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## The Role of Riau Malay Culture-Based Ethnoscience on the Character Formation of Elementary School Students

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### ABSTRACT

Character education is a fundamental element in the implementation of education, especially at the elementary school level which is the initial stage of forming students' values, attitudes, and personalities. Efforts to build character cannot be separated from the influence of local culture which plays a role as an identity as well as a moral foothold for the community. Ethnoscience, as a form of traditional knowledge purged from local wisdom, offers alternative strategies for integrating cultural values into the learning process. In the context of Riau Malay culture, ethnoscience contains noble values such as religiosity, togetherness, simplicity, and concern for the environment. Through the integration of these values, character education is not only delivered normatively, but also contextually and applicatively in accordance with the real experience of students.

This research aims to identify the Riau Malay cultural values contained in ethnoscience and analyze its internalization mechanism in character education in elementary schools. The research was conducted with a qualitative approach through participatory observation techniques, in-depth interviews, and documentation of learning activities. The results of the study are expected to show that Riau Malay culture-based ethnoscience can function as an effective pedagogical instrument in strengthening character education. The values carried out are believed to be able to foster religious attitudes, responsibility, social concern, and ecological awareness in students. Thus, this research not only makes a practical contribution to the implementation of learning based on local wisdom, but also enriches the theoretical study of character education from a cultural perspective.

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## 1. INTRODUCTION

Changing the direction of education policy through the Deep Learning approach has major consequences for elementary schools. If previously character education was focused on the concept of Pancasila Student Profile, now the emphasis has shifted to the achievement of the graduate profile with eight dimensions, including faith and piety, citizenship, critical reasoning, creativity, independence, collaboration, health, and communication. This new orientation requires schools to not only transfer knowledge, but also provide space for students to live those values through real-life experiences. This is in line with the view of Tilar (2012) who states that education is basically not only an intellectual process, but also a cultural process that is loaded with values.

It is within this framework that Riau's Malay culture has a very strategic position. Culture is not only seen as a ceremonial heritage, but also as a guideline of life that shapes the way people think and act. Koentjaraningrat (2009) emphasized that culture is a value system that is inherited between generations and functions to form social attitudes. Therefore, integrating Malay culture into elementary school learning can be one of the effective ways to instill character from an early age.

One concrete example is the Gurindam Twelve by Raja Ali Haji which contains moral messages about morality, responsibility, and honesty. When this literary work is raised into the learning of language and literature, students not only study the text, but also learn about the value of discipline and faith. According to Lickona (2012), it emphasizes that successful character education is always rooted in universal moral values and is practiced consistently in daily life. Thus, the integration of Malay literature into learning can be a means of instilling character values in a more meaningful way.

In addition, cultural values can also be found in the habits of mutual cooperation of the Malay community which are usually carried out when cleaning the village environment or preparing traditional events. This simple practice can actually be used in science or social studies learning to foster a sense of social responsibility and concern for the environment. As stated by Koesoema (2015), character education will be more effective if moral values are associated with real experiences that can be experienced by students.

Not only that, the tradition of Pacu Jalur also holds great potential in character education. This longboat competition teaches about cohesiveness, cooperation, and discipline, which is very relevant when it is connected to Physical Education learning. Through these activities, students learn to respect the role of others while understanding the meaning of collaboration. Vygotsky's (1978) view that learning is social and grows through interaction supports the importance of collaborative values in this kind of cultural activity.

Furthermore, ethnoscience can be a link between modern culture and science. For example, the knowledge of the Malay community about the use of traditional medicinal plants can be used in science learning to discuss health and the environment. According to Suastra (2010), the ethnoscience approach not only strengthens the relevance of learning, but also fosters a sense of pride in one's own culture. In this way, students understand scientific concepts while fostering ecological concern that is very important in today's era.

Although there have been many examples of cultural integration in learning, it must be acknowledged that research on the application of Riau Malay culture in the context of Deep Learning is still limited. There have not been many studies that have linked cultural values to the dimensions of graduate profiles in a systematic manner, ranging from planning, strategy, to evaluation. In fact, as reminded by Banks (2008), relevant education is education that is able to connect local culture with the social needs of students.

Overall, this research has three main objectives: first, to identify Riau Malay cultural values that are relevant to elementary school learning; second, analyzing the mechanism of internalizing values through contextual learning; and third, examining the contribution of Malay culture in the formation of students' character through the framework of Deep Learning. Theoretically, this research is expected to enrich the literature on character education based on local wisdom, while practically being a guideline for teachers to design learning that is more meaningful, reflective, and rooted in the nation's culture. Thus, elementary

schools are not only an academic space, but also a forum for character formation based on the noble values of the Riau Malay community.

## 2. METHOD

<sup>7</sup> This study uses a qualitative approach because the main focus of this study is to understand the meaning, process, and context of the application of Riau Malay culture-based ethnosience in the formation of the character of elementary school students. The qualitative approach was chosen because it is able to capture social reality naturally, explore the experiences of teachers and students in depth, and interpret phenomena in the context of cultures living in society. Thus, this research is not oriented to numbers or quantitative results, but rather to a rich description of how cultural values are practiced in learning.

In line with that, the research subjects were determined at an elementary school in West Maredan Village, Perawang. The selection of this location was carried out purposively with the consideration that the schools in the village still have a strong attachment to Malay culture and have the potential to become an example of ethnosience-based learning practices. The research informants consisted of school principals, classroom teachers, subject teachers, and students, who were selected to provide a complete picture of how local culture is integrated in teaching and learning activities. By involving various parties, the data obtained is expected to be richer and more diverse.

Furthermore, the implementation of the research was carried out in three major stages. The first stage is pre-field, including licensing to schools, environmental introduction, and preparation of research instruments. The second stage is a core activity in the field, namely conducting participatory observations, in-depth interviews, and collecting learning documents. The third stage is post-field, which focuses on the process of data verification, initial analysis, and clarification of findings to informants so that the data obtained remains valid. With this gradual flow, research runs systematically and still maintains the authenticity of information from the field.

In the data collection process, the researcher used three main techniques that complemented each other. Participatory observation is carried out by directly following the learning process in the classroom and activities outside the classroom, so that the researcher can witness firsthand how the teacher presents Malay culture in the context of ethnosience. This observation is also used to record student behavior related to attitudes of responsibility, discipline, cooperation, and environmental concern. With direct involvement, researchers not only observe, but also understand the learning atmosphere from the student's point of view.

In addition to observation, in-depth interviews are also used to dig up more detailed information. Interviews with teachers were focused on their strategies for integrating Malay culture into their lessons, while interviews with students were directed to find out their impressions and experiences during the lessons. Interviews with school principals and parents were conducted to explore their support and views on the application of ethnosience in character education. Thus, the data obtained is not only sourced from one party, but reflects views from various angles.

To strengthen the observation and interview data, the researcher also conducted documentation. The documents collected were in the form of Learning Implementation Plans (RPP), student worksheets, evaluation notes, and photos and videos of learning activities. In addition, the researcher also documented cultural artifacts used as teaching materials, such as quotations from *Gurindam DuaBelas*, descriptions of traditional medicinal plants, or records of mutual cooperation activities. All of these documents serve as additional data as well as a comparison to check the consistency of information obtained from observations and interviews.

<sup>8</sup> In supporting this process, this study uses research instruments in the form of observation guidelines, interview guidelines, and documentation sheets. The instruments were compiled based on research objectives and literature on ethnosience and character education, then tested on a limited basis to ensure clarity and readability. In addition, researchers also use tools such as field notebooks, cameras, and voice recorders to facilitate data recording. With clear instruments, the data collection process can be carried out in a more directed and structured manner.

The collected data was then analyzed using thematic analysis as explained by Miles and Huberman (1994), namely through three stages: data reduction, data presentation, and drawing conclusions. In the reduction stage, the data obtained from observations, interviews, and documentation is selected, categorized, and coded according to the themes that emerge. At the presentation stage, the data is arranged in the form of a matrix and narrative description so that the relationship between themes can be clearly seen. The final stage is conclusion drawing and verification, where researchers look for patterns, make interpretations, and ensure the correctness of findings through triangulation of sources and techniques. With these steps, the results of the analysis are expected to illustrate the role of Riau Malay culture-based ethnoscience in the formation of student character in depth. The flow of data analysis can be described in the following chart:

Data Analysis Technique (Miles & Huberman, 1994)

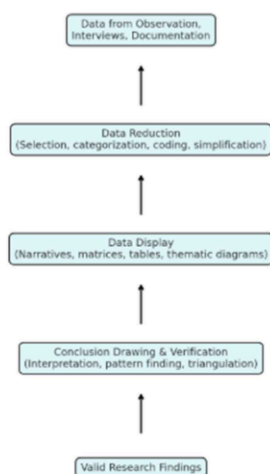


Figure 1. Data Analysis Techniques Chart

The data analysis process above explains that the first step taken is data reduction, where raw data from the field is sorted, focused, and categorized according to research needs. Furthermore, the data that has been reduced is compiled in the data presentation stage to make it easier to read, both through narratives, tables, and matrices. After that, the researcher draws conclusions and verifies by looking for patterns, connecting themes, and re-checking through triangulation and confirmation to informants. Thus, the data produced is credible and can be scientifically accounted for.

To maintain the validity of the data, this study uses several strategies. First, triangulation is carried out, both source triangulation (comparing information from teachers, students, principals, and parents) and technical triangulation (comparing the results of observations, interviews, and documentation). Second, researchers apply member checking, which is reconfirming the results of provisional findings to informants to ensure that the data interpreted is in accordance with their experience. Third, the researcher conducts a trail audit by recording the entire research process in detail from planning to analysis, so that the research process can be traced back if necessary. With this strategy, the research results are expected to have credibility, reliability, and accountability that can be accounted for.

### 3. FINDINGS AND DISCUSSION

Based on the results of interviews, observations and documentation carried out, the following findings were obtained.

#### 3.1 *Ethnoscience Values in Riau Malay Culture*

The findings of the study show that Riau Malay culture holds a lot of local wisdom that is very relevant to the formation of the character of elementary school students. These values are not only implied in sayings and proverbs, but also manifest in people's daily behavior, such as the tradition of mutual cooperation, deliberation in making decisions, and respect for parents and teachers. The tradition of mutual cooperation, for example, is still very thick in West Maredan Village, where people are used to doing joint activities such as cleaning ditches, repairing village roads, or helping neighbors who are carrying out celebrations. From these activities, the children who participated in seeing and being involved directly got concrete examples of the importance of cooperation and social concern.

In addition, an interview with one of the teachers corroborated these findings. He said, "The children here are used to seeing their parents in mutual cooperation. So when we talk about cooperation in the classroom, they quickly grasp what it means, because there are real examples that they have witnessed." From this statement, it is clear that cultural values inherited through daily actions are much easier for children to understand than just conveyed through lectures or theories. Thus, ethnoscience based on Malay culture can be said to be more effective in shaping character because it has a concrete practical dimension.

Furthermore, the value of ethnoscience is also reflected in the wisdom of the Malay community in maintaining the balance of nature. The customary prohibition against destroying forests or cutting down trees indiscriminately, for example, contains ecological knowledge related to environmental sustainability. This is in line with an interview with a student who stated, "My father once said, if we destroy the forest, it will flood. So now I'm more careful when I play in the river." This statement shows that traditional knowledge passed down through parental advice has a great influence on children's awareness in protecting the environment.

In addition, direct observation also shows that children understand the concepts of nature and the environment more easily when they are conveyed through their own cultural perspective. For example, when a teacher explains the importance of keeping the river clean, the explanation is associated with the Malay proverb "nature develops into a teacher." This saying affirms that nature is an infinite source of learning, so that children can learn about cleanliness, balance, and responsibility from their relationship with the surrounding environment. In this way, messages about character such as responsibility and care become more grounded.

According to Geertz (1973), it is said that culture is essentially a system of meaning that is inherited and used as a reference for behavior by members of society. In this context, the ethnoscience of Riau Malay culture serves as a means device that shapes the way children understand and interpret their daily actions. When children engage in cultural practices such as gotong royong or hear customary prohibitions, they are actually experiencing a process of internalizing values. Therefore, a culture-based approach becomes relevant for character education, as it corresponds to the reality of a child's life.

By paying attention to this, it can be concluded that ethnoscience values in Riau Malay culture are actually not only traditional knowledge, but educational mechanisms that internalize moral and social values from an early age. Children learn character through observation, engagement, and daily experiences that are in harmony with the culture of their society. Therefore, the role of Malay culture-based ethnoscience in the formation of the character of elementary school students is very strategic because it is able to unite cognitive, affective, and psychomotor aspects in a single contextual learning process.

#### 3.2 *Internalization of the Value of Ethnoscience in the Learning Process*

This research shows that the internalization of ethnoscience values in elementary school learning is carried out by connecting subject matter with local cultural experiences that are familiar to students. For example, teachers not only explain scientific concepts in the abstract, but also relate them to real-life examples. When discussing the water cycle, the teacher did not only describe the evaporation and rain process, but related it to the experience of the Malay community who used the river as a source of life. In this way, it is easier for students to understand scientific concepts as well as the value of the responsibility of maintaining the cleanliness of the river.

Furthermore, one of the teachers emphasized, "When I teach about water, I always associate it with the Siak River. I said that rivers are the source of life, so they must be kept clean. Children become more understanding and instantly connected to what they see every day." From this statement, it can be seen that learning that is connected to the cultural context makes students more enthusiastic and easier to understand the value of character. This proves that the internalization of ethnoscience values in learning not only strengthens aspects of knowledge, but also shapes attitudes.

In addition, Malay folklore is also used as a strategy to internalize moral values. The story of Si Lancang for example, contains a moral message about arrogance and its consequences. Teachers use this story to instill a humble attitude in students. One student even said, "I like the story of Si Lancang, because there is advice not to fight your parents. So I remember staying at home." From this quote, it is clear that folklore is not only entertainment, but also a medium of internalizing values that are easier for children to accept.

In addition, the use of Malay proverbs and rhymes in learning has also proven to be effective. Teachers often start or close the lesson with a rhyme that contains a moral message. For example, rhymes about diligent learning and respect for teachers make students more excited and feel close to their culture. Through this method, the internalization of values does not feel rigid, but rather fun and in accordance with the child's world. Thus, students not only learn science, but also absorb character values wrapped in familiar cultural forms.

In line with the theory of Vygotsky (1978), explaining that effective learning is when new knowledge is associated with the child's social and cultural experiences. The findings of this study show that the integration of Riau Malay culture-based ethnoscience into learning is in line with constructivist principles, where children build understanding through interaction with their socio-cultural context. That way, learning not only results in cognitive understanding, but also deeper character formation.

By paying attention to this, it can be emphasized that the internalization of ethnoscience values in elementary school learning is able to connect science with culture, so that learning is more meaningful and useful. Through contextual connections, students not only understand academic concepts, but also instill character values that are aligned with their local culture. This shows that culture-based education is not only relevant, but also indispensable in today's era.

### **3.3. The Role of Teachers in Integrating Ethnoscience**

The findings of the study show that teachers have a central role in integrating Riau Malay culture-based ethnoscience into the learning process and character formation of students. Teachers are not only transmitters of knowledge, but also act as facilitators, role models, and guardians of cultural values so that they remain relevant to the lives of the younger generation. In practice, teachers in West Mardani Village take advantage of the cultural experiences that students have had, then relate them to the subject matter. Thus, learning not only adds academic insight, but also instills character values through a more contextual path.

One teacher interviewed said, "I usually start lessons with children's stories or experiences. For example, when discussing plants, I ask who their parents go to the field or garden. From there I came in with a story about the importance of taking care of plants, and linking them to the value of responsibility." This quote shows how teachers utilize simple interactions to build connections between science, student experience, and cultural values. This proves that the role of teachers is very strategic in bridging theory with daily practice.

In addition, observations show that teachers often integrate cultural values through collaborative learning methods. When students are asked to work in groups, the teacher emphasizes the importance of cooperation which is the main value in Malay culture. One of the students revealed, "If we study in groups, we must be compact, said the teacher, like a villager if we work together." From this statement, it can be seen that teachers use cultural analogies to strengthen the meaning of cooperation in learning. That way, the values taught are no longer abstract, but close to the student's experience.

Furthermore, the role of teachers in integrating ethnosience is not limited to subject matter only, but also to the formation of a classroom atmosphere that reflects cultural values. For example, teachers make it a habit for students to respect each other when speaking, not interrupt friends' conversations, and give greetings before starting lessons. This simple practice, although seemingly small, has been found to contribute significantly to the formation of religious character, manners, and mutual respect. Thus, teachers carry out a dual function: educating through teaching materials while instilling culture through habits built in the classroom.

This view is in line with Tilaar (2000) who emphasizes that multicultural and local culture-based education requires teachers to act as a link between traditional values and modern needs. In the context of this research, teachers play the role of guardians of Malay cultural values that are internalized in learning, while ensuring that students do not lose their roots of identity even when faced with the current of globalization. This shows how important the role of teachers is not only as a teacher, but also as a cultural agent.

Thus, it can be understood that teachers are a key factor in the successful implementation of ethnosience based on Riau Malay culture. Through their role as facilitators, role models, and cultural connectors, character values can be instilled systematically and continuously. Therefore, an educational strategy based on local wisdom can only succeed if teachers are truly aware of the importance of this role and are able to actualize it in daily learning practices.

#### **3.4. The Impact of Ethnosience on the Formation of Students' Character**

<sup>1</sup> The results of the study show that the application of ethnosience based on Riau Malay culture has a significant impact on the formation of the character of elementary school students, especially in the aspects of religiosity, responsibility, social concern, and environmental awareness. This impact can be seen from the change in students' attitudes after getting learning that is integrated with the local culture. For example, students become more concerned about the cleanliness of the school environment, have more respect for teachers, and show a better cooperative attitude when doing group tasks. Thus, it can be said that cultural values packaged in learning are indeed able to form real character.

Furthermore, a student said in an interview, "Now I am more diligent in throwing garbage in its place, because teachers often tell us that dirty rivers can make us sick. So I remember it continuously." This quote shows that the internalization of values through ethnosience makes students more aware of the importance of protecting the environment. Although <sup>2</sup> these behavior changes seem simple, they are actually a strong indicator that culture-based learning has a real positive impact on the formation of students' character.

Then, the results of observations also show that students experience an increase in religious and moral attitudes. For example, they are used to praying before studying, respecting each other, and showing a polite attitude in interacting with teachers. This is reinforced by a statement from a teacher who said, "Children now say greetings more often and look more polite when speaking. I think this is because they see the cultural values that we keep repeating in learning." Therefore, ethnosience-based education has been proven to be able to strengthen students' moral and religious foundations.

In addition, the impact of ethnosience is also evident in the increasing sense of social concern of students. They are easier to work with in school activities and are more sensitive to the condition of friends who are experiencing difficulties. For example, when one student did not bring stationery,

another friend voluntarily lent it. In fact, one student revealed, "If a friend forgets to bring a pencil, I will borrow it, because the teacher said that we have to help each other." In other words, the value of social care embedded through culture-based learning is truly realized in students' daily behavior.

In line with this, Lickona (1991) emphasized that character education must be realized through real habituation in daily life, not just theory taught in class. In the context of this research, Riau Malay culture-based ethnosience has proven to be an effective means of realizing this habit, because students experience the practice of cultural values in their daily lives. Therefore, culture-based learning can be said to be more applicable and contextual in shaping student character.

Finally, by paying attention to all these findings, it can be emphasized that the impact of ethnosience based on Riau Malay culture is not only theoretical, but is really reflected in the real behavior of students. Values such as religiosity, responsibility, social care, and ecological awareness have been proven to have been formed through learning experiences that are integrated with their culture. Therefore, this educational strategy has high relevance in strengthening character education in elementary schools and can even be used as an example for the development of education based on local wisdom in other areas.

### 3. 5. Figures, Tables, and Schematics

#### 3.5.1 Student Activities in Culture-Based Learning



Figure 2. Student activities in Riau Malay culture-based learning

The picture above shows the classroom atmosphere at SD Negeri Maredan Barat, where teachers seem to be actively guiding students in discussion activities that relate science lessons to local wisdom, especially maintaining the cleanliness of the river as a source of community life. Students are seen sitting in groups, exchanging opinions, and showing enthusiasm when connecting scientific concepts to their daily experiences. The presence of teachers in the middle of the discussion emphasizes that the role of educators is not only as a material presenter, but also as a facilitator who connects knowledge with the local culture.

Furthermore, the classroom atmosphere depicted shows that the application of ethnosience based on Riau Malay culture is able to create contextual, fun, and meaningful learning. The activities of students who actively discuss and care about environmental issues prove that this learning has a real effect on character formation, such as a sense of responsibility, social concern, and ecological awareness. One of the teachers of West Maredan State Elementary School said, "When children learn through stories about rivers and Malay customs, they can easily understand the importance of protecting the environment, and they even become accustomed to reminding their friends who litter." Thus, this image becomes concrete evidence that the integration of local culture into learning in primary schools can strengthen character education from an early age.

3.5.2. Table of Impact of Ethnoscience on Character Formation

Character Aspects	Indicators of Change	Observation Results
Religiosity	Getting used to prayer before studying, greetings, and manners	Students pray and greet more often
Responsibility	Completing assignments on time, taking care of school supplies	Students are more disciplined
Social Care	Helping friends who are struggling, working together in a group	Significant increase
Environmental Awareness	Dispose of garbage in its place, keep classrooms and school grounds clean	More concerned about cleanliness

**Table 1.** The Impact of the Application of Ethnoscience on Student Character

The table above illustrates the change in the behavior of elementary school students after participating in ethnoscience-based learning with the content of Riau Malay culture. From the results of the observations made, it can be seen that the four aspects of character, namely religiosity, responsibility, social concern, and environmental awareness, show quite real developments in the daily lives of students.

First, in the aspect of religiosity, it can be seen that students are increasingly accustomed to starting learning activities with prayer, saying greetings when entering class, and showing good manners in interacting with teachers and friends. This shows the internalization of religious values that are consistently strengthened through habituation, as is also emphasized in the Riau Malay culture which places religious values as the basis of daily behavior.

Second, the responsibility aspect has also experienced a significant increase. Students are getting used to completing assignments on time and are more concerned about maintaining their study supplies. This habit indicates that the integration of ethnoscience which is loaded with the value of hard work and discipline is able to foster an attitude of responsibility in students. These changes are very important because responsibility is one of the main foundations in the formation of independent character.

Furthermore, in the aspect of social care, it can be seen that students become more sensitive to the needs of others, such as helping friends who have difficulty understanding lessons or working together in group tasks. This increase in social awareness reflects the strong value of mutual cooperation in Riau's Malay culture, where each individual is taught to help each other for the common good. Thus, these values are successfully realized in real practice in the school environment.

Finally, the environmental awareness aspect also shows quite significant changes. Students are increasingly concerned about disposing of garbage in its place, keeping classrooms clean, and participating in caring for school grounds. This attitude shows that ethnoscience is able to instill ecological awareness in a contextual way and close to students' daily lives, because they immediately see the positive impact of maintaining a clean environment.

Overall, the explanation of this table shows that ethnoscience based on Riau Malay culture is not only a means of learning science, but also effective in instilling character values. The four aspects studied—religiosity, responsibility, social concern, and environmental awareness—underwent positive changes that proved the success of educational strategies based on local wisdom in shaping the personalities of elementary school students.

### 3.5.3. Ethnoscience Integration Flow Scheme in Character Formation

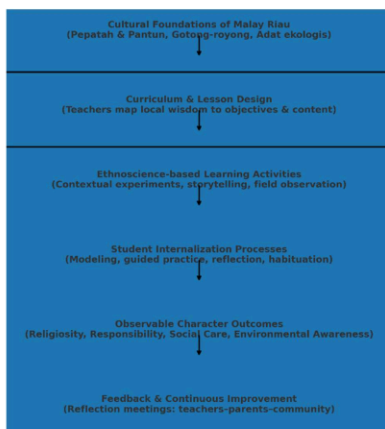


Figure 3. Ethnoscience Integration Scheme in Character Building

The scheme of ethnoscience integration in the formation of students' character starts from the foundation of Riau Malay culture which is the main basis in learning design. Local values such as proverbs, pantun, mutual cooperation, and ecological customs not only function as cultural identities, but also as a source of moral values that can be instilled in students. These cultural values are then translated by teachers into curriculum design and learning design, so that educational goals not only emphasize cognitive aspects, but also build attitudes and behaviors in accordance with the socio-cultural context in which students grow. Thus, learning is inseparable from the roots of local culture, but is increasingly relevant and meaningful in daily life.

Furthermore, the implementation of the curriculum is manifested in ethnoscience-based learning activities, such as contextual experiments, storytelling activities, and field observations. This activity not only provides students with a scientific experience, but also instills cultural value naturally through direct interaction with the environment. The contextual learning process is then continued with the internalization of values through the teacher's example, directed exercises, self-reflection, and consistent habituation. It is at this stage that students begin to transform the knowledge gained into real attitudes and behaviors that are in accordance with cultural values, so that character education does not stop at the theoretical level, but is actually realized in daily life.

From this process, character outputs are born that can be clearly observed, including religiosity, responsibility, social concern, and environmental awareness. For example, students are more diligent in praying before studying, more disciplined in completing assignments, willing to help friends who are in difficulty, and care about maintaining school cleanliness. However, this scheme does not stop at the final result alone, because there is a stage of continuous feedback and improvement through joint reflection between teachers, parents, and the community. With this cycle, ethnoscience-based character education can continue to be evaluated, adjusted, and strengthened according to the needs of student development and the dynamics of the socio-cultural environment, so that the character formed is really solid and sustainable.

#### Discussion

The results of this study show that the application of ethnoscience based on Riau Malay culture in SD Negeri Maredean Barat has a real influence on the formation of students' character. The values of

religiosity, responsibility, social concern, and environmental awareness are able to be internalized well when the learning process is associated with local wisdom. For example, the habit of praying before studying is not only seen as a routine, but also associated with Malay cultural values that uphold the customs of sharia, sharia with Kitabullah. This shows that the cultural values that live in society can be a strong foundation in strengthening students' religiosity.

Furthermore, this research supports the view of Tilaar (2004) who emphasizes that education based on local wisdom has an important role in strengthening cultural identity while shaping the personality of the younger generation. For example, through Malay folklore such as the story "Batu Belah Batu Bertangkup", students are invited to understand the moral message about responsibility and the consequences of negligent attitude. Teachers who integrate these stories in science or Indonesian learning help students not only understand the content of the story, but also relate the value of responsibility to everyday life, such as completing assignments on time and taking care of school supplies.

In addition, elements of Riau Malay culture are also seen in the practice of gotong royong or bantu which is a noble value of the local community. In the context of schools, this is realized when students work together to clean classrooms and school grounds, or help each other friends who are having difficulties. This finding is in line with Lickona (1991) who emphasized that effective character education is realized through real habituation. Thus, gotong royong activities carried out in schools are not only physical activities, but also the process of internalizing the value of social care that strengthens the bonds between students.

Finally, environmental awareness is also formed through the local wisdom of the Riau Malay community who have long lived side by side with the river. For example, the advice of Malay parents who say that "river water is the source of life" became the basis for learning science in the classroom that taught the importance of maintaining clean water. This is evident when students are more diligent in disposing of garbage in their place because they understand the direct consequences of river pollution on health. By integrating these cultural elements, teachers not only deliver academic material, but also instill the value of ecological responsibility. Therefore, ethnosience based on Riau Malay culture can be considered an effective strategy to make character education more contextual, integrated with life, and rooted in local traditions.

## CONCLUSION

The results of this study show that ethnosience-based learning by raising the Riau Malay culture has a real influence on the formation of the character of elementary school students. Changes can be seen from the daily attitude of students who are increasingly religious, more responsible, caring for friends, and having awareness of protecting the environment. With an approach that is close to their lives, character values become more acceptable and practiced in real activities at school.

On the other hand, the integration of local culture also makes the learning process more lively and meaningful. For example, the habit of praying and giving greetings that are in harmony with Malay customs, the use of folklore as a moral message reinforcement, and the teaching of maintaining the cleanliness of the river that fosters environmental awareness. Because it is directly linked to students' daily experiences, learning not only provides an understanding of knowledge, but also fosters awareness to behave according to the values that apply in society.

In addition, these findings support the view of experts who emphasize that character education should be realized through concrete habituation in life. Lickona, for example, mentioned that character education is not enough to be conveyed in the form of theory, but must be practiced in real terms. In this study, learning based on Riau Malay culture has presented these habits, such as discipline in doing assignments, being polite to teachers, helping each other between students, and getting used to maintaining cleanliness together.

Thus, it can be emphasized that ethnosience based on Riau Malay culture is not only relevant to shape the character of students in West Mardani State Elementary School, but also has the potential to be developed in other schools. Through this approach, education plays a dual role: as a means of

imparting knowledge as well as cultural heritage that strengthens students' identities. As a result, students grow into a generation with strong character, rooted in local culture, but still ready to face the dynamics of the times.

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