV SDIT Mutiara Insan Sorong Regency. At the design stage, researchers collected the sources needed and designed learning tools that were to the needs of students. While in the development stage, researchers made the final form of thematic learning modules based on West Papua local wisdom after going through revisions based on input from material, language, and design expert validators.

The module validity results were evaluated by assessing material, language, and design expert validators. The West Papua local wisdom-based thematic learning module received a validity value from material experts of 83.33%, language experts of 83.33%, and design experts of 88.09%. The results of the validity of the module if converted into the valid category. Meanwhile, the results of the practicality test showed that this module fell into the "very practical" category with an average score of 90.55%. The assessment is based on the percentage scale of feasibility according to Pradana et al. (2023), where 86%-100% has a very valid category, 71%-85% has a valid category, 56%-70% has a fairly valid category, 41%-55% has a less valid category, 25%-40% has an invalid category. In addition, the effectiveness test results show that this module falls into the "very effective" category with an average score of 0.77. This is based on the coefficient interval from Ningrum (2020), where $g \geq 0.7$ is in the high category, $0.3 \leq g < .7$ is in the medium category, and $g < 0.3$ is in the low category. The results that have been obtained show that this thematic learning module is feasible and can be used in the learning process (Melihayatri, 2021).

According to the research findings, using thematic learning modules based on West Papuan local wisdom as a learning resource for students that have been developed is very effective. Using thematic learning modules based on West Papuan local wisdom can also improve student learning outcomes. The increase in learning outcomes can be seen through the results of the n-gain test on the pre-test and post-test conducted by students. In addition, students can easily understand the learning in the module, because the discussion uses examples relevant to students' lives (Safitri, 2019). In addition, students who use local wisdom-based learning modules can also be superior to students who do not use these modules in terms of understanding concepts, interest in learning and learning outcomes (Toding Bua & Ady Saputra, 2023). In addition, local wisdom-based modules can also introduce cultural diversity and local values that are important to maintain and develop in the context of education (Lestari, 2022).

The resulting module focuses on material relevant to learners' lives while introducing the diverse cultures in Sorong Regency. So that students can love and increase their concern for the local culture in their area (Asrial et al., 2022). This statement is supported by research conducted by Fatmawati et al. (2021), which shows that implementing local wisdom-based thematic learning modules has benefits in helping students recognize local wisdom and economic, social, and cultural diversity in the surrounding environment. In addition, thematic learning modules based on local wisdom also help students imitate and practice the noble values contained in the local area (Lestari, 2023).

This can encourage an increase in students' interest in learning to be more active, critical, creative, independent, and able to construct the knowledge gained with conditions or events in the surrounding environment. Therefore, the development of thematic learning modules based on West Papuan local wisdom provides practical and effective benefits in the learning process and positively contributes to strengthening the relationship between formal education and local cultural heritage. This conclusion is supported by previous views asserting that the local wisdom-based approach positively impacts understanding and improving learner learning outcomes.

CONCLUSION

Based on the results and discussion of the development of thematic learning modules for grade IV SD subtheme 1, "The environment where I live", based on West Papuan local wisdom, it is found that this thematic learning module can assist students in learning and understanding learning materials well independently. This learning module contains cover, KD, KI, indicators, objectives, material, West Papua local wisdom pictures, and interesting exercise questions. The quality of the thematic learning module based on the assessment of several expert validators who are experts in material, language, and design obtained an average score of 84.91% "Valid". Based on the practicality test data, the results of the learner response questionnaire fall into the "very practical" criteria with an average score of 90.55%. In addition, based on the results of the n-gain test, the learning module is categorized as "very effective" with an average score of 0.77. Referring to the results of the data obtained, the advantages of the products resulting from the development of thematic learning modules for grade IV SD subtheme 1, "environment where I live," based on West Papua local wisdom are valid, very practical, and very effective when used in the learning process. However, because this research only focuses on development (Develop), it is hoped that further researchers can continue the research on thematic learning modules based on West Papuan local wisdom

until the Disseminate stage so that later the product can be disseminated and promoted so that evaluation can be carried out in order to measure the quality of further products which are then implemented to the real target.

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