

Development of Thematic Learning Materials Based on Scientific Approach on Indahnya Alam Negeriku Subtema in 4th Grade of Public Elementary School 094151 Sipanganbolon

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Abstract : *The aims of the study is to find out the development of thematic learning materials based on scientific approach. The data was conducted in the IV grade student of SD Negeri 094151 Sipanganbolon Academic Year 2018/2019, the sample taken from 30 students. The result shows that the feasibility assessment by material experts obtained an average score of 3.27 and 81.94% (Very good), the feasibility assessment by linguists obtained an average score of 3.56 and 89% (Very good), the feasibility assessment by design experts obtained an average score of 3.4 and 85% (Very good).*

Keywords : *development; thematic; learning materials; scientific approach*

I. Introduction

The learning process is an attempt to make students learn, so that the situation is an event of learning (event of learning) that is an attempt to change behavior from students. behavior can occur because of the interaction between students and their environment (Sunhaji 2014: 32). Furthermore, he explained that the occurrence of behavior changes depends on two factors, namely internal factors and external factors. Internal factors that affect student learning are the state / physical and spiritual condition of students. Including physical factors / physiological aspects such as tone (muscle tension), student body fitness, spiritual factors / psychological factors such as motivation, level of intelligence, talents and attitudes of students.

External factors that influence student learning include social and non-social environmental factors, including social factors such as teachers and schoolmates, non-social factors such as school buildings, school geography, family environment, weather and study time used. To realize the learning process and the learning atmosphere of students so that they actively develop their potential is inseparable from the important role of the teacher. Therefore, it takes a creativity and innovation in a teacher as an effort to shape the character of the nation and develop the potential of students in order to develop education in Indonesia.

As a teacher has the primary task of educating, teaching, guiding, directing, training and evaluating students on early childhood education, formal education paths, primary education and secondary education. It is laid out in the Republic of Indonesia Law No. 20 of 2003 on the National Education System (Sisdiknas) mentioned, that education is a conscious and planned effort to realize the learning atmosphere and learning process for learners to actively develop its potential self to possess religious spiritual power, self-control, personality, intelligence, noble akhlak, as well as skills necessary by itself, the people of the nation and State. Besides, to support the primary tasks curriculum teachers need to continue to develop, adjusting the external dynamics of educational institutions.

II. Review of Literature

2.1 Thematic Teaching Materials

The teaching materials are designed to disable monotonous methods of learning. The goal is to make changes from strengthening the response to knowledge acquisition for knowledge construction. In this context, a teacher provides an environment where each student can build his or her knowledge by interacting with his or her physical and social environment. Teachers must identify the need to develop new teaching and training materials. Teachers used to classify their materials according to the students' needs and requirements. A lesson plan is biased into one of the effective ingredients. Materials should teach students to study. Learners are oriented toward teaching and learning. Any syllabus or curriculum has learning goals, learning methods, etc. and teachers help learners to learn (Kumar 2017:25).

Teachers are required to follow the curriculum and have better creativity to understand the curriculum with the help of material. Teachers can adapt, add, and describe material to disseminate content to students and they need to monitor student progress and ultimately evaluate students. Teachers and students rely on material to understand content, and materials become centers of education. Therefore, it is important for teachers to know the correct method, to choose the best material for instruction and they also need to know how to make additives in the classroom, adjusting to the characteristics of the students (Kumar 2017: 28).

2.2 Concept of the Scientific Approach

Learning to use a scientific approach has a positive influence on teachers and students, because learning refers to the process of scientific thinking that trains systematic and holistic thinking. Because it not only sees learning as an estuary but further builds the linkage of knowledge reflected in process skills, to explore and describe subject matter, in addition to providing the widest possible opportunity for teachers to explore student knowledge according to their abilities and needs (Wahyono, 2017: 222) The scientific approach according to (Musfiqon and Nurdyansyah 2015: 50) is a basic concept that accommodates, inspires, strengthens, and underlies thinking about how learning methods are applied based on certain theories. Therefore many views state that the approach means the method, but it is different. In this approach a number of methods can be operationalized. For example, in applying a scientific approach operational methods of observation, methods of discussion, lecture methods, and other methods can be implemented. That is, the approach is broader than the learning method.

2.3 Learning activity

The activeness of students in the learning process will lead to high interaction between the teacher and students or with the students themselves. This will result in a fresh and conducive classroom atmosphere, where each student can engage his abilities as much as possible. Activities arising from students will also result in the formation of knowledge and skills that will lead to increased achievement. Learning activity is an activity carried out to produce changes in knowledge, attitudinal values, and skills in students as deliberately carried out exercises. It can be concluded that learning activities are all activities carried out in the interaction process (teachers and students) in order to achieve learning goals.

The activity intended here is the emphasis on students, because the existence of student activities in the learning process creates active learning situations, as stated by Natawijaya, Rochman (in the Ministry of National Education 2005: 31). Active learning is a teaching and

learning system that emphasizes student activity physically, mentally intellectually and emotionally in order to obtain learning outcomes in the form of a combination of cognitive, affective and psychomotor aspects ". The activeness of students during the teaching and learning process is one indicator of the desire or motivation of students to learn. Students are said to have activeness when found behavioral traits such as: often ask the teacher or other students, want to do the assignments given by the teacher, are able to answer questions, enjoy being given the task of learning, and so on (Rosalia, 2005: 4). The activeness of students in the learning process will lead to high interaction between the teacher and students or with the students themselves. This will result in a fresh and conducive classroom atmosphere, where each student can engage his abilities as much as possible. Activities arising from students will also result in the formation of knowledge and skills that will lead to increased achievement.

III. Research Method

The research on the development of this scientific-based thematic teaching material is planned to be held in the IV grade student of SD Negeri 094151 Sipanganbolon Academic Year 2018/2019. The execution time is March to April 2019 according to the schedule of learning the natural beauty of my country which is listed on the implementation plan of thematic learning in IV grade SD Negeri 094151 Sipanganbolon.

The population in this research and development were all for IV grade students of SD Negeri 094151 Sipanganbolon. The sample set in this study amounted to 30 students. The subject of this study was scientific thematic-based teaching material on the material of my country's natural beauty in the form of textbooks as companion teaching materials.

IV. Discussion

Based on the results of interviews with teachers in the field of study and observations carried out in IV grade of SD Negeri 094151 Sipanganbolon it is known that thematic teaching material for the subject matter of my country's natural beauty based sub-themes is not yet available, so that the learning carried out is still not maximized in improving student learning activities. Teaching materials used in learning in IV grade of SD Negeri 094151 Sipanganbolon in the form of scientific based textbooks.

Other problems that have not been resolved in teaching materials used so far are as follows (1) the lack of teacher creativity in developing textbooks on thematic learning; (2) the lack of teaching material contained in the 2013 curriculum; (3) the teaching materials available are not in accordance with the demands of the curriculum and the conditions of the local area.

4.1 Curriculum Analysis

The teaching material book is not yet in accordance with the demands of the 2013 curriculum, and the language aspects both oral and written have not been explained in detail. The incompatibility between learning indicators and the material contained in the student book. These nonconformities include the content of thematic learning. To provide an alternative solution to the problem above, the development of thematic teaching materials was carried out in increasing the activity of IV grade students in the sub-theme of the Beautiful Nature of My Country. The sub-theme was studied in more depth using scientific-based learning.

The results of preliminary observations and follow-up observations carried out by the researcher found that teaching materials were not in accordance with the characteristics of students, for example in terms of layout, use of letters, typography, readability, and simple illustrations that did not match the characteristics of students. The lack of teacher's lack of creativity in developing textbooks on thematic learning. Based on this analysis, researchers developed a thematic teaching material based on a scientific approach to the theme of the natural beauty of my country in improving the learning activities of IV grade students at SDN 094151 Sipanganbolon.

The development of thematic teaching materials is one solution to increase the activity of students in IV grade SD Negeri 094151 Sipanganbolon. Educators are demanded their creativity to be able to compile interesting teaching materials and in accordance with the level of needs of students in accordance with the learning outcomes, therefore, the use of learning materials must be considered properly. Scientific-based thematic teaching materials will be developed by researchers as teaching materials in the form of books.

Based on the needs analysis, it is necessary to develop teaching materials tailored to the needs of teachers and students. Therefore researchers develop teaching materials by determining core competencies and basic competencies that are in line with the 2013 curriculum requirements. The basic competencies that will be included in the teaching materials developed can be seen as follows

Table 1 Basic competencies used in learning

Kompetensi inti	Kompetensi dasar
<p>1. Accept, carry out and respect the teachings of the religion they adhere to.</p> <p>2. Demonstrate honest, disciplined, responsible, polite, caring and confident behavior in interacting with family, friends, teachers, and neighbors.</p> <p>3. Understanding factual knowledge by observing and asking questions based on curiosity about him, God's creatures and activities, and objects found at home, at school and at the playground.</p> <p>4. Presenting factual knowledge in clear, systematic and logical language, in aesthetic works, in movements that reflect healthy children, and deep</p>	<p>SOCIAL SCIENCES (IPS)</p> <p>3.5 Understanding humans in the dynamics of interaction with the natural, social, cultural and economic environment</p> <p>4.5 Tells people in the dynamics of interaction with the natural, social, cultural and economic environment</p> <p>Civic Education (PPKN)</p> <p>3.2 Understanding the rights and obligations as citizens in everyday life at home, school and society</p> <p>4.2 Carry out obligations as citizens in the home, school and community environment</p> <p>Indonesian Language (BI)</p> <p>3.4 Dig up information from adventure story texts about the environment and natural resources with the help of teachers and friends in oral and written</p>

actions that reflect the behavior of children of faith and noble character.	Indonesian by selecting and sorting the standard vocabulary 4.4 Presenting adventure story texts about the environment and natural resources independently in oral and written Indonesian texts by selecting and sorting the standard vocabulary
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At this design stage the researcher plans the product based on the results obtained. The results and design stages that have been carried out by the researcher are as follows:

a. Making Assessment Instruments

The textbook assessment instrument is in the form of a product feasibility questionnaire. This product feasibility questionnaire produces data sourced from learning material experts, design experts, linguists, teachers and students.

b. Product Design

The initial product of the instructional materials developed is teaching materials in the form of textbooks. In broad outline, they contain the following:

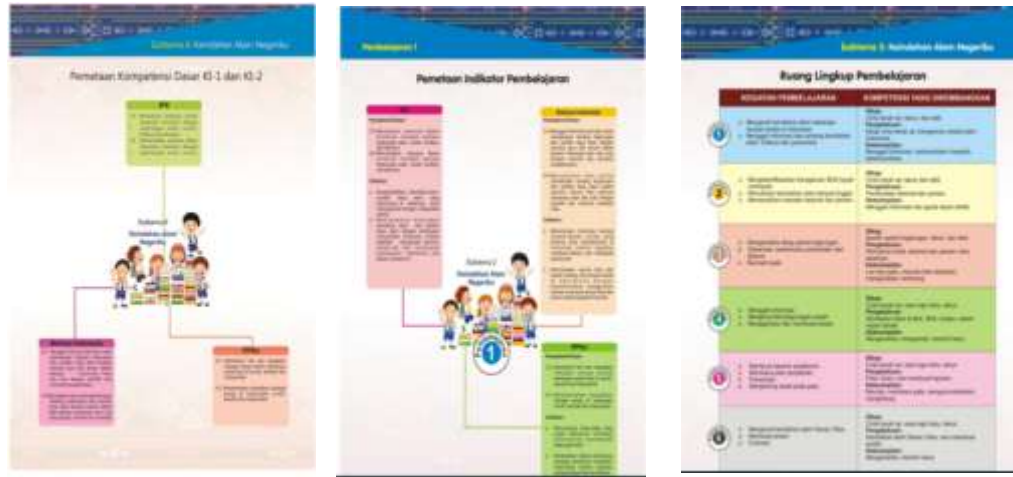
1. Cover Book



Figure 1: Cover of a Textbook

The textbook cover contains the identity of the textbook title, the target of the textbook user. The cover of the textbook also contains images of a combination of oceans, mountains and a collection of clouds that depict the beauty of the land of the country. This textbook is also combined with the characteristics of the Sumatran region namely songket motif. The purpose of making this image is so that the appearance of the textbook is more interesting and can represent the contents of the material in it. In addition to images, this text book is combined with colors that describe natural beauty which aims to stimulate students' enthusiasm in learning and reading the contents of textbooks. Color selection has also been consulted with design experts.

2. The beginning of the textbook



The first part of the textbook contains a mapping of basic competencies, mapping of learning indicators and scope of learning that aims to make it easier for students to understand the material and basic competencies to be learned from the textbook by looking at this mapping. text. Instructions for using textbooks are about how to use textbooks for both students and teachers.

3. Text content section



Figure 2 The Contents of a textbook

At this stage the researcher follows up on the design that has been carried out in the design stage. The researcher develops the teaching material with the following steps:

1) Pre writing

Assessment of material in teaching materials is carried out by collecting various information related to the subject matter from various sources such as textbooks, articles, reading books that are relevant to the material and other supporting sources. In addition, researchers also collected images related to the natural beauty of my country from researchers' documents or other sources

2) Drafting teaching materials

The drafting of teaching materials is carried out by compiling each part based on the BSNP indicator.

3) Development of assessment instruments

Product validation assessment instrument

The data obtained in this study were obtained through two stages: expert validation and product testing. Data validation of teaching materials obtained from evaluations carried out by 3 (three) validators consisting of material expert validators, linguists and material design experts. teach The following is the name of the validation of the teaching material developed.

Table 2 List of Learning Material Validator

No	Name	Information
1	Dr. Arif Rahman, M.Pd.	Material Expert
2	Dr. M. Okky Fardian Gafari, M.Hum.	Linguist
3	Fuad Erdansyah, M.Pd.	Design expert

Teaching materials that are declared feasible by material expert validator experts, linguists and book design experts can be implemented that can be used in learning activities. Teaching materials developed are implemented in real-time for IV grade students of SD Negeri 094151 Sipanganbolon. Data obtained from the results of this implementation will be used as data on the results of testing the effectiveness of teaching materials. The data obtained will be a reference for revising the teaching materials developed.

The book was developed in the IV grade students, amounting to 30 students. In this implementation phase, learning activities were carried out individually and in groups. In the discussion activities students were formed into several groups consisting of 2 to 5 students. The role of IV grade teachers is as a companion and student guide in using developed teaching materials and researchers as observers. In the learning process the teacher uses a scientific approach to learning, namely Observing, Asking, Reasoning, Trying, and Communicating. With the existence of instructional materials developed students are expected to be able to improve student learning activities.

The last stage of the ADDIE development model is the evaluation phase. The evaluation was carried out by the researcher by analyzing the research data obtained. The data of the research consisted of feasibility data of teaching materials obtained from the results of expert validation. Data from expert validation were reviewed from the material aspects, language aspects and presentation design. student activity and activity and supported by student learning outcomes.

The product of the development of teaching materials validated by Dr. Arif Rahman, M.Pd. is a teaching material for thematic teaching materials based on the scientific approach on the subthemes of the beauty of my country. The results of the results of the material experts submitted through questionnaires in the form of questionnaires are presented with thematic based scientific approaches to the subthemes of the beauty of my country. Data can be seen in the table as follows:

Table 3 Assessment of Results of Material Validation

Assessed Aspect	Score			
	1	2	3	4
1. The purpose and indicator of learning is clearly stated			√	
2. Suitability of learning objectives with competency indicators			√	
3. Compatibility of KD integration			√	
4. Suitability of learning activities with the formulation of indicators			√	
5. Suitability of learning activities with learning objectives			√	
6. The breadth and depth of the contents of the material presented are in accordance with competency indicators				√
7. Clarity of material presented			√	
8. The accuracy of the chapter title with the content of the material			√	
9. Truth of material substance			√	
10. The truth of theories and concepts in the scientific field			√	
11. Suitability of the image with the contents of the material			√	
12. The accuracy of the image in clarifying the material				√
13. Organizing material describes a unit of material that is intact and mutually integrated			√	
14. Material is arranged systematically				√
15. Learning has conformity with the needs of elementary school fourth grade students			√	

16. The worksheet assignments provided are relevant to the scope of the material			√	
17. Evaluation questions are relevant to the scope of the material				√
18. The level of difficulty of the question is relevant to the ability of elementary school students in Class IV				√
Total	59			
Average	3,27			
Percentage	81,94%			
Criteria	Very good			

The percentage criteria for the appearance of indicators on Scientific Approach Based Thematic teaching material in the Subtema of the Beauty of My National Nature that has been developed

No	Answer	Score
A	Very good	$81\% \leq X < 100\%$
B	Good	$61\% \leq X < 80\%$
C	Fair	$41\% \leq X < 60\%$
D	Low	$21\% \leq X < 40\%$
E	Unsatisfied	$0\% \leq X < 20\%$

(Sugiyono,2011:118)

Based on the results of the material expert validation research, this teaching material obtained a score percentage of 81.94% with very good criteria.

The product of the development of teaching materials validated by Dr. M. Okky Fardian Gafari, M. Hum. Is to give an assessment as a linguist. Validation is given in the form of a questionnaire instrument in the form of a questionnaire on teaching materials. Data can be seen in the table as follows:

Table 4 Assessment of Language Validation Results

Percentage criteria for the appearance of indicators on Thematic teaching materials

Rated aspect	Score			
	4	3	2	1
Component of Content Feasibility				
1. Cover		√		
2. Foreword		√		
3. Table of contents / table		√		

4. Guide to using textbooks		√		
5. Competence	√			
6. Learning objectives	√			
7. Material description	√			
8. Student learning activities (worksheets)	√			
9. Picture	√			
10. Competence test	√			
11. references		√		
Language Components				
1. In accordance with the level of development of students	√			
2. Communicative and interactive	√			
3. Straightforward	√			
4. Language compatibility		√		
5. Use of the term		√		
Total	57			
Average	3,56			
Percentage	89 %			
Criteria	Very good			

Based on a Scientific Approach in the Subtema of the Beauty of My National Nature that has been developed

No	Answer	Score
A	Very good	$81\% \leq X < 100\%$
B	Good	$61\% \leq X < 80\%$
C	Fair	$41\% \leq X < 60\%$
D	Low	$21\% \leq X < 40\%$
E	Unsatisfied	$0\% \leq X < 20\%$

(Sugiyono,2011:118)

Based on the results of the linguistic validation research, this teaching material obtained a percentage score of 89% with very good criteria.

The product of the development of teaching materials validated by Dr. Fuad Erdansyah, M.Pd. is a Scientific Approach Based Thematic teaching material in the Nature of My Nature Subtema in the form of a student book. Validation was submitted through questionnaire instruments to teaching materials. Data can be seen in the table as follows

Table 5 Assessment of Results of Validation of Book Presentation Experts

Sub Component	Assessment Indicator	Score			
		1	2	3	4
A.Display Writing	1. Suitability with ISO 216 standards (A4, A5 and B5)			√	
	2. Suitability with material			√	
	3. Appearance of elements of the layout on the front, back and back covers harmoniously has a rhythm and unity and is consistent.			√	
	4. Display a good center point.				√
	5. The color elements of the layout are harmonious and clarify the function.				√
	6. The composition and size of the layout elements (title, author, illustration, logo, etc.) are proportional, balanced, and in line with the content layout (according to the pattern).				√
	7. The font size of the teaching material title is more dominant and proportional than the size, the name of the author.			√	
A.Display Images	8. The color of the title of the teaching material contrasts with the background color.				√
	9. Do not use too many font combinations.				√
	10. Describe the content / teaching material and reveal the character of the object.				√

	11. Shape, color, size, proportion of objects according to reality.				√
	12. Layout element layout is consistent based on patterns			√	
	13. Separation between paragraphs is clear			√	
	14. Printing area and proportional margin			√	
	15. The page margins are side by side proportional			√	
	16. Spaces between text and illustrations are appropriate			√	
A. Victory	17. Placement of learning activity titles, subtitles of learning activities, and exact page / folio numbers				√
	18. The placement of illustrations and captions is appropriate			√	
	19. Placement of decoration / illustration as background does not interfere with title, text, page numbers.			√	
	20. The placement of titles, subtitles, illustrations, and captions does not interfere with understanding.			√	
	21. Do not use too many fonts.				√
	22. The use of letter variations (bold, italic, all capital, small capital) is not excessive.				√

	23. Normal text width.			√	
	24. Spaces between lines of normal text arrangement.			√	
	25. Normal inter-letter spacing (kerning).				√
	26. The hierarchy of titles is clear, consistent and proportional.			√	
B. Cohesiveness	27. Signs of word cutting (hyphenation).			√	
	28. Able to reveal the meaning / meaning of the object.				√
	29. Accurate and proportional forms in accordance with reality.			√	
	30. Creative and dynamic			√	
Total	102				
Average	3,4				
Percentage	85%				
Criteria	Very good				

Based on the results of the validation of the presentation design experts, the textbook obtained a score percentage of 85% with very good criteria. The results of the validation of thematic teaching materials based on the scientific approach in the sub-themes of the beauty of my country can be seen in the following diagram:

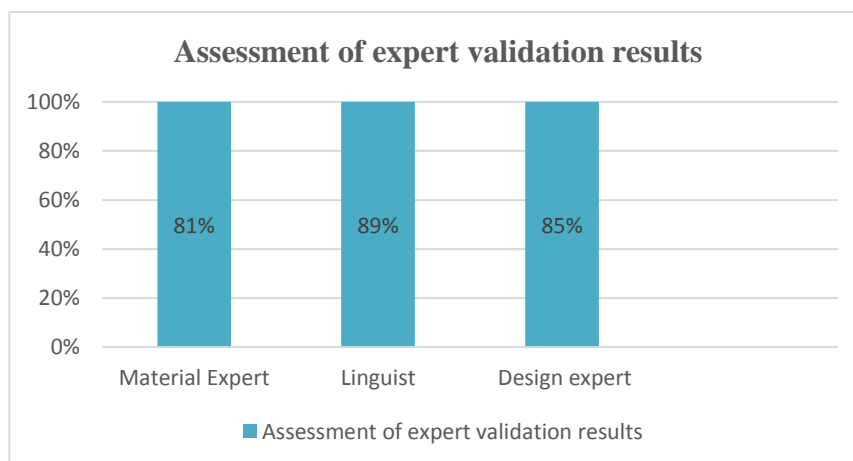


Diagram 1 Assessment of validation results

Teacher assessment is also needed to develop thematic teaching materials based on a scientific approach to the sub-themes of the beauty of my country. Assessment of teaching materials was carried out by two IV grade teachers SDN 094151 Sipanganbolon. This aims to obtain information about the quality of teaching materials developed so that they can be adjusted to the cognitive level of IV grade students at SDN 094151 Sipanganbolon. The results of the research conducted by the teacher indicate that thematic teaching materials based on a scientific approach to the sub-themes of the beauty of my country are in the "Very Good" category with an average percentage of 92.7%. The results of the teacher's assessment of teaching materials can be seen in table 4.6 below.

Table 6 Data on Teacher's Response Results to Teaching Materials

No	Component	Indicator	Percentage	Criteria
1	Content	1. The material in teaching materials is in accordance with the learning objectives	100	Very good
		2. The material in teaching materials relates to the sub themes of the beauty of my country	100	Very good
		3. The material in teaching materials is related to thematics	100	Very good
		4. Teaching materials enrich students' knowledge	75	Very good
		5. Learning activities stimulate critical thinking skills	87,5	Very good
		6. Teaching materials make it easier for teachers to guide students to express their opinions in oral and written form	87,5	Very good
		7. Teaching materials help teachers evaluate students	100	Very good
2	Bahasa	1. The language used is in accordance with PUEBI	87,5	Very good
		2. The language used is easy to understand	100	Very good
		3. The usage guidelines are clearly illustrated	87,5	Very good
3	Penyajian	1. The overall appearance of teaching material is interesting	87,5	Very good
		2. Presentation of material in textbooks is systematically arranged	100	Very good
Total			92,7	Very good

the scientific approach to the sub-theme of the beauty of my country has been developed

No	Answer	Score
A	Very good	$81\% \leq X < 100\%$
B	Good	$61\% \leq X < 80\%$
C	Fair	$41\% \leq X < 60\%$
D	Low	$21\% \leq X < 40\%$
E	Unsatisfied	$0\% \leq X < 20\%$

(Sugiyono,2011:118)

Based on the results of the teacher's response to the teaching material, the textbook obtained a score percentage of 92.7 with very good criteria.

Table 7 Data on Individual Test Results on Teaching Materials

No	Component	Indicator	Percentage	Criteria
1	Content	1. The material in teaching materials relates to the sub themes of the beauty of my country	83,3	Very good
		2. The material in this teaching material is easy for me to understand	75	Very good
		3. This teaching material encouraged me to discuss with other friends	91,6	Good
		4. This teaching material makes it easy for me to express my opinion in oral and written form	66.6	Very good
		5. This teaching material makes an evaluation test that can test how far I understand	91,6	Fair
		6. This teaching material makes me active in learning	91,6	Very good
		7. The language used is easy to understand	83,3	Very good
2	Language	1. The language used makes me trained in mastering Indonesian spelling	91,6	Very good
		2. The language used adds Indonesian vocabulary that I understand	91,6	Very good

3	Presentation	1. The overall appearance of teaching material is interesting	91,6	Very good
		2. Presentation of material in textbooks is systematically arranged	91,6	Very good
		3. The images in this teaching material attracted me to study	83,3	Very good
	Total		86,1	Very good

The percentage criteria for the emergence of indicators on thematic teaching materials based on the scientific approach to the sub-themes of the natural beauty of my country have been developed

No	Answer	Score
A	Very good	$81\% \leq X < 100\%$
B	Good	$61\% \leq X < 80\%$
C	Fair	$41\% \leq X < 60\%$
D	Low	$21\% \leq X < 40\%$
E	Unsatisfiesfied	$0\% \leq X < 20\%$

(Sugiyono,2011:118)

Based on the results of individual trials on teaching materials, textbooks obtained a score percentage of 86.1 with very good criteria.

Table 8 Data Results Test Try Small Groups

No	Component	Indicator	Percentage	Criteria
1	Content	The material in teaching materials relates to the sub themes of the beauty of my country	83,3	Very good
		The material in this teaching material is easy for me to understand	94,4	Very good
		This teaching material encouraged me to discuss with other friends	88,8	Good

		This teaching material makes it easy for me to express my opinion in oral and written form	86,1	Very good
		This teaching material makes an evaluation test that can test how far I understand	88,8	Fair
		This teaching material makes me active in learning	88,8	Very good
		The language used is easy to understand	86,1	Very good
2	Language	The language used makes me trained in mastering Indonesian spelling	88,8	Very good
		The language used adds Indonesian vocabulary that I understand	100	Very good
3	Presentation	The overall appearance of teaching material is interesting	94,4	Very good
		Presentation of material in textbooks is systematically arranged	94,4	Very good
		The images in this teaching material attracted me to study	94,4	Very good
	Total		91,2	Very good

The percentage criteria for the emergence of indicators on thematic teaching materials based on the scientific approach to the sub-themes of the natural beauty of my country have been developed

No	Answer	Score
A	Very good	$81\% \leq X < 100\%$
B	Good	$61\% \leq X < 80\%$
C	Fair	$41\% \leq X < 60\%$
D	Low	$21\% \leq X < 40\%$
E	Unsatisfied	$0\% \leq X < 20\%$

(Sugiyono, 2011:118)

Based on the results of a small group test on teaching materials, the textbook obtained a score percentage of 91.2 with very good criteria.

1. Data on Limited Field Trial Results

The field trial was conducted by 30 students IV grade SDN 094151 Sipanganbolon. Limited field trials produce data that will later be used to find out how the product benefits for students. The results of a limited field trial show that thematic teaching materials based on a scientific approach to the subthemes of natural beauty of my country are in the "Very Good" category with a percentage of 88.99%. The textbook has been declared feasible but has not reached 100%. This is because not all students who fill the questionnaire with very good criteria mean that there are still some students who fill out the questionnaire with good criteria. Therefore teaching materials are ready to be tested for effectiveness. Data from the limited field trial results can be seen in table 4.9 below.

Table 9 Data on Limited Field Test Results on Teaching Materials

No	Component	Indicator	Percentage	Criteria
1	Content	The material in teaching materials relates to the sub themes of the beauty of my country	87,5	Very good
		The material in this teaching material is easy for me to understand	87,5	Very good
		This teaching material encouraged me to discuss with other friends	90,8	Good
		This teaching material makes it easy for me to express my opinion in oral and written form	85	Very good
		This teaching material makes an evaluation test that can test how far I understand	90	Fair
		This teaching material makes me active in learning	86,6	Very good
		The language used is easy to understand	88,3	Very good
2	Language	The language used makes me trained in mastering Indonesian spelling	90	Very good
		The language used adds Indonesian vocabulary that I understand	91,6	Very good

3	Presentation	The overall appearance of teaching material is interesting	88,3	Very good
		Presentation of material in textbooks is systematically arranged	90,8	Very good
		The images in this teaching material attracted me to study	92,5	Very good
	Total		89,0	Very good

The percentage criteria for the emergence of indicators on thematic teaching materials based on the scientific approach to the sub-themes of the natural beauty of my country have been developed

No	Answer	Score
A	Very good	$81\% \leq X < 100\%$
B	Good	$61\% \leq X < 80\%$
C	Fair	$41\% \leq X < 60\%$
D	Low	$21\% \leq X < 40\%$
E	Unsatisfiesfied	$0\% \leq X < 20\%$

(Sugiyono,2011:118)

Based on the results of limited field trials on teaching materials, textbooks obtained a score percentage of 89.0 with very good criteria.

Table 10 Observation Data on Student Activities

No	Name of Respondent	Student activities									
		Observe		Propose		Attempt		Associate		Communicate	
		Total	percentage	Total	percentage	Total	percentage	Total	percentage	Total	percentage
1	Diva Y	50	89,2	73	82,9	36	90	18	90	29	80,5
2	Nuranisa	48	85,7	75	85,2	36	90	17	85	30	83,3
3	Riska	50	89,2	77	87,5	37	92,5	16	80	32	88,8
4	Zulpikar	47	83,9	74	84	35	87,5	17	85	30	83,3

5	Aurelia	47	83,9	71	80,6	34	85	17	85	27	75
6	Aurelius	49	87,5	74	84	36	90	18	90	30	83,3
7	Zepan	47	83,9	72	81,8	33	82,5	17	85	29	80,5
8	Chelsie	46	82,1	71	80,6	33	82,5	15	75	29	80,5
9	Jihan	50	89,2	76	86,3	36	90	18	90	29	80,5
10	Kezia	48	85,7	76	86,3	35	87,5	16	80	31	86,1
11	Dahlia	46	82,1	73	82,9	33	82,5	16	80	30	83,3
12	Cristian	49	87,5	77	87,5	34	85	18	90	31	86,1
13	April	48	85,7	73	82,9	34	85	18	90	30	83,3
14	Gresia	48	85,7	74	84	33	82,5	18	90	30	83,3
15	Samuel	43	76,7	72	81,8	30	75	17	85	27	75
16	Widia	50	89,2	72	81,8	34	85	18	90	30	83,3
17	Zivana	49	87,5	75	85,2	34	85	17	85	31	86,1
18	Revani	49	87,5	75	85,2	33	82,5	18	90	30	83,3
19	Afgan	48	85,7	75	85,2	35	87,5	18	90	31	86,1
20	Nadira	50	89,2	77	87,5	35	87,5	18	90	31	86,1
21	Fitri	48	85,7	77	87,5	33	82,5	17	85	30	83,3
22	Issai	50	89,2	80	90,9	35	87,5	18	90	32	88,8
23	Rio	50	89,2	80	90,9	36	90	19	95	32	88,8

2 4	Auria	50	89,2	78	88,6	34	85	19	95	31	86,1
2 5	Joviel	43	76,7	72	81,8	30	75	17	85	27	75
2 6	Restiana	50	89,2	74	84	34	85	18	90	31	86,1
2 7	Fransiska	49	87,5	80	90,9	34	85	17	85	31	86,1
2 8	Christiana	49	87,5	76	86,3	33	82,5	18	90	30	83,3
2 9	Hervialdo	49	87,5	79	89,7	35	87,5	18	90	31	86,1
3 0	Marcel	49	87,5	76	86,3	33	82,5	18	90	30	83,3
Average		1449	86,2	2254	85,3	1023	85,2	524	87,3	902	83,5

Based on the table above, it can be concluded that student activity which stands out is in the Associating activity with a subsequent percentage of 87.3% in observing activities with a percentage of 86.2%, in questioning activities with a percentage of 85.3%, in trying activities with a percentage of 85.2 % and on activities communicate with a percentage of 83.5%.

Table 11 Student Activity Observation Sheet

No	Questions	Answer	Frequency	
			Student	%
1	Asking actively to the teacher about the material being studied	Ya	23	76,6%
		Tidak	7	23,3%
2	Less active in asking about material	Ya	7	23,3%
		Tidak	23	76,6%
3	Not asking questions or carrying out activities outside of activities	Ya	7	23,3%
		Tidak	23	76,6%
4		Ya	25	83,3%

	Able to provide the right answers according to the teacher's questions	Tidak	4	16,6%
5	Not answer teacher questions	Ya	5	16,6%
		Tidak	25	83,3%
6	Active in conducting experiments	Ya	24	80%
		Tidak	6	20%
7	Only see friends in conducting experiments	Ya	5	16,6%
		Tidak	25	83,3%
8	Do not conduct experiments or carry out activities outside of the experiments conducted	Ya	5	16,6%
		Tidak	25	83,3%
9	Observe the experiment seriously	Ya	24	80%
		Tidak	6	20%
10	Use tools and materials according to the activity instructions	Yes	24	80%
		No	6	20%
11	Do not use recommended tools and materials	Yes	3	10%
		No	27	90%
12	Actively discuss with groups	Yes	26	80%
		No	4	20%
13	Able to work with groups	Yes	26	80%
		No	4	20%
14	Observe the course of the learning process calmly	Yes	23	76,6%
		No	7	23,3%
15	Quietly listen to the presentation of other groups	Yes	23	76,6%
		No	7	23,3%
16	Able to give opinions properly and correctly	Yes	24	80%
		No	6	20%
17		Yes	25	83,3%

	Only see other friends in expressing opinions	No	5	16,6%
18	Do activities outside of activities	Yes	3	10%
		No	27	90%
19	Listen but not calm	Yes	5	83,3%
		No	25	16,6%
20	Confident in participating in learning activities	Yes	24	80%
		No	6	20%

Table 12 Criteria for the success rate of activeness

Level of success	Information
>80%	Very high
60-79%	High
40-59%	Medium
20-39%	Low
<20%	Unsatisfiesfied

Table 13 Learning Result Data

No	Name	Pretest	Posttest
1.	Diva Y	75	90
2.	Nuranisa	74	80
3.	Riska	73	87
4.	Zulpikar	75	85

5.	Aurelia	71	80
6.	Aurelius	73	90
7.	Zepan	60	73
8.	Chelsie	75	77
9.	Jihan	73	80
10.	Kezia	75	76
11.	Dahlia	76	80
12.	Cristian	73	80
13.	April	60	70
14.	Gresia	76	78
15.	Samuel	76	88
16.	Widia	73	73
17.	Zivana	75	95
18.	Revani	73	73
19.	Afgan	80	80
20.	Nadira	70	73
21.	Fitri	73	85
22.	Issai	60	74
23.	Rio	75	85
24.	Auria	73	80
25.	Joviel	76	82
26.	Restiana	73	90
27.	Fransiska	76	78
28.	Christiana	75	80
29.	Hervialdo	74	80
30.	Marcel	73	78
Total		2184	2420

Average		72,8	80,6
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Table 14 Distribution of Value Frequency Pretest and Posttest

Criteria	Pretest		Posttest	
	Frequency	Percentage	Frequency	Percentage
85-100	-	-	9	30
75-84	13	43	15	50
65-74	14	47	6	20
55-64	3	10	-	-
0-54	-	-	-	-
∑	30	100%	30	100%

The above table shows that at the time of student pretests acquiring grades 75–84 as much as 13 with 43% percentation, grades 65–74 as much as 14 with 47% percentation and at postes scores experienced improved learning results which were better by 85-100 scores of 9 with 30% percent, a 75-84 score of 15 with 50% percentality.

V. Conclusion

The process of developing thematic teaching materials based on the scientific approach in the sub-themes of my country's natural beauty is done in 5 stages, namely :

1. Analysis, is the initial stage in the form of curriculum analysis, analysis of the needs of students in subject analysis.
2. Design, is the stage of product design consisting of making research instrument grids, product design, preparation of materials, questions, as well as image collection and color design selection.
3. Development, is the stage of developing teaching materials starting from Pre-writing, Preparation of draft teaching materials and Development of assessment instruments, validation I, revision I, validation II and revision II.
4. Implementation, is the stage of product implementation consisting of individual trials, small group trials and field trials.
5. Evaluation, is the final stage of the product development procedure consisting of a comparison of the trial phase and product feasibility.

The feasibility level is known based on the feasibility assessment of one material expert lecturer, one linguist lecturer and one presentation design expertm

1. The feasibility assessment by material experts obtained an average score of 3.27 and 81.94% (Very good).
2. The feasibility assessment by linguists obtained an average score of 3.56 and 89% (Very good).
3. The feasibility assessment by design experts obtained an average score of 3.4 and 85% (Very good).

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