

CHAPTER IV

RESULTS AND DISCUSSION

4.1. Research Findings

The purpose of this study was to develop a Nias culture-based English textbook to help tenth grade students at SMK Negeri 1 O'o'u gain 21st century skills. Validation results from language, media, culture, and material experts showed that the production of this textbook was highly acceptable. In its production, this textbook followed the five stages of ADDIE model, namely analysis, design, development, implementation, and evaluation. The following is a description of the stages involved in the production of this Nias culture-based English textbook:

4.1.1. Analysis

At this stage, researcher initially looked for problems related to the problems faced by students. The researcher conducted a needs analysis to obtain information related to the material to be taught based on local wisdom owned by students. The needs analysis was carried out by conducting observations and interviews with English teacher at SMK N 1 O'o'u.

The observation shows that while the general integration of culture in English learning is present, local (Nias) cultural content is still minimal. Increasing Nias related materials in the curriculum and textbooks is likely to enhance student engagement, motivation, and comprehension in learning English. The observation results can be seen in the following table:

Table 4.1 Observation Sheet Result

Observation Information					
Class		: X-MP-1			
Location		: SMK N.1 O'o'u			
Day/Date		: Friday, October 24, 2024			
Time		: 10.00 WIB – 11.00 WIB			
No	Assessment Aspect	Sub-Aspect	Observed Statement	Yes	No
1	Curriculum	Culture Integration	The curriculum addresses culture in English subjects.	√	
		Relevance of Learning Themes	English learning themes are relevant to the cultural context.	√	
		Common Culture-Based Reading	There are reading texts that discuss folklore, legends or traditions.	√	
		Readings Based on Local Culture (Nias)	There are reading texts that discuss Nias folklore, legends or traditions.		√

		Cultural Values	The curriculum introduces positive cultural values.	√	
2	Textbooks	Local Culture Materials	Textbooks include materials related to culture.	√	
		Nias Culture Texts	Textbooks provide texts on Nias folklore, traditions or history.		√
		Visualization of Culture	The book includes illustrations, photos or drawings of the culture.	√	
		Local Culture Project	The book provides a project that encourages the exploration of Nias culture.		√
		Relevance for Vocational high school students	The material in the book is in line with the needs of vocational high school students.	√	
3	Students Motivation	Interest in Materials	Students feel more interested in learning English.		√
		Engagement in Activities	Students are active in English learning activities.		√
		Cultural Pride	Students show pride when Nias culture is discussed.	√	
		Language Comprehension through Culture	Cultural integration aids comprehension of English vocabulary and text.	√	
		Increased Motivation	Students are more motivated to learn English through the topic of Nias culture.	√	
		Relevance to Daily Life	Students feel that Nias cultural materials are relevant to their lives.	√	

Additional based on interview results, interviews revealed a clear gap between existing English learning materials and students' cultural and practical contexts. While the current textbooks have a good structure, they often lack relevance to students' daily lives and the local environment, making it more difficult for students to connect with the content. The teacher fully supported the idea of developing Nias culture-based English textbooks, highlighting their strong potential to increase students' motivation, engagement and language comprehension. He believed that when students learn through examples rooted in their own culture - such as folklore, traditions and tourism - they do not only gain a deeper understanding of English but also develop a sense of identity and pride. This culturally responsive approach is especially important in vocational high school, where students benefit from materials that link language skills with practical, career-oriented knowledge. In addition, he emphasized that for textbooks to be effective, they must feature authentic cultural texts that invite students to

explore their cultural heritage. The results of the interviews can be seen in the table below:

Table 4.2 Interview Sheet Result from English Teacher

Teacher's Identity		
Teacher's Name	: Sonazaro Bu'ulolo, S.Pd.	
NIP	: 198002122014101001	
Location	: SMK N.1 O'o'u	
Day/Date	: Friday, October 24, 2024	
Time	: 10.00 WIB – 11.00 WIB	
No	Questions	Teacher's Answers
1	What do you think about English language learning in schools today?	I see that English language learning in schools today still faces various challenges. Although the curriculum is good enough, its implementation is sometimes still ineffective due to limited facilities, teaching methods, and students' varying levels of understanding.
2	What are the main challenges you face in teaching English at school?	The main challenges I face are students' lack of motivation, lack of interesting learning media, and limited time to really guide students to master English well. In addition, the lack of exposure to English in everyday life is also an obstacle.
3	Do you think the current English textbooks are effective?	The textbooks used are quite good in terms of structure and material, but sometimes they lack relevance to students' lives. A lot of the material feels far removed from the local context so students find it difficult to relate the lessons to their own experiences.
4	What are the students' motivation levels in learning English?	Students' motivation levels vary. Some are very enthusiastic, but many also find it difficult and lack motivation because they think English is difficult or not very useful in their daily lives.
5	What do you think if English textbooks were developed with Nias cultural content?	I think it's a very good idea. If students can learn English through their own cultural context, they will more easily understand the material and feel closer to the learning.
6	To what extent do you introduce Nias culture in teaching English?	I try to incorporate Nias culture on several occasions, for example in conversation or reading examples. However, due to the limited materials available, this approach is still not optimal.
7	Do you think students will be more interested in learning English if the material is related to their local culture?	Yes, I believe students will be more interested. They will understand the concepts more easily because the context used is closer to their daily lives.
8	What do you think about materials that combine English with vocational skills related to local culture, such as Nias culture-based tourism?	That's very good. By combining English and vocational skills, students not only learn the language but also practical skills that they can utilize in the future, especially in the growing field of tourism on Nias.
9	Are you willing to participate in the development of an English textbook based on Nias culture?	Of course, I am very supportive and willing to contribute. I believe that this will be a big step in improving the effectiveness of English learning in schools.

10	What are your suggestions to ensure that this Nias culture-based textbook can be used effectively in the classroom?	The book should be interesting, interactive and relevant to students' lives. In addition, there needs to be training for teachers so that they can use this book optimally in learning.
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Based on these problems, an English textbook was developed, namely a culture-based teaching book that highlights Nias local wisdom in the form of a visual book, aligns with Beatriz Lopez Medina's textbook model for CLIL (Content and Language Integrated Learning) textbooks in several ways (Budiarsih, 2022). This linkage was made through the application of the CLIL 4C framework (Content, Cognition, Communication, and Culture) and additional criteria were collaborating by the researcher to suit the needs of the students. This textbook was designed using selected materials from the Grade X vocational high school curriculum, focusing on narrative and descriptive texts. These topics were chosen because they allow the integration of folklore, traditional stories, and cultural descriptions that are close to students' lives. To increase students' interest and engagement, the book includes colorful pictures, local stories, and interactive activities that students enjoy. By using content that reflects their own culture, students are expected to be more motivated in learning English while also developing awareness and pride in preserving their cultural heritage.

4.1.2. Design

The design stage is a continuation of the analysis stage. At this stage, researcher began designing textbooks as learning products that aim to enrich 21st skills for students, especially for grade X students at SMK N 1 O'o'u. Researcher began designing products through stages ranging from media design, material content, and preparation for validation by experts.

a. Media Design

This media was designed in the form of printed materials containing Nias culture-based learning. The textbook is adjusted to the UNESCO standard paper size commonly used for scientific and academic publications, which is 15.5 cm x 23 cm (or 155 mm x 230 mm), often referred to as quarto or demy size. The number of content pages is 90 sheets edited using the canva application.

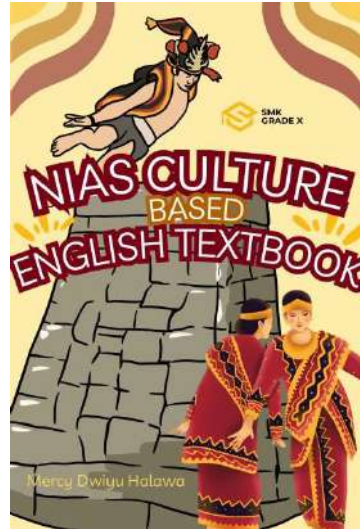
Some media design features:

- **Use of Color:** The book design is dominated by a bright and friendly light orange color, giving a warm and energetic impression. This color is also able to blend harmoniously with other visual elements, creating a cohesive and appealing look for the reader.
- **Typography:** The type face used has been adapted to UNESCO book standards. Some of the selected fonts used are Livvic, Scillet Condensed, and Times New Roman, which appear in various parts of the book such as learning materials, visual content, and evaluation questions. The space between lines is set at 1.5 for reading comfort, with font size variations of 35, 22, 14, and 12 according to the function.
- Each page comes with illustrations that reflect Nias cultural stories in the form of images of characters, settings, and cultural activities. In addition, other supporting visual elements are added to strengthen the message and enrich students' reading experience.

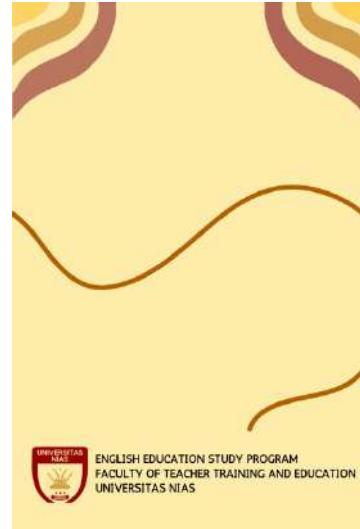


Picture 4.1 Example of a Visual Image

- **Book Cover Anatomy:** The book cover is designed with a complete structure, including the book title, author's name, and university identity. This design was created with aesthetic and readability principles in mind, giving a professional and informative impression.



Picture 4.2 Front Cover



Picture 4.3 Back Cover

b. Material Content

An initial draft of the content contained is outlined in the Table of Contents as follows:

- a) Cover
- b) Preface
- c) How to Use the Book
- d) Table of Contents
- e) *Capaian Pembelajaran Bahasa Inggris*
- f) Narrative Text
 - Prologue
 - Brainstorming
 - Reading Section
 - Information
 - Grammar Corner
 - Summary
 - Reflection
 - Evaluation
- g) Descriptive Text
 - Prologue
 - Brainstorming
 - Reading Section
 - Information

- Grammar Corner
- Summary
- Reflection
- Evaluation
- h) Key Answer of Evaluation
- i) References
- j) About the Author

In the content of the material, there are narrative stories and descriptive texts that talk about Nias, here is the list:

- a) *Tua Sangaröfa*
- b) *Legenda Lawömaru (Legend)*
- c) *Buaya ba Laosi (Fable)*
- d) *Lawomaru Sama'ala Haria (Legend)*
- e) *Mistery Pohon Böndri (Miths)*
- f) *Samihara Luo Sibowo Döfi Madala, Soroi ba Danó Asia-Hohó (Epic)*
- g) *Sirago Rago Noati*
- h) *Oyo ba Susua (Fable)*
- i) *Fondrakö Öri Moro'ö si Lima Ina Tekhe Mböwö*
- j) *Futi Malindrewa*
- k) Traditional House of Telukdalam: The Architectural Heritage of South Nias
- l) Johannes Maria Hammeler, OFMCap
- m) Yasonna Laoly
- n) *Taman Ya'ahowu: A Symbol of Life and Pride in Gunungsitoli City*
- o) *Maena*
- p) *Adu Sarambia*
- q) *Tari Moyo*
- r) Tsunami Disaster in Nias Island
- s) Bawömataluo Village

As for the stages of designing and preparing material content in this product include the following items:

Table 4.3 Stages of Designing and Preparing Material Content

No	Stage	Description
1	Identifying units based on the curriculum	Selecting and organizing units or topics that align with the learning objectives stated in the curriculum.
2	Selecting relevant Nias cultural stories	Choosing appropriate cultural narratives or descriptions from Nias that suit the learning themes and students' level.
3	Designing activities based on 21 st century skills (4C)	Developing learning activities that foster Communication, Creativity, Collaboration, and Critical Thinking.
4	Developing texts and evaluation materials	Creating both narrative and descriptive texts along with evaluation tasks that assess students' understanding and competence.

c. Preparation for Validation by Experts

Before entering the final product development stage, the design was prepared to be validated by experts to ensure the feasibility of material, design, culture, and language. The validation document was prepared in the form of a final product draft and accompanied by an assessment instrument. There were four validation sheets prepared, namely cultural expert validation, design expert validation, material expert validation, and language expert validation. The instrument for cultural experts consisted of 6 assessment aspects, namely representation of local culture, cultural sensitivity, appropriateness of cultural context with material, encouraging tolerance and diversity, strengthening identity and character values, and cultural involvement in activities which were described in 6 indicators. The instrument for design experts consisted of 6 aspects of assessment, namely visual appeal, layout and organization, use of color, typography, illustrations and visuals and anatomy of book covers which were described in 7 indicators. The instrument for material experts consisted of 9 aspects of assessment, namely *Pancasila* values, non-discriminatory / racial, no pornographic elements, no violence, no hate speech, according to national curriculum standards, contextual and environmental, interactive material, integrity of content which were described in 9 indicators. Meanwhile, the language instrument consisted of 6 aspects of assessment, namely

straightforward, communicative, dialog and interactive, language suitability, use of standard language and use of terms, symbols, or icons described in 11 indicators. The form of scoring assessment for local wisdom- based learning materials uses a Likert scale with 4 criteria, namely very worthy, worthy, less worthy and unworthy.

4.1.3. Development

The development stage is an extension of the design stage in ADDIE model. At this stage, the initial product design that has been made validated by experts, and then refined based on the suggestions and input received. After that, the product was tested in selected classes to evaluate its effectiveness. The purpose of this activity was to ensure that the resulting product was truly feasible and ready to use.

a. Validation Results

The validation process was carried out by four validators consisting of material experts, design experts, language experts, and cultural experts. Each provided an assessment of certain aspects of the product, both in terms of material content, visual appearance, language use, and the suitability of the cultural content presented.

a) Culture Validation Result

The cultural validator in this research is Mr. Yafaowolo'o Gea, S.S., M.Sc., M.A. The validation process was conducted on June 16th, 2025. In this process, he assessed the suitability of the cultural elements contained in the learning products based on the instruments provided. The assessment aimed to see the extent to which the cultural content in this book was appropriate and supports the feasibility of the product to be used in learning. All aspects were scored using a four-point scale (Kusmaryono et al., 2022).

4 = Very Appropriate,

3 = Appropriate,

2 = Less Appropriate,

1 = Not Appropriate.

The results of validation from cultural experts are presented as follows:

Table 4.4 Culture Validation Result

No	Assessment Aspect	Assessment Indicator	Score (1-4)			
			4	3	2	1
1	Local Cultural Representation	Books reflect local culture, traditions and values in text and illustrations.	√			
2	Cultural Sensitivity	The book does not contain stereotypes, bias or discrimination against any particular cultural group.	√			
3	Cultural Context Relevance	The use of examples, pictures, character names, and illustrations are appropriate to the students' cultural values and context.	√			
4	Promotion of Tolerance and Diversity	The book encourages mutual respect, cooperation and tolerance between cultures.	√			
5	Strengthening Identity and Character Values	Books support the formation of national character and identity through culture.	√			
6	Cultural Integration in Activities	Books include activities or tasks that connect learning to students' culture.	√			
Total score			24			
Percentage			100			
Category			Very Worthy			

Explanation:

Taken from: Huang & Song (2024)

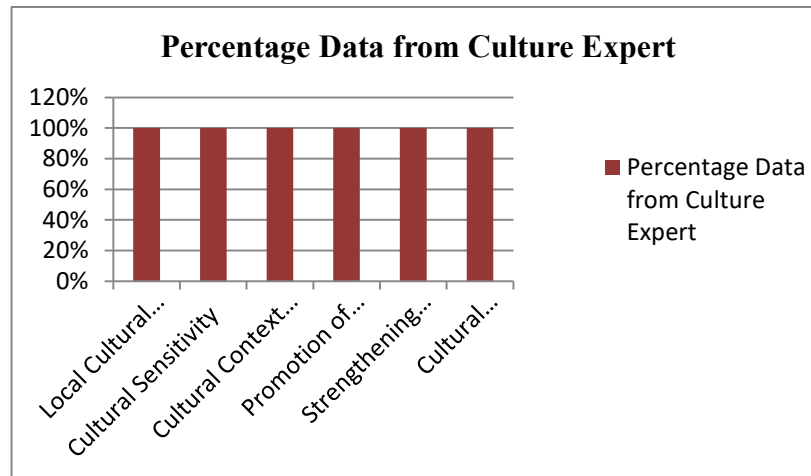
- 1) $25,00 < x = 43,75$, Unworthy.
- 2) $43,75 < x = 62,50$, Less Worthy.
- 3) $62,25 < x = 81,25$, Worthy.
- 4) $81,25 < x = 100$, Very Worthy.

Based on the validation results, a total score of 24 out of a maximum score of 24 was obtained, with an average score of 4.0 and a feasibility percentage of 100%. Therefore, the book was categorized as “very appropriate”. All aspects of the assessment received the highest scores, including: appropriateness of local cultural representations in the text and illustrations, absence of stereotypes or discrimination, relevance of cultural context in images, character names, and examples, promotion of tolerance and cultural diversity, strengthening of character values and national identity, and integration of culture into learning activities or tasks. These results showed that the developed textbooks have successfully integrated cultural

elements comprehensively and relevantly, making them very suitable for use in culturally responsive learning.

The results of culture expert validation on each aspect can be seen in the following chart:

Chart 4.1 Percentage Data from Culture Expert



b) Design Validation Result

The design validator in this study was Mr. Artha Providensia Gulo, S.Art. The validation process was conducted from June 3rd to June 12th, 2025. In this process, he assessed the suitability of the design elements contained in the learning product based on the instruments provided. The assessment aimed to see the extent to which the design in this book was appropriate and supports the feasibility of the product to be used in learning. All aspects were assessed using a four-point scale (Kusmaryono et al., 2022).

4 = Very Appropriate,

3 = Appropriate,

2 = Less Appropriate,

1 = Not Appropriate.

The results of validation from design experts are presented in the table on the next paragraph:

Table 4.5 Design Validation Result

No	Assessment Aspect	Assessment Indicator	Score (1-4)			
			4	3	2	1
1	Visual Appeal	Attract attention and match learners' interests.	√			
2	Layout and Organization	Well organized and easy to navigate.		√		
3	Use of Color	Colors support understanding without being distracting.	√			
4	Typography	Typeface, size, and spacing are appropriate for the age and cognitive level of the learners.		√		
5	Illustrations and Visuals	Images support and clarify the content.		√		
6	Book Cover Anatomy	Contains the main elements: title, author, publisher, and supporting visuals.		√		
		Communicative and informative describing the content of the book.	√			
Total score			24			
Percentage			85.71%			
Category			Very Worthy			

Explanation

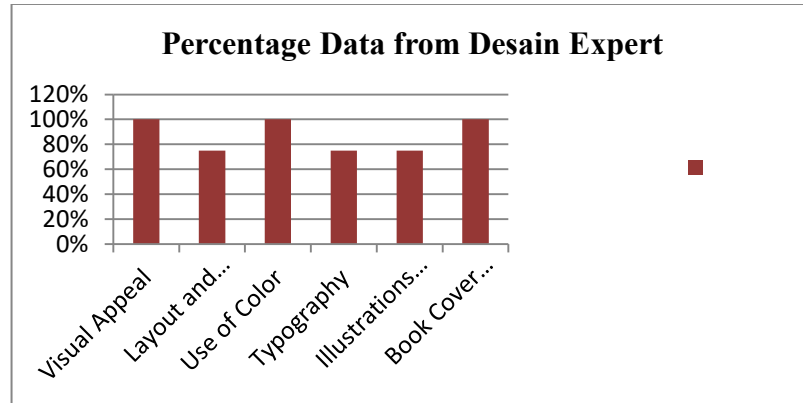
Taken from: BSAKP (2022)

- 1) $25.00 < x = 43.75$, Unworthy.
- 2) $43.75 < x = 62.50$, Less Worthy.
- 3) $62.25 < x = 81.25$, Worthy.
- 4) $81.25 < x = 100$, Very Worthy.

Based on the validation results, a total score of 24 out of a maximum of 28 was obtained, with an average score of 3.43 and a feasibility percentage of 85.71%. The book was categorized as "very worthy" for educational use. Several aspects received the highest score (4), including: visual appeal that attracted attention and matched learners' interests, the use of color that aids comprehension without being distracting, and the book cover design that clearly and informatively communicates the book's content. Meanwhile, other aspects such as layout and organization, typography, and illustration received a score of 3, indicating they are good but could be improved for even greater clarity and user-friendliness. These results showed that the textbook's design elements are generally well-executed and support the overall usability and attractiveness of the book for learners.

The results of design expert validation on each aspect can be seen in the following chart:

Chart 4.2 Percentage Data from Design Expert



c) Material Validation Results

The material validator in this study was Mr. Sonazaro Bu'ulolo, S.Pd. The validation process was conducted on June 19th, 2025. In this process, he assessed the suitability of the material elements contained in the textbook based on the instruments provided. The assessment aimed to see the extent to which the design in this book was appropriate and supported the feasibility of the product to be used in learning. All aspects were assessed using a four-point scale (Kusmaryono et al., 2022).

4 = Very Appropriate,

3 = Appropriate,

2 = Less Appropriate,

1 = Not Appropriate.

The results of validation from material experts are presented as follows:

Table 4.6 Material Validation Result

No	Assessment Aspect	Assessment Indicator	Score (1-4)			
			4	3	2	1
1	Pancasila Values	The content does not contradict the values of Pancasila.	√			
2	Non-Discriminatory	Does not contain ethnic, religious, racial, or class discrimination.	√			
3	No Pornographic	Free from pornography or	√			

	Content	inappropriate content.				
4	No Violence	No direct or implied physical/verbal violence.	√			
5	No Hate Speech	Does not contain hate speech against any group.	√			
6	Aligned with National Curriculum Standards	The material supports the national standards of education.	√			
7	Contextual and Environmental Relevance	Appropriate to the local context and learners' environmental conditions.	√			
8	Interactive Material	Encourage students to be more communicative, think critically, creatively and collaborate.	√			
9	Content Coherence	The content of the book is integrated and logically organized between sections.	√			
Total score			36			
Percentage			100%			
Category			Very Worthy			

Explanation:

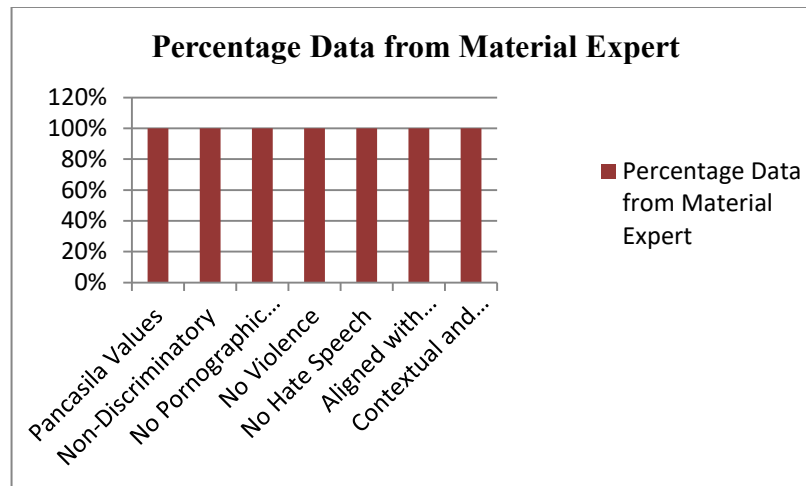
Taken from: BSAKP (2022)

- 1) $25.00 < x = 43.75$, Unworthy.
- 2) $43.75 < x = 62.50$, Less Worthy.
- 3) $62.25 < x = 81.25$, Worthy.
- 4) $81.25 < x = 100$, Very Worthy.

Based on the validation results, a total score of 36 out of a maximum score of 36 was obtained, with an average score of 4.0 and a feasibility percentage of 100%. This textbook was categorized as “Very Appropriate”. All aspects of the assessment received the highest score (4), including: conformity with Pancasila values, absence of discriminatory content, pornography, or violence, and free from hate speech. In addition, the book was also assessed as aligned with national curriculum standards, contextually relevant to the learners' environment, and designed to promote interactive learning that encourages communication, critical thinking, creativity, and collaboration. In addition, the coherence of content between sections was rated as highly integrated and well-structured. These results indicated that this textbook meets all the key material quality criteria and is highly suitable for effective learning implementation.

The results of material expert validation on each aspect can be seen in the following chart:

Chart 4.3 Percentage Data from Material Expert



d) Language Validation Results

The language validator in this study was Mr. Fidelis Halawa, S.Pd., M.A. The validation process was carried out from 24th to 28th June 2025. In this process, he assessed the suitability of the language elements contained in the textbook based on the instruments provided. The assessment aimed to see the extent to which the language elements in this book were appropriate and support the feasibility of the product to be used in learning. All aspects were assessed using a four-point scale (Kusmaryono et al., 2022).

4 = Very Appropriate,

3 = Appropriate,

2 = Less Appropriate,

1 = Not Appropriate.

The results of validation from language experts are presented as follows:

Table 4.7 Language Validation Result

No	Assessment Aspect	Assessment Indicator	Score (1-4)			
			4	3	2	1
1	Straightforward	Sentence Structure Accuracy.	√			
		Sentence effectiveness.	√			
		Standardization of Terms.	√			

2	Communicative	Understanding of the message or information.	√			
3	Dialogical and Interactive	Ability to motivate students.	√			
		Critical thinking skills.	√			
4	Language appropriateness	The language used is appropriate for the age and cognitive level of the students.	√			
5	Use of Standard Language	Grammatical accuracy.		√		
		Spelling accuracy.	√			
6	Use of terms, symbols, or icons	Consistency in the use of terms.		√		
		Consistent use of symbols or icons.	√			
Total score			42			
Percentage			95.55%			
Category			Very Worthy			

Explanation:

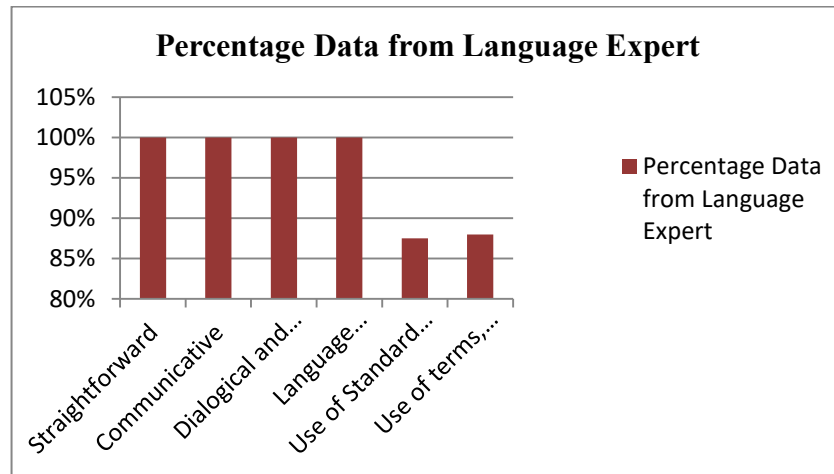
Taken from: Aprilia & Ambarwati (2023)

- 1) $25.00 < x = 43.75$ Unworthy.
- 2) $43.75 < x = 62.50$ Less Worthy.
- 3) $62.25 < x = 81.25$ Worthy.
- 4) $81.25 < x = 100$ Very Worthy.

Based on the validation results, a total score of 42 out of a maximum score of 44 was obtained, with an average score of 3.82 and a feasibility percentage of 95.55%. Thus, this textbook was categorized as “Very Appropriate”. Most aspects obtained the highest score (4), including: sentence structure and effectiveness, standardization of terms, clarity of message, interactivity and encouragement to think critically, and use of age-appropriate language. Some aspects, such as grammatical accuracy and consistency in the use of terms and symbols, received a score of 3, indicating that there are some things that need to be improved. Overall, the results showed that the language used in the textbooks is clear, communicative and appropriate for students, thus strongly supporting their use in the classroom.

The results of language expert validation on each aspect can be seen in the following chart on the next page:

Chart 4.4 Percentage Data from Language Expert



b. Product Revision

Based on the results of validation conducted by linguists, cultural experts, design experts, and material experts, several revisions and improvements were made. These improvements aimed to optimize the product in terms of content accuracy, cultural relevance, visual design, and language clarity. Each expert provided specific and constructive feedback according to their areas of expertise. These suggestions became an important foundation for refining the textbook, ensuring that it became more precise, culturally sensitive, visually appealing, and linguistically accessible to students. The validation process significantly contributed to improving the overall feasibility and effectiveness of the product in supporting meaningful learning.

a) Revision by Design Expert

Some input and suggestions for improvement from design expert validators are as follows:

- Age-appropriate illustrations: Use illustrations that are appropriate for the age level of vocational high school students.
- Image style: Choose a realistic or semi-realistic drawing style that is comfortable to look at and feels relevant.
- Color consistency: Improve the consistency of the base color in some parts of the book.

- Identity: Add the author's name on the front cover and the university's identity on the back cover.
- UNESCO standards: It is recommended to follow international book standards as set by UNESCO.

b) Revision by Language Expert

Some input and suggestions for improvement from design expert validators are as follows:

- Dialogic and interactive sentences need to be improved.
- Grammatical accuracy also needs to be considered.
- The use of punctuation must be consistent.
- The inconsistency of the use of terms needs to be considered.

c. **Developmental Testing Result with Small Group Trial**

Small group trial testing is a stage of product testing on a group of students consisting of around 5–10 people before it is implemented more widely. This stage aims to see how the product functions in a real but still limited context. The first trial of the Nias culture-based textbook was conducted in class X-MP-1 on May 4, 2025. This trial involved 5 students as participants. Based on the results of the trial, students encountered several difficulties in using the textbook, including:

- a. Difficulty understanding instructions in some parts of the book
- b. Limited English vocabulary to understand the text
- c. Confusion in connecting the material with the Nias cultural context

Thus, in the small-group trial test in class X-MP-1, three main obstacles experienced by the students were identified. After identifying these weaknesses, the researcher made improvements to the textbook to make it easier to understand before proceeding to the large-group pilot test phase in the implementation phase.

4.1.4. Implementation

The implementation stage of this study used a nonequivalent control group posttest-only design. This design involves two different classes that are not randomly selected (cluster sampling). Each class had a different role in the research process. Class X-MP1 (office management) was served as the experimental class. The students in this class received treatment in the form of learning activities using the Nias Culture-Based English Textbook. The learning process lasted for four meetings, where students studied narrative text and descriptive text, which was then followed by an evaluation session. Each evaluation was conducted using a posttest consisting of 10 multiple choice questions. This test aimed to assess students' understanding of the material taught using culture-based textbooks, especially in understanding the two types of text.

On the other hand, class X-MP2 (office management) served as the control class. This class was taught using the students' textbook commonly used in schools named old version in this research, without integrating local cultural elements as in the experimental class. Learning in this class was also conducted for four meetings, with narrative and descriptive materials. After learning, students took the same posttest evaluation as the experimental class. This evaluation aimed to compare students' level of understanding of narrative and descriptive texts based on the different learning resources used.

The complete schedule of research implementation is presented on the table below:

Table 4.8 Research Schedule

No	Schedule	Class	Activity
1	06-05-2025	X-MP1	Teaching the students about narrative text part 1 using Nias Culture based English Textbook
2	06-05-2025	X-MP2	Teaching the students about narrative text part 1 using Students' Textbook
3	10-05-2025	X-MP1	Teaching the students about narrative text part 2 using Nias Culture based English Textbook
4	11-05-2025	X-MP2	Teaching the students about narrative text part 2 using Students' Textbook
5	13-05-2025	X-MP1 & X-MP2	Post-test
6	17-05-2025	X-MP1	Teaching the students about descriptive text part 1 using Nias Culture based English Textbook

7	18-05-2025	X-MP2	Teaching the students about descriptive text part 1 using Students' Textbook
8	20-05-2025	X-MP1	Teaching the students about descriptive text part 2 using Nias Culture based English Textbook
9	27-05-2025	X-MP2	Teaching the students about descriptive text part 2 using Students' Textbook
10	03-06-2025	X-MP1 & X-MP2	Post-test

During the implementation stage, the researcher also conducted observations and evaluations to assess the practicality and effectiveness of using local culture-based textbooks in English learning. The practicality was examined through direct classroom observations, focusing on how the material supported students' engagement and the development of 21st century skills, namely the 4Cs: Critical Thinking, Creativity, Communication, and Collaboration. Throughout the four meetings, students in the experimental class were observed to actively participate in discussions, express their ideas clearly, work cooperatively in groups, and respond creatively to the tasks given. These findings indicated that the textbook could be practically applied in real classroom settings and effectively encouraged interactive learning.

1. Observation Results of 4C's

The results showed variations in the mastery of 4C skills (Collaboration, Communication, Creative, and Critical Thinking) in each student. All students were divided into four groups, with a total of 20 students, namely:

Group 1 consisted of students A, B, C, D, and R, who showed variations in their mastery of the 4C skills. Student A showed good ability in communication and critical thinking. He actively asked questions and understood the material well, but was less involved in group discussions, reflecting weaknesses in collaboration and creative. Student B excels in communication, but has not shown progress in collaboration, critical thinking, or creative. He prefers to work individually and was less open in expressing opinions. In contrast, student C has mastered all aspects of the 4Cs. He actively discussed, asked critical questions, and provided creative ideas, thus becoming a positive example in his group. Student D has good

abilities in collaboration, communication, and critical, but his contribution in creative still needed to be improved. Meanwhile, student R showed strengths in collaboration and creative with his fresh ideas and good cooperation, but was still less active in discussions, which shows the need for improvement in communication and critical thinking.

Group 2 consisted of students E, F, G, H, and S. Student E was considered to excel in the aspects of collaboration, communication, and critical thinking. He acted as a group leader who actively facilitated the discussion, but was still lacking in creative because he had not provided many new ideas. Student F had good abilities in critical thinking and creative, but did not show enough cooperation in the group. He tends to be individualistic even though his mastery of the material is relatively strong. Student G only showed mastery in critical thinking through the results of individual assignments, but he was very passive in group work. he needed strengthening in the aspects of communication, collaboration, and creative. In contrast, student H mastered all aspects of the 4Cs. He was active, critical, communicative, and creative, and able to encourage other group members to be more involved in the learning process. Student S has mastery in communication and creative, seen from his courage to express opinions and interesting ideas. However, he has not shown optimal involvement in teamwork and still needs to develop his critical thinking.

Group 3 consisted of students I, J, K, L, and T. Student I showed mastery in collaboration, communication, and critical thinking, but lacked in creative. He was active in the discussion but rarely provided new creative ideas. Student J showed good ability in collaboration, communication, and creative. He was able to work together and provide interesting ideas but still had limitations in understanding the material, so his critical thinking aspect has not developed optimally. Student K mastered communication and creative. He often gave creative suggestions to his group but seemed less confident in discussing critically and less involved in teamwork, so his collaboration and critical thinking aspects still needed to be improved. Meanwhile, Student L showed full mastery of

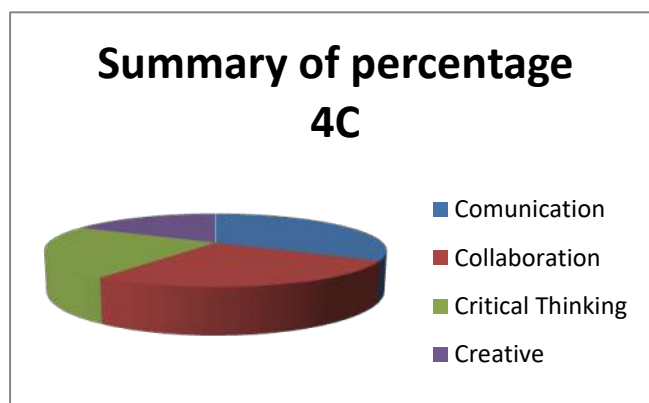
all 4C aspects. He was active, communicative, creative, and able to analyze and solve problems well, so he became one of the most prominent students in his group. Student T showed strength in communication and collaboration. He was supportive, responsive in discussions, and often helped to keep the group focused. However, his contribution in terms of critical thinking and creativity was still limited, as he tends to follow rather than initiate ideas or challenge perspectives.

Group 4 consisted of students M, N, O, P and Q. Student M mastered all aspects of the 4Cs very well. He was able to lead group discussions, think critically, express creative ideas, and encourage other group members to actively participate. Student N also showed a thorough mastery of the 4Cs. He was active, critical, and collaborative, and contributed greatly to creating positive dynamics in the group. Student O only showed sufficient mastery in collaboration. He seemed unfocused and unmotivated, and did not show adequate ability in communication, creativity, and critical thinking. Student P had strengths in critical thinking and communication. He was able to express opinions logically and critically, but has not shown consistent creativity, and sometimes disrupted the focus of group work with his behavior. Student Q showed good communication and collaboration skills. He actively listened to his peers, conveys ideas clearly, and helped mediate when there were differences of opinion. However, she needed to develop her creative and critical analysis further, as her contributions sometimes lacked depth or originality.

Based on observations of 20 students divided into four groups, findings showed varying levels of mastery across the four core 21st century (4C) skills of Communication, Collaboration, Critical Thinking and Creativity. The most dominant skill observed was **Communication**, with 17 out of 20 students (85%) demonstrating the ability to express ideas clearly, actively participate in discussions, and engage meaningfully in classroom interactions. This showed that most students were confident in sharing their thoughts and contributing to group conversations. The second most developed skill was **Collaboration**, as 14 students (70%) were able

to work effectively in teams, listen to peers, and participate actively in group tasks. This showed that most students had a good sense of cooperation and collaboration, although some students still preferred to work independently. **Critical Thinking** was seen in 12 students (60%), who were able to analyze problems, draw logical conclusions, and ask relevant questions. However, some students still needed help to deepen their reasoning and structure their arguments more clearly. The least mastered skill was **Creativity**, with only 9 students (45%) showing the ability to generate new ideas and make original contributions during learning activities. These results highlight the need for more targeted and engaging strategies to nurture students' creativity and innovation, ensuring a more balanced development of all four essential skills. Data can be seen in the pie below:

Pie 4.1 Summary of Percentage 4C



2. Learning Outcome Evaluation

To measure the effectiveness of the learning process, posttest evaluation was conducted for both experimental and control class after the implementation stage. The posttest consisted of 10 multiple choice questions that assessed students' understanding of narrative and descriptive texts. The test results were used to compare academic performance between students who received treatment using local culture-based textbooks and those who did not. The following table presents the results of the posttest evaluation in the experiment class on the next page:

Table 4.9 Evaluation Score of Experiment Class

CLASS X-MP1			
No	Name	Chapter 1 Evaluation Score	Chapter 2 Evaluation Score
1	Student A	90	90
2	Student B	90	90
3	Student C	90	100
4	Student D	80	100
5	Student E	80	90
6	Student F	90	80
7	Student G	90	90
8	Student H	60	70
9	Student I	90	100
10	Student J	70	80
11	Student K	60	90
12	Student L	30	60
13	Student M	80	80
14	Student N	100	100
15	Student O	80	90
16	Student P	90	100
17	Student Q	50	80
18	Student R	80	100
19	Student S	70	100
20	Student T	80	90
Total		1550	1880
Mean Score		77.5	94

When looking at the results of the posttest given to students in class X-MP1 (office management) who learned using local culture-based textbooks, specifically those integrating Nias cultural content, the results showed a significant improvement in student learning outcomes. The total score achieved by all students in Chapter 1 was 1.550, resulting in an average score of 77.5, which filled into the good category. Meanwhile, the total score for Chapter 2 reached 1.880, with an average score of 94, indicating a very good level of understanding.

To further examine the effect of learning using the culture-based textbook, it is necessary to compare it with the results from the control class, who learned without using the textbook. The results of the control class can be seen in the table below on the next page:

Table 4.10 Evaluation Score of Control Class

CLASS X-MP2			
No	Name	Chapter 1 Evaluation Score	Chapter 2 Evaluation Score
1	Student 1	50	60
2	Student 2	50	50
3	Student 3	10	40
4	Student 4	40	50
5	Student 5	40	50
6	Student 6	40	40
7	Student 7	30	40
8	Student 8	40	40
9	Student 9	30	40
10	Student 10	50	70
11	Student 11	20	50
12	Student 12	20	50
13	Student 13	50	60
14	Student 14	50	70
15	Student 15	50	50
16	Student 16	50	60
17	Student 17	10	30
18	Student 18	40	50
19	Student 19	40	40
20	Student 20	30	50
Total		740	990
Mean Score		37	49.5

To further examine the effect of learning using the Nias culture-based textbook, it is necessary to compare it with the results of the control class (Class X-MP2), who learned without using the textbook. The total score obtained by the control class in Chapter 1 was 740, with a mean score of 37.00, while in Chapter 2, the total score was 990, resulting in a mean score of 49.50. Based on these results, it can be seen that the students' comprehension level in the control class falls into the "enough" to "fair" category, which is notably lower than that of the class.

When comparing the posttest results between the experimental and control class, a clear difference can be observed. The experimental class, who learned with the support of a culture-based textbook integrating Nias culture, achieved much higher average scores in both chapters (77.5 and 94) compared to the control class (37.00 and 49.50).

In parallel, the effectiveness of the learning process was assessed through a posttest evaluation given to the experimental and control class. The

results showed that the experimental class, which used culture-based textbooks, achieved higher mean scores than the control class. This performance gap indicates that the use of culturally contextualized materials contributed positively to students' understanding of narrative and descriptive texts. Thus, based on the observation and evaluation data collected during implementation, this product is considered practical and effective in enhancing students' English learning experience. This significant gap in performance indicates that the use of culturally-based materials plays an important role in improving students' understanding and engagement during the learning process.

4.1.5. Evaluation

The evaluation stage was the final phase in the product development process based on ADDIE model. This stage aimed to determine the effectiveness and feasibility of the Nias culture-based textbook developed for Grade X vocational high school students. The evaluation was carried out using data collected through student questionnaires from three sources: the experimental class involved in the implementation stage, teacher's perception and an additional dissemination class from a different school that also tested the textbook. The combination of responses from both class served to provide broader insights into students' engagement, understanding, and interest in the learning materials. These results functioned as supporting evidence in evaluating the textbook's overall practicality and cultural relevance.

The questionnaire consisted of seven statements, each rated using a four-point Likert scale, ranging from 1 (strongly disagree) to 4 (strongly agree). The aspects measured included: (1) ease of use and clarity of the Nias culture-based English textbook, (2) relevance of content and activities to students' learning needs and interests, (3) contribution of the textbook to the development of 21st century skills such as critical thinking, communication, collaboration, and creativity, (4) integration of Nias cultural elements and their role in enhancing students' understanding and appreciation of local culture, (5) balance between language learning and cultural exploration, (6)

attractiveness and ease of use of the layout, design, and visual features of the textbook, and (7) students' overall perception of the textbook as a valuable learning resource. The researcher distributed the questionnaire to 20 students in the experiment class, the results are shown in the following table:

Table 4.11 Students' Questionnaire Distribution Experiment Class

No	Aspect of Statement	Score				Total Score	Mean	Percentage (%)
		1	2	3	4			
1	Ease of use and clarity of the Nias culture-based English textbook	0	0	0	20	80	4.00	100%
2	Relevance of content and activities to students' learning needs and interests	0	0	2	18	78	3.90	97.50%
3	Contribution of the textbook to the development of 21 st century skills	0	0	3	17	77	3.85	96.25%
4	Integration of Nias cultural elements and their role in enhancing students' understanding and appreciation of local culture	0	0	7	13	73	3.65	91.25%
5	balance between language learning and cultural exploration	0	0	4	16	76	3.80	95%
6	Attractiveness and ease of use of the layout, design, and visual features of the textbook	0	2	3	15	73	3.65	91.25%
7	Students' overall perception of the textbook as a valuable learning resource	0	0	2	18	78	3.90	97.50%

Table 4.12 Representation of Students' Questionnaire Distribution (Experiment Class)

Aspect	Mean Score (Max 4)	Percentage	Interpretation
Overall Practicality Score	3.82	95.5%	Very Practical

Based on the results of the questionnaire distributed to 20 students from the experimental class, a total score of 535 out of a maximum score of 560 was obtained. The average score (mean) of all statements was 3.82, which equates to a percentage of 95.5%. These results indicate that the students gave a very positive response to the use of the Nias culture-based English textbook. All aspects measured, ranging from ease of use, material relevance, 21st century skills development, to the integration of local culture and visual design, were rated very favorably by students. Thus, this book is considered

very practical to be used in the learning process at the Vocational High School level.

The researcher also distributed the same questionnaire to 21 students from another vocational high school (dissemination class) to get wider feedback on the use of the Nias culture-based English textbook. This activity is part of the final stage in the process of developing teaching materials, which according to Fayrus & Slamet (2022), dissemination includes packaging, diffusion, and adoption activities. This stage aimed to ensure that the development product is not only completed internally, but can also be utilized and applied by other parties. Thus, distributing questionnaires to this dissemination class was an important step to obtain wider responses and evaluations as a basis for assessing the applicability and effectiveness of teaching materials before wider use. The following presents the results of feedback from questionnaires that have been distributed to students of the dissemination class:

Table 4.13 Students' Questionnaire Distribution Dissemination Class

No	Aspect of Statement	Score				Total Score	Mean	Percentage (%)
		1	2	3	4			
1	Ease of use and clarity of the Nias culture-based English textbook	0	0	3	18	81	3.86	96.43%
2	Relevance of content and activities to students' learning needs and interests	0	0	10	11	74	3.52	88.10%
3	Contribution of the textbook to the development of 21 st century skills	0	0	6	15	78	3.71	92.86%
4	Integration of Nias cultural elements and their role in enhancing students' understanding and appreciation of local culture	0	0	3	18	81	3.86	96.43%
5	balance between language learning and cultural exploration	0	0	4	17	80	3.81	95.24%
6	Attractiveness and ease of use of the layout, design, and visual features of the textbook	0	0	5	16	79	3.76	94.05%
7	Students' overall perception of the textbook as a valuable learning resource	0	2	4	15	76	3.62	90.48%

Table 4.14 Representation of Students' Questionnaire Distribution (Dissemination Class)

Aspect	Mean Score (Max 4)	Percentage	Interpretation
Overall Practicality Score	3.74	93.45%	Very Practical

Based on the results of the questionnaire distributed to 21 students from the dissemination class, a total score of 552 out of a maximum score of 588 was obtained. The average score (mean) of all statements was 3.74 which is equivalent to a percentage of 93.45%. These results indicate that the students gave a very positive response to the use of the Nias culture-based English textbook. All aspects evaluated - including ease of use, content relevance, development of 21st century skills, integration of Nias cultural elements, and visual design - received favorable ratings.

The researcher also collected feedback from teacher as learning practitioner, in addition to data obtained from students in the experimental and dissemination classes. The purpose of distributing questionnaires to teachers was to obtain professional views on the practicality and feasibility of using Nias culture-based textbooks in English teaching and learning activities at Vocational High Schools. The teacher involved assessed seven main aspects of the textbook, including curriculum alignment, content relevance, ease of use, material structure, teacher guidance, visual design, and the book's contribution to supporting 21st century skills. This feedback provides additional supporting evidence in assessing the extent to which the textbook can be used effectively by teacher, in addition to the results obtained from learners. The results of the teacher questionnaire are presented in the following table:

Table 4.15 Teacher Questionnaire

No	Statement	Score			
		1	2	3	4
1	The textbook aligns with the national curriculum and effectively integrates Nias cultural elements			√	
2	The content is relevant to students' cognitive level, vocational background, and learning needs.			√	
3	The textbook is practical and easy to use in classroom activities.				√
4	The material is well-structured and successfully integrates				√

	Nias cultural values				
5	The teacher's guide provides clear instructions and support for lesson delivery.			√	
6	The layout and visual design are attractive and help students better understand the material.			√	
7	The textbook effectively supports the development of students' 21 st -century skills (critical thinking, creativity, communication, and collaboration).				√
Total Number		24			
Mean		3.43			
Percentage		85.71%			

Based on the results of the questionnaire filled out by teachers as learning practitioners, a total score of 24 out of a maximum score of 28 was obtained, with an average value (mean) of 3.43 or a percentage of 85.71%. These results indicate that teachers responded positively to the use of Nias culture-based English textbooks in teaching and learning activities in vocational schools.

4.2. Discussion

The selection of this focus directs the discussion to two main aspects of the research, namely the development process and product quality. This study aims to answer two main focuses, namely: (1) what is the process of developing Nias culture-based English textbooks for vocational high school students, and (2) what is the quality of the developed textbooks in terms of feasibility, practicality, and effectiveness.

4.2.1. Analysis and Interpretation of Research Findings

1. The Development Process of Nias Culture-Based English Textbook

The development process was conducted through ADDIE model (Analysis, Design, Development, Implementation, and Evaluation), which was adapted to the characteristics of vocational high school students as well as the local cultural values of Nias. The process began with a needs analysis to understand students' background knowledge and learning challenges. This stage revealed that many students had difficulty in understanding the subject matter due to the lack of contextual connections in the textbooks they used. This is in line with Tomlinson (2023), who argues that learning

materials should activate students' prior knowledge and reflect their real-life context to enhance engagement and understanding.

At the design stage, the researcher selected appropriate Nias cultural stories and contexts, such as traditional folklore, everyday cultural practices and unique local wisdom, for inclusion in the content. These elements were chosen not only for their authenticity but also for their potential to foster cultural identity and appreciation among students. Paculan & Maguilang (2024) emphasize that culturally responsive teaching materials help students connect emotionally and cognitively with the content, thus enhancing their learning motivation. Next, relevant learning materials and tasks were developed. Each unit in the textbook is organized with narrative or descriptive text followed by communicative activities, discussion prompts, and problem-solving tasks. Special emphasis is given to the integration of 21st century skills-communication, collaboration, critical thinking, and creativity-in classroom activities. This is in line with Vargas et al., (2024), who highlight that 21st century learning, requires materials that stimulate student participation, innovation and reflective thinking.

In the development stage, a draft textbook was created and then validated by experts. The validation results showed high quality in four main aspects: cultural content (100%), material relevance (100%), design (85.71%), and language (95.55%). These values reflect that the textbook meets academic and contextual standards. According to BSAKP (2022), a good textbook should be appropriate in terms of structure, content accuracy, and alignment with curriculum objectives, as well as being culturally and linguistically appropriate for its users.

In the implementation stage, researcher used a quasi-experimental method using a post test-only non-equivalent control group design. In this approach, two classes were selected - one class as the experimental group using Nias culture-based textbooks, and another class as the control group using student textbooks. Both groups

were given a post test at the end of the implementation phase to compare learning outcomes. Although the classes were not randomly assigned, this design allowed the researcher to analyse the impact of the culture-based textbooks on students' comprehension and performance in English language learning. The combination of systematic development through ADDIE and empirical testing through a quasi-experimental design ensured that the creation and validation of the product was grounded in practical classroom realities. As pointed out by Winda et al., (2024), the implementation phase is crucial in ensuring that the materials are not only pedagogically sound but also practically applicable.

Lastly, in the evaluation phase, the overall product was assessed for its feasibility, practicality, and effectiveness. The development process confirmed that integrating local culture into English learning materials could bridge the gap between language input and learners' lived experiences, resulting in a more meaningful and empowering learning process.

2. Product Feasibility Based on Expert Validation

The validation results from the experts showed that the textbook scored very high on all four aspects of the assessment.

a) Cultural Aspect Validation

The cultural validation of the textbook was conducted by Mr. Yafaowolo'o Gea, S.S., M.Sc., M.A., a cultural expert and official at the Ministry of Tourism. He confirmed that the textbook is "suitable for use as educational material to preserve the cultural values and character of the Nias people." This endorsement reflects the relevance and cultural integrity embedded in the content of the textbook. The validation results confirmed that the textbook fully reflects the local culture, traditions and values of Nias, both in the text and illustrations. This is in line with the first indicator which emphasizes the importance of cultural representation in educational materials.

According to Huang & Song (2024), textbooks that depict learners' native culture help build a strong cultural identity and create meaningful learning experiences.

In terms of cultural sensitivity, validators found no evidence of cultural stereotyping, bias or discrimination in the textbooks. This supports Kitayama & Salvador (2024) opinion that culturally responsive materials promote inclusive learning and avoid misrepresentations that can alienate students. Cultural context relevance was also rated high, as the examples, character names, and visuals used in the textbook were appropriate and familiar to students in the Nias context. This aspect is very important, as Tomlinson (2023) argues that meaningful input should be able to relate to students' real lives to foster deeper understanding and emotional connections. In addition, the textbook encourages tolerance and appreciation for cultural diversity, not only by showcasing local values but also by fostering respect for other cultures, thus supporting the intercultural goals of English language education. This is in line with Asrifan & Dewi (2024) view, who emphasizes the importance of intercultural competence as the main goal of language learning.

In addition, the book strongly supports the formation of national character and identity, by integrating tasks that strengthen students' sense of belonging and pride in local cultural heritage. Finally, validators appreciated how the textbook integrates cultural elements into the learning activities, allowing students to actively engage with their culture during the learning process. This reflects Bagea (2023) emphasis on culturally meaningful tasks within a communicative language teaching framework.

Overall, the textbook scored a perfect 100% in the cultural validation, indicating that the textbook is highly feasible and

appropriate for classroom use. These results suggest that incorporating local culture into English textbooks is not only pedagogically effective, but also culturally empowering for students in vocational high schools.

b) Language Aspect Validation

The language aspect of the textbook was validated by Mr. Fidelis Halawa, S.Pd., M.A., founder of the EIF CMB in Gunungsitoli. He stated that the book is “appropriate to be used as a reference for a generation that values their mother tongue” and that it “deserves to be published.” Her endorsement reflects the clarity of language and cultural resonance of the textbook. Based on her assessment, the language used in the book is considered clear, effective, and age-appropriate for vocational high school students. The sentence structure is accurate and straightforward, the terminology is standardized, and the overall use of language facilitates understanding of ideas and instructions.

The textbook also meets communicative principles, with messages that are clear and easy for students to understand. In addition, the book also contains dialogic and interactive elements that help motivate students and stimulate critical thinking something that is essential in 21st century education. Validators noted that the grammar and spelling were mostly accurate, and although there were minor revisions suggested for consistency in the use of certain terms and icons, the overall language presentation was rated “very worthy” with a total score of 42 out of 44 (95.55%). This is in line with the views of Aprilia & Ambarwati (2023) emphasize that textbooks should use language that is not only structurally correct but also communicative and relevant to the developmental stage of learners. In this case, the language used in the textbook clearly supports its pedagogical function and contributes to students' cognitive and language development in an engaging way.

c) Design Aspect Validation

The design aspect of the textbook was assessed by Mr. Artha Providensia Gulo, S.Art, a fine arts teacher at SMA Negeri 1 Gunungsitoli. He praised the book as “very attractive, with a strong title and theme,” and highlighted the boldness in exploring shapes, colors, illustrations, and visuals. In his opinion, the book has significant value not only as an educational tool, but also as a means to elevate folklore and promote scientific knowledge. She emphasized that the visual presentation needs attention to ensure the book is truly ready for publication, as it can help students find interesting and meaningful references.

Based on the validation indicators, the book was rated highly for its visual appeal, which effectively attracted students' interest and matched their preferences. The use of color was judged to support content comprehension without being distracting. While aspects such as layout, typography, and illustrations scored slightly lower (score 3), they were still considered good and appropriate for students' cognitive level. The book cover was also considered communicative and informative, clearly representing the theme of the book through elements such as the title, author, and visual design. Overall, the total score reached 24 out of 28, equivalent to 85.71%, and was categorized as “very feasible”. This is in line with BSAKP (2022), which states that high-quality textbooks should have visual appeal, readability, clarity of structure, and cognitive appropriateness, as well as ensuring accessibility and student engagement. In this context, the design of the Nias culture-based textbook met key visual and structural standards that enhance educational impact and student appeal.

d) Design Aspect Validation

The material component of the textbook was validated by Mr. Sonazaro Bu'ulolo, S.Pd, an English teacher at SMK Negeri 1

O'o'u, the school where this study was conducted. As a validator and an active classroom practitioner, Mr. Bu'ulolo emphasized that the book provides clear explanations and is easily understood by students, which supports a more effective teaching and learning process. He also noted that the textbook enables differentiated learning and aligns with the principles of comprehension by design, allowing students to construct meaning from contextually rich content.

From the validation results, all indicators under the material feasibility aspect received the highest scores, resulting in a perfect score of 36 out of 36 or 100%, and thus categorized as “Very Feasible”. The book is confirmed to be in accordance with the values of Pancasila, free from discriminatory content, pornography, violence, or hate speech. The book's material is also in line with national curriculum standards, ensuring its relevance to official education guidelines. In addition, the content was considered highly contextualized, aligned with the environmental and cultural realities of Nias Island, and designed to be interactive, supporting students' development of 21st century skills such as communication, collaboration, critical thinking and creativity. In addition, the internal structure of the textbook was described as coherent and logically organized, facilitating a smooth learning flow. These results reinforce the opinion of BSAKP (2022), which states that effective teaching materials should be safe, inclusive, curriculum-appropriate, and sensitive to learners' context. By fulfilling all these criteria, the Nias culture-based English textbook has proven itself as a powerful and valuable resource for English language teaching in vocational high school.

Based on the validation results from four experts on the aspects of culture, language, design, and material, it can be concluded that this Nias culture-based textbook is very feasible to

be used in English language learning in vocational high schools. The cultural validator, Mr. Yafaowolo'o Gea, gave a perfect score of 100% and confirmed that the book supports the preservation of the values and character of Nias society. In terms of language, Mr. Fidelis Halawa gave a score of 95.55% and stated that the book is worth publishing because it is communicative and in accordance with the cognitive level of students. The design aspect was validated by Mr. Artha Providensia Gulo with a score of 85.71%, highlighting the visual strength, boldness of form exploration, and visual appeal of the book to students. Meanwhile, the material aspect received a 100% rating from Mr. Sonazaro Bu'ulolo who stated that the book is easy to understand and able to accommodate differentiated learning. With an average score above 90%, these results reinforce the finding that this product not only meets the technical and pedagogical feasibility criteria, but also aligns with local cultural values and 21st century learning needs as affirmed by Huang & Song (2024), Aprilia & Ambarwati (2023), and BSAKP (2022).

3. Practicality of Textbooks in Classroom Learning

Assessment of the practicality of textbooks in classroom learning is conducted to determine the extent to which the developed textbooks can be used effectively by students in daily learning activities. This practicality was assessed from two main aspects. First, through direct observation of the implementation of learning in the classroom when using textbooks, then practicality is also analyzed based on the posttest results obtained from students in experimental and control classes. Comparison of these results provides an indication of whether the use of textbooks has a positive impact on the achievement of student learning outcomes in practice in the field. Thus, these two approaches provide a comprehensive picture of the level of practicality of textbooks in real learning contexts.

a) Observation Results of 4C's

The practicality of the developed English textbook is evident from the active engagement of students during the learning process, as observed through the mastery of the 4C skills-Communication, Collaboration, Critical Thinking, and Creativity. Observations of 20 students grouped into four teams, showed varying levels of development in these skills. Communication emerged as the most prominent, with 85% of students confidently expressing ideas, participating in discussions, and actively engaging in classroom dialog. This is in line with Ali (2024), sociocultural theory, which emphasizes the importance of social interaction in cognitive development; the use of local cultural content likely created a familiar and meaningful context, making it easier for students to share thoughts. Collaboration was the next most developed skill, with 70% of students demonstrating teamwork, listening to peers and active participation in group activities. (Kvellestad et al., 2021) argue that cooperative learning environments foster interpersonal and group skills, and the inclusion of collaborative tasks in this textbook seems to support that assertion.

Critical thinking was evident in 60% of the students, who analyzed problems, drew conclusions, and asked thoughtful questions. This finding is consistent with Buranova & Rakhmonova (2024), view that critical thinking is nurtured through problem-based and context-rich learning environments - both of which are embedded in the textbook content. Meanwhile, Creativity was the least mastered skill, with only 45% of students demonstrating original thinking or generating new ideas. According to Anaktototy (2023), creativity requires not only cognitive flexibility, but also a safe and supportive environment for taking risks-conditions that may still need to be reinforced in classrooms.

Despite the variations, these findings confirm that the textbook is practical for classroom use and capable of facilitating the development of real-world 21st century skills among vocational high school students. As supported by Sari (2019), teaching materials that are contextually meaningful and interactive increase student engagement and practical application of knowledge, especially when aligned with students' cultural backgrounds.

b) Learning Outcome Evaluation

Another strong indicator of the textbook's practicality lies in its impact on student learning outcomes, as evidenced by the posttest results. Students in the experimental class (X-MP1), who learned using the Nias culture-based English textbook, showed significant improvement in terms of comprehension. In Chapter 1, the total class score reached 1.550, with an average score of 77.5, placing students in the “good” category. In Chapter 2, their performance further improved, reaching a total score of 1.880 and an average of 94, indicating a “very good” level of mastery. These results reflect the effectiveness of integrating local culture into language learning materials, providing students with familiar and contextually relevant content that enhances engagement and comprehension. This is in line with Vargas et al., (2024) statement that meaningful learning occurs when new information is connected to existing knowledge and cultural background.

In contrast, the control class (X-MP2), which learned using students' textbook without contextualization of Nias culture, scored much lower. Their total score for Chapter 1 was 740, with an average score of 37.00, and in Chapter 2 they obtained a total score of 990, with an average score of only 49.50- both falling into the “fair” to “adequate” category. This sharp contrast between the two groups highlights how culturally enriched learning resources not only increase student

participation, but also produce tangible academic gains. This finding reinforces the views of Tomlinson (2023), who states that materials designed with students' cultural identities in mind tend to be more engaging and pedagogically effective, especially in language education. Thus, the practical use of this textbook was validated not only through classroom engagement, but also through measurable improvements in student achievement.

Based on findings from classroom observations of 4C skills development and posttest results, it can be concluded that the Nias culture-based English textbook demonstrated a high level of practicality. The observation data shows that the textbook actively engages students in real classroom settings, especially in improving communication and collaboration skills two important components of 21st century competencies. Although creativity is still a developing area, the overall student engagement shows that the materials are accessible, relevant, and able to foster important soft skills. In addition, the significantly higher posttest scores achieved by students in the experimental class, compared to students in the control group, provided concrete evidence that the textbook not only facilitated active participation but also improved academic performance. Together, these results confirm that the textbook is not only feasible but also practical for use in real teaching contexts, especially in schools that seek to integrate local culture into effective language learning.

d. Effectiveness of Textbooks based on Student and Teacher Feedback

The effectiveness of the developed Nias culture-based English textbook was assessed through student feedback obtained through questionnaires distributed to the experimental and dissemination classes. This evaluation aims to measure how effective the product supports the learning process from the students' perspective, focusing on aspects such as ease of use, relevance of the material,

attractiveness, and support for 21st century skills development. Such feedback provides direct insight into the practicality and meaningfulness of the cultural content integrated in the textbook, as well as its impact on student motivation and engagement. Student perceptions are an important indicator of a product's effectiveness, as they reflect the actual learning experience and how well the learning materials meet students' needs and expectations.

a) Student Perceptions in the Experiment Class

Feedback obtained from the experimental class indicated very positive student perceptions of the use of the Nias culture-based English textbook. All students (100%) agreed that the textbook was easy to use and understand, reflecting a perfect mean score of 4.00. This ease of use is an important element in the effectiveness of textbooks, as emphasized by Huang & Song (2024), who state that clarity and accessibility are essential to foster learner autonomy and engagement. In addition, the relevance of the textbook's content and activities received a strong approval rating, with 97.50% approval and an average score of 3.90, indicating that students felt the materials were highly relevant to their learning needs and interests. This is in line with the opinion that relevant and meaningful materials can increase intrinsic motivation (Setiani 2020).

The textbook also scored highly in promoting 21st century skills, with 96.25% agreement. Students recognized its role in encouraging critical thinking, communication, collaboration and creativity - a result that directly supports the 21st century education framework advocated by Joynes et al., (2019). While the integration of Nias cultural elements received a slightly lower, but still strong response (91.25%), this indicates that students value the inclusion of local culture, which helps build cultural identity and contextualized learning (Tomlinson 2023). Similarly, aspects such as the balance between language learning and

cultural exploration (95%), as well as visual and design elements (91.25%), contributed to overall student satisfaction. Ultimately, 97.50% of students considered this textbook to be a valuable learning resource, which reinforced its practical and cultural relevance in modern classrooms. Collectively, these results confirm that this textbook not only meets pedagogical standards but also resonates meaningfully with students' needs and cultural context.

b) Student Perceptions in the Dissemination Class

In the dissemination class, which consisted of X OTKP (office management) students at SMK Negeri 1 Bawolato, the questionnaire results also showed a favourable perception of the Nias culture-based English textbook. The aspect that received the highest score was the clarity and ease of use of the textbook, with an average score of 3.86 (96.43%), indicating that the textbook material was easily understood by students. This supports the views of Huang & Song (2024), who emphasize that easy-to-understand input and well-structured materials increase student engagement and reduce cognitive overload. The integration of Nias cultural elements received an equally high mean score of 3.86. This suggests that students in different contexts also value the inclusion of local culture, which is in line with Tomlinson (2023), idea of multicultural education fostering cultural awareness and identity. The textbook was also positively rated for its contribution to the development of 21st century skills (3.71 or 92.86%), which reaffirms its practical function beyond linguistic competence.

Although slightly lower than the experimental class, the relevance of content and activities still received a fairly good average score of 3.52 (88.10%), which indicates that although most students found the content interesting, some students may have different learning preferences. Meanwhile, the visual

presentation and layout were appreciated (3.76 or 94.05%), which contributed to the usability and attractiveness of the book, elements that influence students' willingness to engage with the learning materials (Tomlinson (2023). The overall perception of the book as a valuable resource scored 3.62 (90.48%), confirming that the textbook retains its effectiveness even when applied in different school contexts. These findings validate the general adaptability and applicability of the product, which reinforces its effectiveness in promoting language and cultural literacy.

Based on the results of the questionnaire from the experimental class and the dissemination class, it can be concluded that the Nias culture-based English textbook is effective in supporting the learning process. All seven aspects evaluated from ease of use, content relevance, 21st century skill development, cultural integration, balance between language and culture, visual appeal, and overall value consistently received high scores in both environments, with average percentages ranging from 88.10% to 100%. These results reflect the textbook's ability to meet students' learning needs, enhance their cultural awareness, and develop essential 21st century competencies. The consistency of positive responses across various classes and schools confirms the overall effectiveness of the product as a relevant, engaging, and culturally responsive learning resource.

c) Teachers' Perceptions as Practitioners

The teacher questionnaire yielded a total score of 24 out of 28, with an average score (mean) of 3.43 (85.71%), indicating a generally positive professional perception of the Nias culture-based English textbook in vocational high schools. Teacher highlighted that the textbook aligns with the national curriculum, effectively integrates Nias cultural elements, is practical for classroom use, and provides adequate support through teacher guides and a clear

material structure. This finding is in line with the views Hidayati & Eny (2023) in their evaluation of post-pandemic English textbooks, which emphasizes the importance of the practicality of textbooks and their suitability to curriculum expectations to ensure their usefulness for teachers and students.

In terms of visual design and clarity, Singh et al. (2023) show that textbooks equipped with appropriate visuals significantly improve understanding and learning retention among students. Teacher in this study also rated the layout and visual aspects as appealing and useful, reinforcing the importance of well-designed materials for effective classroom use. Regarding the integration of 21st century skills (4Cs), while teacher rated the support as positive, they noted room for improvement. This aligns with recent findings by researchers in vocational education, particularly Zhao et al. (2023), who emphasize that materials must intentionally integrate critical thinking, collaboration, communication, and creativity skills to prepare learners for future challenges.

Overall, the feedback provided by teacher indicates that the Nias culture-based textbook developed is in line with curriculum requirements and demonstrates that its practical design and integration of cultural elements can effectively support the English language learning process in the classroom. However, teacher believe there is still room for improvement, particularly in terms of enhancing interactivity and clarifying the integration of 21st century skills (4Cs) to optimize its use in the classroom.

4.2.2. Research Findings versus Previous Research

The findings of this study indicate that the development of a Nias culture-based English textbook for vocational high school students is not only feasible and practical, but also contributes significantly to improving student engagement, cultural appreciation and 21st century skills. When compared to previous studies, there are some differences in terms of scope, implementation and outcomes.

Research by Handayani & Aprilliandari (2022), entitled “Developing a Bangka Belitung Cultural-Based English Textbook for Tourism Vocational High School Students”, focused on the development and feasibility test of an English textbook integrated with Bangka Belitung local culture. Their research used the Dick and Carey development model and showed that the textbook was deemed feasible by content experts (82%), media experts (84.05%), and teachers (83.14%), with students' post-test scores increasing from 67.95 to 78.15. Although their study affirmed the importance and feasibility of such textbooks, this study mainly emphasized expert validation and student outcomes from a testing perspective. The difference from the research “Developing a Nias Culture-Based English Textbook to Enrich 21st Century Skills for Vocational High School Students” namely this study used ADDIE model and not only confirmed the feasibility but also evaluated the practicality and wider acceptance through implementation in experimental classes and dissemination classes in different schools. The high mean scores (3.82 and 3.74) and percentages (95.5% and 93.45%) generated reflected strong student responses regarding content clarity, cultural relevance, and usability.

Research by Inderawati et al. (2021) entitled “Analysis of the Needs of Vocational High School Textbooks for Local Cultural Materials and 21st Century Competencies” analysed students' needs for cultural content and skills related to 21st century competencies. Conducted at SMK Negeri 3 Palembang, the study involved questionnaires and interviews with students in the travel agent program. Findings showed a lack of English language materials that incorporated Palembang culture, highlighting students' desire for content that supports career skills and cultural identity. Unlike the needs analysis study that stopped at the pre-development stage, the research “Developing a Nias Culture-Based English Textbook to Enrich 21st Century Skills for Vocational High School Students” produced and implemented a complete textbook and validated its effectiveness through feedback from students. Moreover, while both studies emphasized the connection between local culture and 21st century skills, the current research provides empirical

evidence through practical classroom use, demonstrating how the materials taught foster skills such as communication, collaboration and creativity in real learning environments.

The third study by Adlis et al. (2022), entitled “Improving Students' Reading Skills in Understanding English Texts Using Culture-Based Text Teaching Materials”, research focuses on improving reading comprehension skills through the use of local texts at the high school level. This study uses the classroom action research (CAR) method and emphasizes collaborative steps with teachers to increase student engagement in reading, discussing, and answering reading questions.

In contrast, the study “Developing a Nias Culture-Based English Textbook to Enrich 21st Century Skills for Vocational High School Students” not only emphasizes reading comprehension through texts but also develops textbooks that support broader and more practical 4C skills (Communication, Collaboration, Critical Thinking, and Creativity) in line with the needs of vocational high school students. Additionally, this research employs a Research and Development (R&D) design, resulting in a final product a textbook that has been verified and tested (feasible, practical, and effective).

In conclusion, while the previous three studies emphasized the importance of integrating local culture into English language learning, this study extends its contribution by developing a comprehensive, contextually rich and practically tested English textbook that can be adapted into a variety of educational settings. The combination of strong validation, cultural integration, and positive student acceptance suggests that this Nias culture-based English textbook is not only effective but can also be extended for wider use in vocational education.

4.2.3. Research Findings versus Theory

The findings of this study indicate that the development of Nias culture-based English textbooks aligns with several previous studies and relevant educational theories. Research conducted by Handayani & Aprilliandari (2022), Inderawati et al., (2021), and Adlis et al., (2022) consistently emphasizes the importance of integrating local culture into

English learning, especially for vocational students. They state that textbooks enrich with local cultural values not only support contextualize and meaningful learning but also improve students' critical and creative skills, which are part of 21st century skills.

This finding is in line with the results of the current study, where students in the experimental and dissemination classes showed improvements in engagement, understanding and appreciation of their local culture, along with the development of 4C skills. Theoretically, this finding is supported by the theory of constructivism, which states that learners construct knowledge actively based on meaningful experiences and contexts. The use of local cultural elements in textbooks helps students relate new knowledge to previous experiences, thus deepening their understanding (Allen, 2022). In addition, cognitive theory also supports this approach by stating that learning becomes more effective when new information is presented in a relevant and structured manner (Amhimid, 2025). The integration of Nias culture in this textbook fulfills this principle by providing a meaningful learning structure.

However, some studies provide a different point of view. For example, research by Mahmud (2019) states that the use of local cultures in textbooks can interfere with the achievement of language learning goals if not balanced with a strong linguistic focus. Similarly, Monica et al. (2023) find that students in urban areas or multicultural environments tend to respond less positively to textbooks that focus on one local culture, as they are considered less inclusive or irrelevant. These contrasting findings suggest that while culture-based teaching materials have many benefits, their effectiveness are still influenced by the context of the learners and the way they are presented.

Despite differing views, this research proves that in the context of vocational students in the Nias region, the developed textbooks are pedagogically effective while strengthening cultural identity. Overall, the findings of this study confirm that with proper design and appropriate contextualization, local culture-based textbooks can significantly improve students' language competence and cultural awareness in vocational education.

4.2.4. Research Findings Implication

Several implications can be drawn regarding the development and use of Nias culture-based English textbooks in vocational high schools. The points are as follows:

1. English Learning is More Contextual and Meaningful

The integration of Nias local wisdom in teaching materials makes English learning more relevant to students' lives. Students find it easier to understand and remember the material because it is taught through a cultural context that is close to them.

2. Increasing Student Motivation, Engagement and 21st Century Skills

Materials that are directly related to their own culture increase students' learning motivation and make them more active in the learning process. In addition, students are also trained to think critically, communicate effectively, work together in teams, and display creativity when interpreting Nias culture in English.

3. Encouraging Transformation of Teachers' Roles as Contextual Learning Facilitators

This finding indicates that teachers no longer act only as material deliverers, but must become facilitators who are able to link English learning with students' local culture.

4. Influencing Curriculum Development and Education Policy

The findings indicate the importance of a flexible and contextualized curriculum that allows for the development of teaching materials based on local culture. Governments and educational institutions need to support this initiative through the provision of resources, teacher training, and policies that encourage culture-based learning innovations.

5. Directions for Future Research and Innovation

This research opens up opportunities for further studies on the effectiveness of culture-based teaching materials in different regions and levels of education. In addition, the use of technology and the

development of alternative learning methods based on local wisdom can be the focus of further innovations in English language teaching.

4.2.5. Research Findings Limitation

Although the results of this study show that the development of Nias culture-based English textbooks is feasible, practical and effective, there are still some limitations that need to be recognized. Firstly, this research was conducted within a limited period of time, so the implementation of the product in the field could not be done in an ideal learning duration. The limited time also limited the depth of material exploration and reinforcement activities for each language skill.

Secondly, the main focus of this book development tends to be on reading skills, given the form of narrative and descriptive text-based materials. This causes other skills such as speaking, writing, and listening not to be worked on in a balanced manner. Third, the form of assessment used in this study is still limited to multiple-choice written tests. This type of evaluation generally only measures vocabulary recognition and basic understanding, so it does not fully provide an in-depth picture of the mastery and application of vocabulary in real contexts. The use of more varied assessment instruments, such as oral interviews or project-based tasks, can provide richer insights into learners' mastery of language skills.

Fourth, in the process of compiling cultural content, the selection of representative folktales is a challenge, especially in terms of obtaining relevant, valid and reliable sources. Some of the stories collected are still oral and not well documented, so careful interpretation is required. Fifth, the application of this book is still limited to a small number of classes and schools in a particular area, so the results may not necessarily be generalized to other areas that have different cultural contexts or characteristics of learners.

Recognizing these limitations, it is hoped that further research can be carried out in a wider scope of time, with a more comprehensive focus on skill development, and involving more varied and in-depth evaluations so that the effectiveness of this textbook can continue to be improved.