Development of Ethical Learning Models Based on Toba Batak Culture to Shape Students' Character

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Sections Info	ABSTRACT
	Objective: This study aimed to develop and examine the effectiveness of a character education learning model based on Batak Toba cultural values in improving students' character development and learning outcomes in elementary schools. **Methods:** This research employed a research and development (R&D) approach by integrating the Dick and Carey instructional design model with the Borg and Gall development procedure. The experimental design used a one-group pretest–posttest design, followed by an experimental comparison between the experimental and control classes. The research subjects consisted of fourth-grade students from several elementary schools in Humbang Hasundutan Regency, Indonesia. Data were collected through expert validation sheets, student activity observations, learning outcome tests, and character questionnaires. Data analysis was conducted using descriptive and inferential statistics, including normality, homogeneity, and independent t-tests. **Results:** The results indicate that the developed learning model met the criteria of validity, practicality, and effectiveness. Student learning completeness increased from 61.11% in Trial I to 83.33% in Trial II and reached 86.11% in Trial III. Statistical testing revealed a significant difference between the experimental and control groups ($t = 7.322$; $p < 0.05$), where the experimental group achieved a higher mean score (32.42) than the control group (23.39). Furthermore, students' character responses reached a positive level with an achievement rate of 85.016%. **Novelty:** The novelty of this study lies in the systematic development of a character education learning model that explicitly integrates Batak Toba cultural values, particularly the Dalihan Na Tolu philosophy, into a structured five-stage learning syntax: motivation, direction, practice, demonstration, and campaign, which has been empirically proven to enhance students' character formation and learning outcomes.

INTRODUCTION

The development of globalization has brought significant changes to various aspects of human life, including education and the character formation of the younger generation. The increasingly strong global trend not only drives technological and scientific advancements but also raises various social and moral challenges in the life of modern society. Phenomena such as an increase in individualistic lifestyles, a decline in social concern, and the weakening of moral and ethical values in social life show indications of an increasingly worrying character crisis. This condition does not only occur in the community in general but also begins to be seen among students in school environments (Lickona, 2012; Liu et al., 2014).

Education plays a very important role in facing these challenges because it is the main foundation for shaping the quality of a nation's human resources. Through education, individuals not only acquire knowledge and skills but also moral and social values that are the foundation of society, the nation, and the state. Therefore, education is expected to function as a vehicle for the transformation of values, science, technology,

and culture, which play a role in shaping students' characters from an early age (Purwaningsih & Ridha, 2024). In this context, character development is one of the main goals of education because a strong character will determine the quality of individuals in dealing with various dynamics of social life.

Character education is a learning process that aims to instill good moral values, attitudes, and behaviors in students (Santika, 2020). Character education not only emphasizes the cognitive aspect but also includes affective and psychomotor dimensions related to the formation of individual moral attitudes and behaviors. According to Bujang et al. (2023), character education involves three main components: moral knowing, moral feeling, and moral action. These three components must be integrated in the learning process so that students not only understand moral values conceptually but are also able to internalize them in their daily behavior.

Although character education has become a focus in the education system, its implementation in schools still faces various challenges. In practice, the learning process in many schools tends to be oriented towards academic achievement and mastery of subject matter. The learning approach used is often expository and teacher-centered; consequently, students are less actively involved in the learning process. As a result, the learning process provides less space for students to develop character values through meaningful learning experiences (Hazlelah & Hassan, 2022).

This problem is also seen in learning practices in elementary schools, especially in Humbang Hasundutan Regency. Based on the results of observations conducted in several elementary schools, it is known that the learning resources used in the learning process are limited to textbooks and conventional teaching aids. The learning model applied by teachers is not fully able to actively involve students in the learning process; therefore, the expected character values have not developed optimally. In addition, many teachers lack experience in developing a learning model that can systematically integrate character education into classroom learning activities.

To overcome these problems, innovation is needed in the learning process that can integrate character values in a contextual and meaningful way for students. One approach that can be used is to utilize local cultural values as a learning resource in the learning process. Local culture is a system of values, norms, and social practices that develop in people's lives and are inherited from generation to generation. The integration of local culture in learning can provide a more contextual learning experience for learners because it is directly related to their social environment (Rohman, 2024; Prastyo et al., 2025).

Indonesia, as a country with cultural diversity, has great potential to utilize local cultural values in character education. One such local culture with a strong social value system is the Toba Batak culture. Toba Batak culture contains various social values related to kinship, mutual cooperation, respect for parents, and social responsibility in community life. These values are reflected in the philosophy of Dalihan Na Tolu, which is the basis for the social relations of the Toba Batak community. The philosophy emphasizes the importance of a balanced social relationship, respect for others, and responsibility in social life (Hasibuan, 2021; Oktovia et al., 2025).

Although various studies have emphasized the importance of integrating local culture into character education, studies that specifically develop systematic and empirically tested local culture-based learning models are still relatively limited. Most previous research has focused more on the integration of character values in the

curriculum or the development of teaching materials based on local culture (Andini and Sirozi, 2024; Sugiyarti et al., 2024; Wahyudi and Wuryandani, 2024). Meanwhile, the development of learning models that explicitly integrate local cultural values into the learning syntax has not been widely conducted. Therefore, development research is needed that can produce a learning model based on local culture that is not only culturally relevant but also effective in improving learning outcomes and shaping students' characters.

Based on these problems, this study aims to develop a model of ethics learning based on Batak Toba culture that can be used as a learning strategy for shaping the characters of elementary school students. This learning model is designed by integrating the cultural values of Batak Toba with constructivist learning principles and scientific learning approaches to create a meaningful learning experience for students. In particular, this study aims to: (1) develop a valid and suitable Batak Toba culture-based ethical learning model that is suitable for use in elementary school learning, and (2) test the effectiveness of the developed learning model in improving learning outcomes and shaping the characters of elementary school students.

Literature Review
A. Character Education

Character education is an important aspect of the education system that aims to form individuals with moral values, attitudes, and behaviors that are in accordance with social norms. Education not only functions as a means of knowledge transfer but also as a process of personality formation that includes the development of students' cognitive, affective, and psychomotor aspects. In this context, character education is an important foundation for building a generation that is not only intellectually competent but also has moral integrity and social responsibility.

The concept of character education is closely related to the development of moral values, which are reflected in individual attitudes and behaviors in daily life. Herawati et al. (2022); Berkowitz (2022) explained that character education involves three main components: moral knowing, moral feeling, and moral action. Moral knowing is related to an individual's understanding of moral values; moral feeling is related to the emotional awareness of those values; and moral action is related to the individual's ability to apply moral values in real behavior.

In the context of school education, character education can be integrated into various learning activities that involve social interactions between teachers and students. Wahid and Pamungkas (2019) state that character education should be an integral part of all educational activities, both in the learning process in the classroom and in extracurricular activities at school. Thus, character education is not only taught as a concept but also practiced through various learning experiences that allow students to internalize moral values in daily life.

The character values that need to be developed in education include various moral and social aspects, such as religiosity, honesty, responsibility, hard work, tolerance, and concern for the environment. These values are the basis for the formation of the character of students who are able to play a positive role in community life. Therefore, character education must be conducted systematically through a learning process that integrates these values into student learning activities.

B. Culture-Based Learning

Culture-based learning is a learning approach that utilizes cultural values as a learning resource in the educational process. Culture is a product of human creation, taste, and karsa, which is reflected in the value system, norms, and social practices that develop in society. Culture not only functions as the identity of a society but also as a source of knowledge that can be used in the learning process.

According to Kim (2020) and Causadias (2020), culture can be understood as a whole system of ideas, actions, and human works obtained through the learning process in people's lives. Culture has three main forms: a system of values and ideas, a system of social activities, and a system of artifacts or human works. These three forms of culture can be used as relevant learning resources in education.

Culture-based learning allows students to learn through a context close to their lives. By using local culture as a learning resource, students can understand concepts in a more contextual and meaningful way. Caingcoy (2023) stated that culturally responsive teaching can increase students' involvement in the learning process and help them develop their cultural identity.

Cultural integration in learning also plays an important role in shaping students' characters. Socially developed cultural values often contain moral principles that can form the foundation for character education (Saryono et al., 2024). Therefore, the use of local culture in the learning process can help students understand the moral values that apply in society and encourage them to internalize these values in their daily lives.

C. Batak Toba Cultural Values in Education

Toba Batak culture is a local culture in Indonesia with a strong social value system and philosophy of life (Hutahaean and Agustina, 2020). In Toba Batak society, social relations are governed by the principles of kinship, reflected in the philosophy *of Dalihan Na Tolu*. This philosophy is the basis of social interaction in the Toba Batak community, which emphasizes the balance of relationships between individuals in the kinship structure.

Dalihan Na Tolu describes three main elements in the social relations of the Toba Batak community: hula-hula, dongan tubu, and boru (Oktovia et al., 2025). These three elements reflect the relationships of mutual respect, cooperation, and social responsibility in community life. These principles not only function as social rules but also contain moral values that can be used as a basis for character education.

In addition to *Dalihan Na Tolu*, Toba Batak culture also contains various other social values, such as mutual cooperation (marsiadapari), respect for parents, and the spirit of togetherness in people's lives. These values reflect the importance of social solidarity and collective responsibility in community life. In the context of education, these values can be integrated into the learning process as a means to instill character values in students.

By utilizing Toba's Batak cultural values as a learning resource, students can learn not only from academic materials but also from the cultural values that develop in their society. This allows the learning process to be more contextual and relevant to students' lives.

D. Learning Model Development

The learning model is a conceptual framework used as a guideline in designing and implementing the learning process in the classroom. It includes various interrelated

components, such as learning objectives, learning steps, interactions between teachers and students, and learning environments that support the learning process.

According to Nur and Sabur (2025), a learning model is a plan or pattern that can be used to design a curriculum, design learning materials, and guide the learning process in the classroom. The learning model has several main components, namely learning syntax, the social system, the reaction principle, the support system, and the instructional and accompanying impacts.

In this study, the learning model developed is a Toba Batak culture-based ethical learning model that integrates local cultural values in the learning process. This model is designed with a constructivist approach that places students at the center of the learning process. Through this approach, students are expected to build their own knowledge through interactions with their social and cultural environments.

This learning model also integrates a scientific learning approach that includes five main steps: observing, questioning, gathering information, reasoning, and communicating. This approach allows students to be actively involved in the learning process so that they can improve their understanding of concepts and develop critical thinking skills.

The development of a Batak Toba culture-based learning model is expected to strengthen character education through a contextual and meaningful learning process. By integrating local cultural values into the learning model, students not only acquire academic knowledge but are also able to understand and internalize the moral values that develop in their society.

RESEARCH METHOD
A. Research Design
This study uses a research and development (R&D) approach that aims to develop and test the feasibility and effectiveness of the Batak Toba culture-based ethical learning model. The R&D approach is used because this research not only produces learning products in the form of learning models and learning tools but also conducts a process of validation, revision, and empirical testing to ensure that the developed model has an adequate level of validity, practicality, and effectiveness in the learning process.

The learning model developed in this study refers to Dick and Carey 'slearning design model, which emphasizes the development of a systematic and structured learning system. This model includes several main stages, namely, the identification of learning objectives, learning analysis, analysis of students' initial characteristics, formulation of learning objectives, development of learning strategies, development and selection of learning materials, formative evaluation, learning revision, and summative evaluation.

In addition, the development procedure adapts the development research steps proposed by Borg and Gall, which include the initial analysis stage, expert evaluation, limited trials, empirical data collection, reflection and revision, and final model development. The integration of the two development models aims to ensure that the developed learning model meets the criteria of validity, practicality, and effectiveness.

To test the effectiveness of the developed learning model, this study used a one-group pretest–posttest design. In this design, students were first given a pretest to determine their initial abilities before being subjected to treatment. Furthermore, the students participated in learning using the Batak Toba culture-based ethical learning

model. After the learning process was completed, the students were given a final test (posttest) to determine the improvement in learning outcomes after the implementation of the learning model.

B. Location and Research Subject

This study was conducted in elementary schools in Humbang Hasundutan Regency, North Sumatra Province, Indonesia, in 2019. The research subjects comprised elementary school teachers and fourth-grade students who participated in thematic learning with the theme of Care for Living Beings.

The population in this study comprised all the elementary schools in Humbang Hasundutan Regency. The sampling technique was carried out using purposive sampling, taking into account the suitability of cultural characteristics and school conditions that are relevant to the research context. Based on these criteria, 22 elementary schools were obtained and used as research samples.

C. Model Development Procedure

This research was carried out through two main stages, namely the learning model development stage and the learning model implementation stage. In the first stage, the development of learning models and learning tools was carried out which included learning implementation plans (RPP), learning modules, teacher books, student books, and research instruments. The development process began with an analysis of the need to identify problems related to the implementation of character education in elementary schools. Based on the results of the analysis, a Toba culture-based ethical learning model was designed and integrated with thematic learning.

The learning models and tools that have been designed are then validated by experts to assess the feasibility of content, language, design, and suitability with the applicable curriculum. After the validation process, a limited trial was conducted to assess the quality of the learning tools and research instruments developed.

The results of the trial were analyzed and used as a basis for revising learning models and tools to produce better learning products. Furthermore, the revised learning tools were implemented in the classroom learning process to test the effectiveness of the developed learning model.

D. Research Instruments

Data collection in this study used several research instruments designed to assess the validity, practicality, and effectiveness of the learning model. The instruments used included expert validation sheets, student activity observation sheets, observation sheets on teachers' ability to manage learning, learning outcome tests, student character questionnaires, and student response questionnaires to learning.

Expert validation sheets are used to assess the feasibility of learning models and tools based on several aspects, namely content, language, design, and curriculum suitability. Observation instruments are used to observe student activities during the learning process and teachers' ability to manage learning activities in the classroom.

Learning outcome tests are used to measure students' cognitive abilities after participating in the learning process. The test is in the form of multiple-choice questions, comprising 40 questions designed based on Bloom's taxonomy and including four levels of cognitive ability: knowledge (C1), comprehension (C2), application (C3), and analysis (C4).

In addition, the student character questionnaire was used to measure the development of students' character values, including their relationships with God, themselves, others, the country, and the natural environment. The student response questionnaire was used to determine students' responses to the learning process using the developed learning model.

E. Data Analysis Techniques

The data obtained in this study were analyzed using descriptive and inferential statistical analyses. Descriptive analysis was used to describe the level of validity of the learning tools, student activities during learning, teachers' ability to manage learning, and students' responses to the applied learning model. The validity of the learning model and tools was analyzed based on the results of the experts' assessment using a five-level assessment scale, namely, very invalid, invalid, moderately valid, valid, and very valid. The learning tool was declared valid if the minimum average score was in the category of valid enough.

The effectiveness of the learning model was analyzed based on student learning outcomes and responses to learning. Student learning completeness was determined based on the criterion of at least 70% completeness, and learning was declared effective if at least 80% of students achieved learning completeness.

To test the research hypothesis, inferential statistical analysis was conducted. Before hypothesis testing, normality and homogeneity tests were conducted on student learning outcome data to ensure that the data met the assumptions of parametric statistical analysis. If the data are normally distributed and homogeneous, hypothesis testing is conducted using an independent-samples t-test to determine the difference in learning outcomes between students who participated in learning using the learning model developed and students who participated in conventional learning.

F. Research Hypothesis

Based on the study's purpose, the hypotheses proposed in this study are as follows:

H1: The culture-based ethical learning model of Toba Batak developed is suitable for use in learning in elementary schools.

H2: The culture-based ethical learning model of the Toba Batak is effective in improving students' learning outcomes.

RESULTS AND DISCUSSION

Results

A. Development of a Toba Batak Culture-Based Ethics Learning Model

1. Learning Model Design

The results of this study produced a Toba Batak culture-based ethical learning model designed to strengthen students' character formation through the integration of local cultural values in the learning process. The development of this model is based on a constructivistic approach that emphasizes that knowledge is actively constructed by learners through social interactions, learning experiences, and involvement in problem-solving activities during the learning process.

The conceptual foundation of this model integrates the philosophical values contained in Toba Batak culture, especially the values reflected in the Dalihan Na Tolu kinship system, which emphasizes the principles of mutual respect, cooperation, and

social responsibility in community life. These cultural values are integrated into thematic learning activities at the elementary school level so that the learning process is not only oriented towards the mastery of cognitive knowledge but also the development of attitudes and behaviors that reflect positive character.

This learning model is designed to create a contextual and culture-based learning process by making the social and cultural environment the main source of learning. Through this approach, students are expected to understand and internalize character values through meaningful learning experiences that are relevant to daily life. The learning process is also designed to encourage students to actively participate in discussions, work together in groups, and reflect on the moral values learned.

In addition, this learning model integrates local wisdom with modern pedagogical practices so that the learning process becomes more authentic and in accordance with the sociocultural context of the students. Thus, this model is expected to increase the relevance of learning and strengthen the role of local culture as a source of learning in character education.

2. Syntax of Learning Models

The syntax of the Batak Toba culture-based ethics learning model was developed by adapting the philosophical values contained in the Toba Batak cultural tradition. The learning process in this model is arranged in five main stages: motivation, direction, practice, demonstration, and campaign.

a. Motivation

This initial stage aims to arouse students' motivation and readiness to learn. Teachers provide stimuli in the form of cultural stories, daily life experiences, or reflections on moral values related to Toba Batak culture. This activity aims to foster students' awareness of the importance of character values in life.

b. Direction

At this stage, the teacher directs students to the learning objectives by introducing key concepts related to character and cultural values. Teachers use various learning media, such as images, audio-visuals, and contextual examples, to help students understand the learning material.

c. Practice

The imitation stage emphasizes practice or simulation activities that allow students to imitate and practice the character values that have been learned. Learning activities can take the form of group discussions, role-playing, or problem-solving activities related to real-life situations.

d. Demonstration

At this stage, students apply the character values learned in various learning activities and social interactions in the school environment. The teacher provides students with the opportunity to demonstrate behaviors that reflect the moral values they have learned.

e. Campaign

The final stage aims to strengthen the internalization of character values through experience sharing, presentations, or moral values campaigns with peers. Through this

activity, students are expected to be able to spread positive character values to the school environment and society.

The five stages show that the learning process in this model is designed in stages, starting from the stage of awareness development, concept understanding, value practice, value application, value application, and culminating in the spread of character values in the social environment.

3. Components of the Learning Model

The Toba culture-based ethical learning model developed in this study has several main components that serve as the basic framework for its implementation in the learning process.

a. Learning Syntax

Learning syntax describes the sequence of learning activities carried out in the learning process. In this model, learning syntax consists of five main stages: arouse, direct, imitate, practice, and campaign.

b. Social Systems

In this model, the social system regulates the pattern of interaction between teachers and students during the learning process. The learning process is designed to encourage cooperation, discussion, and collaboration between students in solving learning problems. The teacher plays the role of a facilitator who guides students through the learning process.

c. Reaction Principle

The reaction principle describes how teachers respond to student activities and behaviors during the learning process. In this model, teachers play the roles of facilitators, motivators, and mediators who provide guidance and feedback to student learning activities.

d. Support Systems

The supporting system included various learning tools that supported the implementation of learning models, such as learning implementation plans (RPP), teacher books, student books, learning modules, student worksheets, and learning media based on Batak Toba culture.

e. Instructional Impact and Companion Impact

The instructional impact of the application of this learning model is the increase in student learning outcomes and understanding of the character values contained in the Toba Batak culture. Meanwhile, the accompanying impact of the implementation of this model is the development of social attitudes, the ability to work together, and students' increasing awareness of the importance of preserving the local culture.

B. Expert Validation Results

1. Learning Model Expert Validation Results

Expert validation was conducted to verify the validity of the learning tools, content, and language that covered all the developed devices. The results of the expert validation were used as the basis for revising and improving the learning tools. The revised learning tools based on the input from these validators were subsequently tested. The validators who validated the developed learning tools comprised four experts.

a) Ratings and Responses for Linguists

The assessment conducted by the validator included the following indicators: format, language, and content of the learning implementation plan. In revising, the researcher referred to the results of the discussion by following the suggestions and instructions of the validator. The analysis of the data resulting from expert validation of Assessment and Response for Linguists is presented in Table 1.

Table 1. Assessment Validation Results and Responses for Linguists

Assessment Aspects	Assessment Indicators	Assessment Alternatives			
		1	2	3	4
Aspects of Language Use	1. Accuracy of sentence structure			√	
	2. Sentence effectiveness			√	
	3. Clarity of language in the material			√	
	4. Sentence clarity				√
	5. The attractiveness of language style			√	
	6. Using good and correct Indonesian rules			√	
	7. Clarity of letters				√
	8. Symbols used				√
Language Accuracy Aspects	9. Clarity of command or instructional words.			√	
	10. The language used is simple, straightforward and easy to understand			√	
	11. Using EYD-enhanced spelling			√	
Aspects of Student Development Suitability	12. Language adapted to the student's developmental stage			√	
	13. Language can stimulate students' imagination			√	
	14. Language easy for students to understand			√	
Quantity				33	12
Average		45 x 100/14 = 3,214			

As shown in Table 1, the average score of each aspect of the assessment aspect of the Assessment and Response for Linguists validator is greater than or equal to 3.214 (≥ 3.0) with the "valid" category, and the average overall score on the assessment and response for the linguist is in the category above four with the "valid" criterion. Therefore, it can be concluded that Assessment and Response for Linguists can be used with minor revisions.

b) Assessments and Responses for Design Experts

The assessment conducted by the validator included the following indicators: format, language, and content of the learning implementation plan. In revising, the researcher referred to the results of the discussion by following the suggestions and instructions of the validator. The analysis of the data resulting from the expert validation of the Assessment and Response for Design Experts is presented in Table 2.

Table 2. Assessment Validation Results and Responses for Design Experts

Assessment Aspects	Assessment Indicators	Assessment Items	Assessment Alternatives			
			1	2	3	4
Presentation Eligibility	Serving Techniques	1. Consistency of presentation systematics in learning activities			√	
		2. Conceptual collapse				√
	Presentation Support	3. Examples of questions in learning activities			√	

Assessment Aspects	Assessment Indicators	Assessment Items	Assessment Alternatives			
			1	2	3	4
		4. Practice questions at the end of the lesson				√
		5. Accuracy of image selection			√	
		6. Accuracy of color selection in the image		√		
		7. Accuracy of story selection				√
		8. Introduction				√
Presentation	Learning Presentation	9. Student involvement in learning activities				√
		10. Encourage students to answer in their own way				√
Language	Coherence and Collapse of Mindsets	11. Linkage between learning activities				√
		12. Serving Time				√
		13. Ease of language understanding			√	
Image Selection	Display Quality	14. Display			√	
		15. Illustration			√	
Quantity				2	18	32
Average			52/15 = 3,47			

From Table 2, it can be seen that the average score of each aspect of the assessment aspect of the assessment and response for the validator design expert gave a score greater than or equal to 3.47 (≥ 3.0) in the "valid" category, and the average overall score on the assessment and response for the design expert was in the category above four with the "valid" criterion. Therefore, it can be concluded that the Assessment and Response for Design Experts can be used with minor revisions.

c) Ratings and Responses for Subject Matter Experts

The assessment conducted by the validator included the following indicators: format, language, and content of the learning implementation plan. In revising, the researcher referred to the results of the discussion by following the suggestions and instructions of the validator. The analysis of the data resulting from the expert validation of the Assessment and Response for Subject Matter Experts is presented in Table 3.

Table 3. Assessment Validation Results and Responses for Subject Matter Experts

Assessment Aspects	Assessment Indicators	Assessment Items	Assessment Alternatives			
			1	2	3	4
Content Eligibility	Quality of Learning Materials	1. Clarity of learning objectives				√
		2. Accuracy of material coverage			√	
	Learning Delivery System	3. Truth of concept				√
		4. Compatibility with the curriculum				√
		5. Open-ended compatibility				√
		6. Accuracy of the sequence of learning materials			√	
		7. Depth of learning material			√	
Presentation	Quality of Learning	8. Quality Introduction				√
		9. Student involvement and role in				√

Assessment Aspects	Assessment Indicators	Assessment Items	Assessment Alternatives			
			1	2	3	4
	Strategies	learning activities				
		10. Encourage students to answer in their own way				√
		11. Quality of feedback				√
		12. Serving time				√
		13. The Quality of the Exercises			√	
Language	Quality of Learning Materials	14. Digestibility of the material and logical exposure				√
		15. Ease of language understanding				√
Image Selection	Display Quality	16. Display			√	
		17. Illustration			√	
		Quantity			18	44
		Average		62/17 = 3,65		

As shown in Table 3, the average score of each aspect of the assessment aspect of the Assessment and Response for Subject Matter Validator is ≥ 3.65 (≥ 3.0) with the "valid" category, and the average overall score of the Assessment and Response for Design Expert is in the category above four with the "valid" criterion. Therefore, it can be concluded that the Assessment and Response for Subject Matter Experts can be used with minor revisions.

d) Assessments and Responses for Learning Model Experts

The assessment conducted by the validator included the following indicators: model rationale, supporting theory, model content, syntax, social system, reaction principle, support system, and objective/impact. In revising, the researcher referred to the results of the discussion by following the suggestions and instructions of the validator. The analysis of the data results of expert validation on assessment and response for subject matter experts is presented in Table 4.

Table 4. Assessment Validation Results and Responses for Model Experts

Assessment Aspects	Assessment Indicators	Assessment Items	Assessment Alternatives			
			1	2	3	4
Rasional Model	Learning paradigm	1. The learning objectives given are able to provide an overview of the abilities that must be possessed in learning				√
		2. Conformity with the demands of the 2013 curriculum			√	
		3. The rationale for model development is relevant to the model				√
	The Foundations of the Learning Model	4. Have a foundation for model development				√
		5. Have a philosophical, psychological, and practical foundation in model development			√	
Supporting Theories	Cognitivistic and Constructivist Understanding	6. The development theory presented is sufficient to be used as a basis in the preparation of the Learning Model			√	
		7. The concept of relevant character as the foundation of the learning model				√
		8. Cognitive and Constructivist theories				√

Assessment Aspects	Assessment Indicators	Assessment Items	Assessment Alternatives			
			1	2	3	4
		related to the process of creative character, hard work and curiosity are relevant to support the Learning Model				
Model Contents	Structure model	9. Presentation organization in general				√
		10. Attractive general view				√
		11. Consistent linkage between language materials				√
	Model writing organization	12. Material coverage				√
		13. Clarity and order of material			√	
		14. The relationship between the problem and the context of the student's life/cognition contained in the model book				√
		15. Evaluation and assessment are clearly stated				√
	Presentation	16. Presentation technique			√	
		17. Coherence and Collapse of Mindsets				√
Syntax	Syntax in learning activities	18. Have clear learning steps			√	
		19. High syntax implementation rate			√	
		20. The phases of syntax describe the principle of active and fun learning				√
		21. The syntax phases contain concrete steps in conducting learning that can shape the character of students				√
		22. The phases of the syntax contain simple and easy-to-do steps				√
Social systems	Visible social interaction	23. The cooperation between the students is clearly visible				√
		24. There is interaction between teachers and students				√
		25. There is interaction between students and students				√
Principle of reaction	Reactions in activities	26. Visible student activity			√	
		27. It can be seen that students are easier in solving problems from the discussion materials provided			√	
		28. The role of teachers as facilitators can be seen			√	
		29. The role of teachers as supervisors can be seen			√	
		30. The role of teachers as evaluators can be seen				√
Support system	Supporting materials and facilities	31. The classroom in the study is very comfortable				√
		32. Guidebook available in full				√
		33. Supporting materials for learning activities				√
		34. The atmosphere of the classroom and the school environment				√
		35. Facilities in supporting learning activities				√
Objectives/	Direct impact	36. The significance of students'			√	

Assessment Aspects	Assessment Indicators	Assessment Items	Assessment Alternatives			
			1	2	3	4
Impact	and indirect impact	experiences in learning				
		37. Improved learning outcomes			√	
		38. Can shape the character of students				√
		39. Improving students' ability to solve problems at school and in their environment				√
		40. Improving students' ability to interact socially				√
Quantity					39	108
Average			147/40 = 3,675			

As shown in Table 4, the average score of each aspect of the assessment aspect of the Assessment and Response for the validator Model Expert was greater than or equal to 3.675 (≥ 3.0) with the "valid" category, and the overall average score of the Assessment and Response for the Model Expert was in the category above four with the "valid" criterion. Therefore, it can be concluded that the Assessment and Response for Model Experts can be used with minor revisions.

From Table 1, Table 2, Table 3, and Table 4 it is clear that the assessment of the Assessment and Response for the Linguist validator gives a score greater than or equal to 3.214 (≥ 3.0) in the "valid" category, the assessment from the Assessment and Response for the validator Design Expert gives a value greater than or equal to 3.47 (≥ 3.0) in the "valid" category, and the assessment of the Assessment, the Response for the Subject Expert validator gives a score greater than or equal to 3.65 (≥ 3.0) in the "valid" category, and the Response for the validator model expert gives a value greater than or equal to 3.675 (≥ 3.0) in the "valid" category.

2. Learning Tool Validation Results

Learning planning is a follow-up to the revision/improvement of test instruments and learning tools, such as lesson plans, student books, and teacher manuals. Expert validation was conducted to verify the validity of the learning tools, content, and language that covered all the developed devices. The results of the expert validation were used as the basis for revising and improving the learning tools. The revised learning tools based on the input from these validators were subsequently tested.

The assessment aspect of the results of the validation of the learning tool plan (RPP) achieved a score greater than or equal to 4.40 (≥ 3.0) with the "valid" category. Therefore, it can be concluded that Assessment and Response for Experts can be used with minor revisions.

The assessment aspect of student book validation results gave a score greater than or equal to 4.03 (≥ 3.0) with the "valid" category. Therefore, it can be concluded that the Assessment and Response for Experts can be used with minor revisions. The assessment aspect of the teacher's manual validation results gave a score greater than or equal to 3.94 (≥ 3.0) with the "valid" category. Therefore, it can be concluded that the Assessment and Response for Experts can be used with minor revisions.

The assessment aspect of the validation results of the learning management observation sheet yielded a score of ≥ 3.98 (≥ 3.0) in the "valid" category. Therefore, it can be concluded that Assessment and Response for Experts can be used with minor revisions.

The assessment aspect of the validation results of the student character questionnaire yielded a score of ≥ 3.95 (≥ 3.0) in the "valid" category. Therefore, it can be concluded that Assessment and Response for Experts can be used with minor revisions. The assessment of the results of the validation of student learning outcomes tests yielded a score of ≥ 4.09 (≥ 3.0) in the "valid" category. Therefore, it can be concluded that Assessment and Response for Experts can be used with minor revisions.

Based on the results of the validation calculation of all these devices, it can be concluded that the device is in the valid category; that is, it is suitable for use in field trials during the research stage. For more details, it can be illustrated on the histogram. The distribution of student scores shown above can be described by histograms as statistical diagram data, as shown in Figure 1.
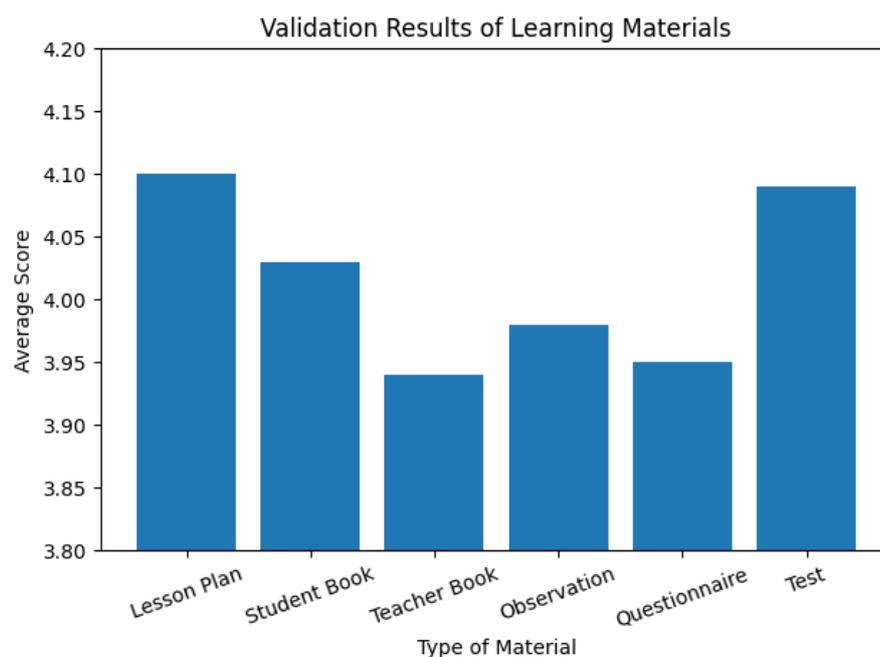

Figure 1. Assessment of Learning Tool Expert Assessments and Responses

3. Field Validation Data Analysis

Before the trial, a simulation of Draft II was conducted for 36 grade IV elementary school students through field validation. This class was not used for trial classes. This simulation aimed to assess the validity and reliability of the learning outcome test. The results of the simulation analysis were used to revise Draft II.

The Learning Outcome Test Trial aimed to obtain data on the validity of test items and the reliability of test items and to provide input for revising question items. The results of the analysis of the validity of the test items and the reliability of the test are as follows:

Validity

The Learning Outcome Test Trial aimed to find and obtain data on the validity of test items and to input revision question items. From the calculation of validity, it can be known that the invalid question of the 44 question items is 2 question items, this can be known the invalid number, namely question item number 31 with a value $r = 0.30$, question item number 44 with a value $r = 0.19$, so that for these 2 invalid items will be discarded and the learning outcome test instrument will not be used in the research.

Because the rtable values for items 31 and 44 were <, there were 42 valid items used to capture research data. Based on the data on the calculations obtained, the validity level of each test item was in the very high, high, and medium categories. Of the 44 valid questions, the test items can be said to be valid because they are suitable for use without revision.

Reliability

Based on the calculation results, a reliability coefficient of 0.989 was obtained. This means that the reliability of the developed student learning outcome tests falls into the "very high" category. This indicates that all the test items meet the reliability criteria and can be used without revision.

C. Trial Results Using the Learning Model

1. Trial Results I

The first trial was carried out in grade IV for three schools, namely SD Negeri 173395 Doloksanggul, SD 173363 Baktiraja and SD Negeri 173398 Doloksanggul. The following is a summary of the scores of students of SD Negeri 173395 Dolok sanggul with many test subjects of six students from each school, where 2 students were low-capable, 2 students were moderately capable, and 2 students were high-capable, making a total of 18 students. Learning in this class was conducted 18 times in accordance with the lesson plan provided. In the first trial, instrument trials and trials were conducted using the Toba Batak Culture-Based Ethics Learning tool that had been provided. Therefore, the data from trial 1 were analyzed to determine the effectiveness of the learning tool based on empirical data.

Results of Student Character Analysis

The results of observations on student character during trial I. The following are calculated scores and percentage of student character during trial learning I in the table. Student character questionnaires about how important character education values are can be seen in the questionnaire given to students. The student questionnaire data can be seen in their entirety in Table 5.

Table 5. Student Character Questionnaire in Trial I

Character Aspects	Number of Items	Dominant Answer	Trends	Category
Relationship with God	7	P – SP	Tinggi	Good
Relationship with Self	9	CP – P	Sedang–Tinggi	Cukup Baik
Hubungan dengan Sesama	6	CP – P	Sedang–Tinggi	Cukup Baik
Hubungan dengan Negara	5	TP – CP	Sedang	Cukup
Relationship with Nature	7	CP – P	Medium–High	Cukup Baik

The values contained in the STP, TP, CP, P, and SP columns are the number of students who feel that each statement reflects the importance of character education. From the data in Table 5. As shown in, Table 5 students generally responded positively to every statement. Only a few statements elicited negative responses, such as the value of the character of the relationship with the state, namely," I will be at the forefront of defending the country if there is a threat from other countries. Although there are some students who give positive responses to the statements given, in general they have not given a positive response. So it can be said that students do not feel important to

character, so in general it needs to be improved because it has not reached the set limit, which is ≥ 80.

Results of Learning Outcome Data Analysis

Student Learning Outcomes after learning can be seen from the results of students' work in completing the tests given. This learning outcome is in the form of student scores on the given tests. Student test results are generally still low, judging from the scores obtained. There were still students who obtained 18 out of a maximum score of 40. Of the 18 students, there were still seven students who had not reached the completion of their studies. From the tests given, students generally still make mistakes in solving problems. From the score data based on the individual completeness criteria, it can be determined which students completed their studies individually. The full results can be found in Table 6.

Table 6. Student Learning Outcomes in Trial I

Nu	Average Score	Kriteria	Quantity	Percentage (%)
1	70.00% ≤ KB ≤ 100.00%	Completed	11	61.11
2	0% ≤ KB < 69.99%	No	7	38.89

Based on the data in Table VI, the classical completeness was 61.11%. Therefore, the classical learning results were incomplete. The conclusions of the analysis of experimental data I are as follows: (1) there was an increase in student learning outcomes; (2) the ability to understand using the Toba Batak culture-based ethics learning model in grade IV of elementary school has not reached the specified criteria; (3) the teacher's ability to manage learning at each stage has fully met the good criteria, but when viewed from the overall average, the level of the teacher's ability to manage learning is in the category of quite good; and (4) student activities in learning activities were not fully in the set time category. Based on the above conclusions, several indicators of effectiveness have not reached the criteria set in Chapter III; therefore, it is necessary to review the developed learning tools.

2. Trial Results II

The learning tools and research instruments that had not met the set effectiveness criteria were tested at the initial stage; therefore, Trial II was conducted by focusing on the effectiveness indicators that were not achieved. Trial II was conducted on fourth-grade students in six elementary schools, namely, SD Negeri 173360 Baktiraja, SD Negeri 176495 Parnapa, SD Negeri 177055 Sigalogo Onanganjang, SD Negeri 173333 Lintongnihuta, SD Negeri 173330 Sibuntuon, and SD Negeri 174548 Parbotihan.

The trial participants comprised 18 students, each consisting of three students per school with low, medium, and high ability categories. The implementation of learning was carried out for 18 meetings using the revised Toba Batak Culture-Based Ethics Learning tool. The data from the second trial were analyzed to determine the effectiveness of the learning tool based on empirical data.

Results of Student Character data analysis

At the time of giving a questionnaire to students about how important the values of character education are, students have given a positive response to the importance of character formation. The students' responses to the values of character education in this second trial can be seen from the questionnaire given to the students for each statement in Table 7.

Table 7. Student character questionnaire in Trial II

Character Aspects	Number of Items	Dominant Answer	Trends	Category
Relationship with God	7	(CP: 15–24, P: 28–38, SP: 8–13)	Height	Good
Relationship with Self	9	(CP: 16–25, P: 30–40, SP: 8–13)	Height	Good
Relationships with Others	6	(CP: 12–20, P: 25–35, SP: 8–12)	Height	Good
Relations with the State	5	(CP: 15–22, P: 20–30, SP: 7–13)	Medium–High	Good
Relationship with Nature	7	(CP: 10–18, P: 22–30, SP: 7–10)	Medium–High	Good

From Table 7, it can be seen that for each statement given, students have felt that most students consider character education values to be at least quite important, with an average student response of 83.562% and exceeding the minimum limit of ≥ 80%. This shows that students already have a positive response to the values of character education.

Thematic Learning Outcome Data Analysis Results

Student learning outcomes after learning can be seen from the results of students' work in completing the tests given. This learning outcome is in the form of student scores from the tests given. Student test results are generally low, given the scores obtained. There are still students who score 18 out of a maximum score of 35. Of the 36 students, there are still 3 students who have not reached the completion of their studies. From the tests given, some students still made mistakes in solving the questions. Based on the score data and individual completeness criteria, it can be determined which students have completed their studies individually. Full results can be seen in Table 8.

Table 8. Student Learning Outcomes in Trial II

Nu	Average Score	Kriteria	Quantity	Percentage (%)
1	70.00% ≤ KB ≤ 100.00%	Completed	15	83.33
2	0% ≤ KB < 69.99%	No	3	16.67

Based on the data in Table 8, the classical completeness has reached 83.33%. Therefore, the classical learning results were complete.

The conclusions of the data analysis of Trial II are as follows: (1) there was an increase in student learning outcomes; (2) the ability to understand using learning tools oriented to the Toba Batak culture-based ethics learning model in grade IV of elementary school reached the specified criteria; (3) the teacher's ability to manage learning at each stage fully met the good criteria, but when viewed from the overall average, the level of teachers' ability to manage learning was in the category of quite good; and (4) student activities in learning activities were already in the specified category.

Based on the above conclusion, the indicators determined are effective and meet the criteria set in Chapter III; therefore, there is no need to review the developed learning tools. Likewise, the organized material of the students' posts who have understood the increase in scale in the first and second trials can be seen in Table 9.

Table 9. Results of Successful Student Postes

Postes	Persentase (%)	
	Successful student learning outcomes	Unsuccessful student learning outcomes
Trial I	61.11	38.89
Trial II	83.33	16.67

As shown in Table 9, the percentage of successful student learning outcomes in the post-trial I was 61.11%, and in the second trial was 83.33%. This indicates that the percentage of successful student learning outcomes increased by 22.22%.

The conclusion of the results of the analysis of trial data II is that (1) the teacher's ability to manage learning at each stage meets the criteria of good, and when reviewed from the overall average, the level of the teacher's ability to manage learning is in the good category; (2) student activities in learning activities are already in the specified category; and (3) there is an increase in the ability of successful student learning outcomes. If the conclusion of the data analysis results in this second trial is based on the criteria set in Chapter III, then it can be concluded that the application of the developed learning tool product met the effectiveness criteria.

3. Trial Results III

Because the learning tools and research instruments in the previous stage did not meet the effectiveness criteria, an III trial was conducted to improve the aspects that had not been achieved. This trial involved two groups: an experimental class at SD Negeri 173327 Balimbalo Paranginan and a control class at SD Negeri 173410 Pollung, each with 36 students. The experimental class used a learning model and teaching materials based on the developed Batak Toba culture, whereas the control class used conventional learning. The implementation of learning is carried out in accordance with the learning plan that has been prepared. The data from the results of the III trial were analyzed to determine the effectiveness of the learning tools based on empirical data.

Results of Observation of Teachers' Ability to Manage Learning

Teachers' ability to manage learning was measured using observation sheets filled in by observers during the implementation of learning in 18 lesson plans. This observation aimed to assess all teacher activities in the classroom. The results of the observation showed that teachers obtained good categories in the aspects of organizing students, guiding individual and group investigations, analyzing and evaluating problem-solving, and closing lessons. Meanwhile, in the aspect of opening lessons, orienting students to problems, and developing and presenting the results of their work, teachers obtained a good category. The complete results of the observations are presented in Table 10

Table 10. Teachers' Ability to Manage Learning

Learning Phase	Number of Indicators	Category Dominance	Remarks
Phase 1: Motivate	5	Good – Very Good	Teachers are able to motivate, direct, and explore students' initial knowledge
Phase 2: Direction	7	Good	Teachers are effective in organizing learning and forming groups
Phase 3: Practice	5	Pretty Good – Good	Teachers are quite optimal in guiding problem-solving and group work
Phase 5: Demonstration	3	Good	Teachers are able to facilitate presentations and interactions between groups
Phase 6: Campaign	3	Good	Teachers are able to direct reflection and draw conclusions from learning

Based on the observations in Table 10, teachers' activities in managing learning in RPP I are in the good to very good category. Students showed increased activeness, especially in responding to presentations, working in groups, and understanding and

solving problems; although, in the early stages, they were still in the category of sufficient.

This increase is influenced by the teacher's ability to manage learning, especially through the provision of optimal scaffolding to the entire group. Teachers actively provide guidance and direction so that they can monitor the development of student understanding and encourage interaction between students in solving problems. This condition makes the learning process more active, directed, and controlled.

In terms of closing learning, teachers obtained very good categories; although some students still had difficulty in summarizing concepts independently. Meanwhile, in the aspect of analysis and evaluation of problem-solving, teachers also showed excellent performance, especially in facilitating reflection and verification of students' answers. Overall, the average score of teachers' ability to manage learning exceeded the success criteria (NKG = 4.4 > 3); therefore, it can be concluded that the teacher's ability is in the very good category and that learning is declared complete.

Results of Student Activity Data Analysis
The results of observations of student activities during teaching and learning activities (KBM) are expressed as percentages. The results of observations in Trial II are summarized in Table 11.

Table 11. Student Activity Level in Trial III

Nu	Categories of Student Activities	Track PWI (%)	Tolerance Limits PWI (%)
1	Paying attention to and listening to teachers' and friends ' explanations.	12,51	5<P<15
2	Reading and understanding the problems in the textbook.	16,97	15< P < 25
3	Solving problems and finding ways to solve problems.	27,68	25 <P<35
4	Discuss with or ask a friend or teacher.	16,96	10 <P <20
5	Drawing conclusions about a procedure or concept.	25,90	20 <P <30
6	Student behavior that is not relevant to KBM	0,00	0<P<5
	Total	**100**	

As shown in Table 11, student activity showed variations in each category of observation. Passive activities in the form of paying attention/listening to explanations were at a percentage of 12.51%, which was within the tolerance limit, although they tended to be high because students were not accustomed to the learning model applied. Reading and understanding problems at a percentage of 16.97% were also within the tolerance limit, but it took longer because of students' lack of focus on the problem.

Active participation in problem-solving (27.68%) was within the tolerance range but not optimal because students were still adapting to learning approaches that required concept discovery. Discussion and questioning activities accounted for 16.96% of the time, indicating good interaction between students and teachers in the learning process. In addition, the activity of presenting work results (25.90%) was also in the ideal category.
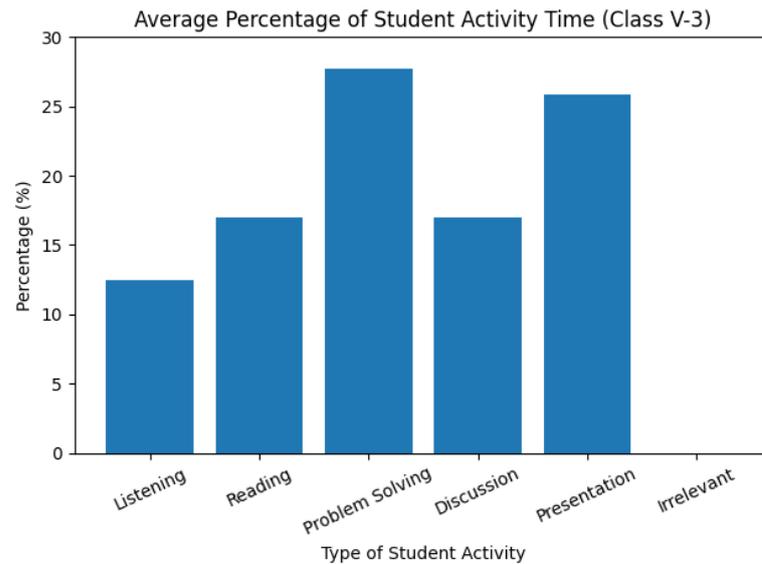
Figure 2. Student Activity Level in Trial III

Meanwhile, activities that were not relevant to learning were recorded at 0.00%, which shows that the learning process was taking place in a conducive manner. Overall, the student activities in the III trial were in the effective category and in accordance with the set tolerance limit.

Results of Student Character data analysis

At the time of giving a questionnaire to students about how important the values of character education are, students have given a positive response to the importance of character formation. The students' responses to the values of character education in this third trial can be seen from the questionnaire given to the students as a whole for each statement in Table 12.

Table 12. Student character questionnaire in Trial III

Character Aspects	Number of Items	Number of Respondents	Total Score	Maximum Score	Completeness (%)	Category
Relationship with God	7	36	**1092**	1260	**86,67**	Good
Relationship with Self	9	36	**1428**	1620	**88,15**	Good
Relationships with Others	6	36	**1008**	1080	**93,33**	Excellent
Relations with the State	5	36	**682**	900	**75,78**	Pretty Good
Relationship with Nature	7	36	**993**	1260	**78,81**	Pretty Good
Total/Overall	**34**	**36**	5203	6120	85,016	**Good (Complete)**

From Table 12, it can be seen that for each statement given by the students, most students have felt that the minimum is quite important and the average student response to how important the values of character education is is 85.016%, which exceeds the minimum limit of ≥ 80%. This shows that students have a positive response to the values of character education.

Thematic Learning Outcome Data Analysis Results

The student learning outcomes in the third trial showed excellent achievements, characterized by almost all students achieving learning completion, except for one student out of a total of 36. In general, students no longer made mistakes when solving the given questions. Based on the individual completion criteria, most students achieved learning completion. Full results are presented on 13.

Table 13. Student Learning Outcomes in Trial III

Nu	Average Score	Criteria	Quantity	Percentage (%)
1	70.00% ≤ KB ≤ 100.00%	Tuntas	31	86.11
2	0% ≤ KB < 69.99%	Tidak	5	13.89

Based on Table 13, classical learning completeness was 86.11%, and thus, learning was declared complete. The results of the analysis of Trial III showed that there was an improvement in learning outcomes and students' comprehension skills through the application of the Batak Toba culture-based ethical learning model.

In addition, teachers' ability to manage learning is in the good category; student activities have been in accordance with the set criteria; and student learning outcomes have improved. Thus, the learning tools developed have met the criteria for effectiveness

Furthermore, to test the influence of the learning model significantly, inferential statistical analysis was conducted through normality, homogeneity, and independent t-tests to compare learning outcomes between the experimental and control groups.

Calculation of the Frequency Distribution of Learning Outcomes

The results of the research conducted at the end of the experiment showed that for the treatment class, namely, grade IV students, the highest score was 40, the lowest score was 23, and the average was 32.42. Using the Sturges technique, a range of 17, many interval classes of 7, and a length of class 3 were obtained. A list of frequency distributions regarding student learning outcomes is presented in Table 14.

Table 14. Distribution table of the frequency of Learning Outcomes taught using Batak Culture-Based Ethics Learning

Nu.	Interval Classes	Absolute Frequency	Relative Frequency %	Cumulative Frequency %
1	23 – 25	3	8.3333	8.333
2	26 – 28	4	11.111	19.440
3	29 – 31	8	22.222	41.670
4	32 – 34	9	25.000	66.670
5	35 – 37	7	19.444	86.110
6	38 – 40	5	13.889	100
	Jumlah	36	100	100

From Table 14, it is evident that the average score is 32.42; thus, as many as 12 people (33.333%) of respondents have scores above the average score, as many as 9 people (25.000%) of respondents have scores at the average score, and as many as 15 people (41.667%) of respondents have scores below the average score of student learning outcomes.

Furthermore, the results of the study conducted at the end of the learning showed that for the treatment class, namely the control class students, the highest score was 35, the lowest score was 27, and the average was 23.39. Using the Sturges technique, a range of 27, a range of seven intervals, and a length of four classes were obtained. A list

of frequency distributions regarding student learning outcomes can be found in Table 15.

Table 15. List of Frequency Distribution of Student Learning Outcomes Taught Using Using Conventional Learning

Nu.	Interval Classes	Absolute Frequency	Relative Frequency %	Cumulative Frequency %
1	8 – 11	4	11.111	11.111
2	12 – 15	4	11.111	22.222
3	16 – 19	4	11.111	33.333
4	20 – 23	8	22.222	55.556
5	24 – 27	8	22.222	77.778
6	28 – 31	4	11.111	88.889
7	32 – 35	4	11.111	100
	Jumlah	**36**	**100**	**100**

From Table 15, it is known that the average score is 23.39, so it is known that as many as 16 people (44.444%) of respondents have scores above the average score, as many as 8 people (22.222%) of respondents have scores on average scores, and as many as 12 people (33.333%) of respondents have scores below the average score of student learning outcomes.

Data Normality Testing For Group Learning Outcomes Learning Model

To test the normality of the learning group data for learning outcomes taught with the Toba Batak culture-based ethical learning model and those taught with conventional teaching, we used IBM SPSS Statistics for Windows, versionn21.01. The results of the calculation of data normality are shown in Table 16.

Table 16. Results of Data Normality Testing for Learning Outcomes of Learning Models

One-Sample Kolmogorov-Smirnov Test			
		Ekperimen	Kontrol
N		36	36
Normal Parameters[a,b]	Mean	32.42	23.39
	Std. Deviation	4.481	5.886
Most Extreme Differences	Absolute	0.069	0.060
	Positive	0.045	0.059
	Negative	-0.069	-0.060
Test Statistic		0.069	0.060
Asymp. Sig. (2-tailed)		.200[c,d]	.200[c,d]

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

d. This is the lower bound of true significance.

Table 16 shows that the results of the calculation of the normality test of the data on learning outcomes for students taught using the learning approach were obtained, with Asymp.Sig.(2-tailed)=0.20for all groups in r the Kolmogorov-Smirnonormalityttestst. All of these groups have values greater than the value α = 0.05 so H_0 is accepted which states that the distribution of data is normally distributed.

Homogeneity Testing Group Variance Learning Model

Meanwhile, to test the homogeneity of the variance of the data group, it was tested using *the F* test. To test whether the variance of the data is homogeneous, if the significant level is greater (>), the data are declared homogeneous. To determine the homogeneity of student learning outcomes taught with the Toba Batak culture-based ethical learning model and the conventional learning model, SPSS version 25 was used. A summary of the tests is presented in Table 17.

Table 17. Summary of Variance Homogeneity Test Results between Learning Model Sample Groups

Test of Homogeneity of Variances					
		Levene Statistic	df1	df2	Sig.
Score	Based on Mean	2.033	1	70	0.158
	Based on Median	2.031	1	70	0.159
	Based on Median and with adjusted df	2.031	1	63.888	0.159
	Based on trimmed mean	2.033	1	70	0.158

As shown in Table 17, the results of the homogeneity test indicated a significance value of 0.158, which is greater than the significance level of $\alpha = 0.05$. Therefore, H_0 was accepted, indicating that there was no difference in variance between the groups. Thus, the data of the two groups were considered homogeneous.

Independent t-Test Testing

Before conducting the hypothesis testing, the total and average scores of each treatment group were calculated according to the t-test table, which was used as the basis for statistical decisions for hypothesis testing (Table 18).

Table 18. Average Independent Samples Test

Group Statistics					
Pembelajaran		N	Mean	Std. Deviation	Std. Error Mean
Skor	Eksperimen	36	32.42	4.481	0.747
	Kontrol	36	23.39	5.886	0.981

The calculation results showed that the average learning outcomes of students taught with the Batak Toba culture-based ethics learning model was 32.42, higher than those in conventional learning (23.39). To test these differences, a t-test was conducted, as presented in Table 19.

Tabel 19. Independent Samples Test

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Skor	Equal variances assumed	2.033	0.158	7.322	70	0.000	9.028	1.233	6.569	11.487

Equal variances not assumed	7.322	65.369	0.000	9.028	1.233	6.566	11.490

The results of the t-test showed a value greater than with a significance value of $0.000 < 0.05$, so H_0 was rejected. This shows that there is a significant difference between the two groups. The average learning outcomes of students taught using the Batak Toba culture-based ethics learning model (32.42) were higher than those in conventional learning (23.39). Thus, the learning model developed has proven to be more effective in improving students' learning outcomes.

Discussion

The results of this study show that the development of a Toba culture-based ethical learning model makes a significant contribution to the formation of student characters. These findings reinforce the view that the integration of local wisdom values in learning can increase the effectiveness of character education in a contextualized manner. According to Thomas Lickona, effective character education must include the dimensions of moral knowing, moral feeling, and moral action, all of which can be facilitated through a local culture-based approach that is close to the lives of students.

Conceptually, the results of this study are in line with the theories of culturally responsive teaching proposed by Hutchison and McAlister-Shields (2020) and Abacioglu et al. (2020), which emphasize that learning will be more meaningful when students' cultural values and experiences are integrated into the learning process. In this context, Toba Batak cultural values, such as hamoraon, hagabeon, and hasangapon, function as a medium for internalizing moral values that are contextual and relevant. This is also supported by Banks' research, which states that culture-based education can improve students' social understanding and identity in a multicultural society.

Furthermore, the increased student engagement found in this study suggests that culture-based approaches can create more participatory and meaningful learning. These findings are consistent with the results of Kärtner et al. (2020), who emphasized that social interaction and cultural context play an important role in students' cognitive development. Thus, when learning is associated with students' socio-cultural reality, the process of knowledge construction becomes more optimal.

From a pedagogical perspective, the model developed in this study adopts a constructivist approach that places students as active subjects in learning. This is in line with the view (Lombardi et al., 2021) that learning will be more effective when students are actively involved in discovering and building their own knowledge. The integration of cultural values in this approach strengthens the understanding of concepts and shapes attitudes and behaviors that are in accordance with social norms.

However, the results of this study also indicate that there are several challenges in the implementation of culture-based learning models. One of the main challenges is teachers' readiness to integrate cultural values into learning. According to Fuad et al. (2022), teachers' pedagogical competence greatly determines the success of learning innovation, including the adoption of a culture-based approach. In addition, the diversity of students' backgrounds can also affect the effectiveness of the implementation of this model; therefore, an inclusive and adaptive learning strategy is needed (Martin et al., 2020).

The practical implications of this study suggest that a learning model based on local culture can be an innovative alternative for strengthening character education in schools. This is in line with UNESCO's recommendations to integrate local culture into the education system as an effort to preserve cultural values while strengthening national identity. In addition, the results of this study also open up opportunities for the development of similar models in other cultural contexts in Indonesia that have a diversity of local values.

Overall, this study emphasizes that character education based on local wisdom is a relevant and effective approach for facing the challenges of globalization. By integrating cultural values in learning, education not only functions as a means of knowledge transfer but also as a medium for transforming values and forming students' social identities. These findings enrich the literature on character education and make an empirical contribution to the development of culture-based learning models in Indonesia.

CONCLUSION

Fundamental Finding: This study demonstrates that the character education learning model based on Batak Toba cultural values significantly improves students' character development and learning engagement. The integration of local wisdom into the learning process enables students to internalize moral values more effectively, as reflected in the improvement of learning outcomes and behavioral indicators. **Implication**: The findings imply that incorporating local cultural values into educational practices can serve as an effective strategy for strengthening character education. This model provides a contextual and meaningful learning experience, making it highly relevant for implementation in diverse educational settings, particularly in regions with strong cultural identities. It also supports the development of culturally responsive pedagogy in modern education. **Limitation**: This study is limited by its focus on a specific cultural context, namely Batak Toba culture, which may restrict the generalizability of the findings to other cultural settings. Additionally, the implementation of the model depends heavily on teachers' understanding of cultural values and their pedagogical competence, which may vary across different educational environments. **Future Research**: Future studies are recommended to test this model in different cultural contexts to examine its adaptability and effectiveness across diverse populations. Further research can also explore the integration of technology with culture-based learning models, as well as investigate long-term impacts on students' character development using longitudinal research designs.

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