

Integration of Local Cultural Values in Pencak Silat Learning to Form the Character and Sportsmanship of Elementary School Students

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ABSTRACT

This study aims to analyze the effectiveness of pencak silat learning based on local Makassar cultural values in improving the character and sportsmanship of students at Sudirman I Elementary School, Makassar. Twenty students served as the sample, using a one-group pretest-posttest design. The research instrument consisted of a character and sportsmanship questionnaire administered before and after the intervention. Pencak silat learning was designed to integrate Makassar cultural values such as sipakatau, sipakainge, and sipakalebbi into each training session. Data were analyzed using descriptive and inferential statistics (paired t-test). The results showed a significant improvement in both study variables. The average character score increased from 72 to 85 (18.05%), while the sportsmanship score increased from 70 to 88 (25.71%). The t-test results showed a p-value of 0.000, indicating a significant difference between the pretest and posttest. The effect size values showed a significant influence ($d = 1.39$ for character and $d = 1.78$ for sportsmanship), confirming that cultural values-based learning has a strong impact on student behavior. These findings indicate that integrating local culture into pencak silat learning not only improves students' skills and fitness but also strengthens character education in line with the Merdeka Curriculum. This learning model is worthy of recommendation for widespread implementation in elementary school physical education.

Keywords : Pencak Silat; Local Culture; Character; Sportsmanship; Elementary School.

INTRODUCTION

Physical education at the elementary school level plays a strategic role in fostering the physical, social, emotional, and moral development of students. During elementary school, students are in a period of character formation that is crucial for subsequent moral development. Physical education not only functions to train motor skills but also serves as a vehicle for internalizing life values, such as sportsmanship, discipline, cooperation, honesty, and responsibility (Siregar & Nurhayati, 2020). In this context, learning traditional sports, including pencak silat, is a highly relevant tool for strengthening character education in schools (Hidayat & Yulianto, 2019).

Indonesia has a rich local culture that can be used as a learning resource, including in physical education. Pencak silat, as a traditional Indonesian martial art, embodies noble values that reflect national morality, such as courage, self-control, politeness, and respect for both opponents and teachers (Fadhilah, 2021). The Independent Curriculum also emphasizes the

importance of character building through learning activities based on local culture to enhance national identity and students' attachment to cultural values (Kemendikbudristek, 2022).

In addition to physical benefits, pencak silat has strong social and moral dimensions. Pencak silat training demands discipline, adherence to norms, and the ability to control aggression through the principles of responsiveness, resilience, and resilience (Susanto & Arifin, 2018). These values are highly relevant in developing sportsmanship and student character, especially at the elementary school level, where social and moral behavior is still easily guided and shaped.

In the context of physical education, the integration of local culture has been shown to increase student interest in learning, engagement, and create a meaningful learning environment (Maulana & Prasetyo, 2021). Several studies confirm that the integration of cultural values in traditional sports can shape moral competence and strengthen national identity (Aminuddin & Prasetya, 2020). Specifically in pencak silat, research shows that basic technique training combined with the instilling of cultural values can improve cooperative behavior, empathy, and mutual respect among students (Rahmadani & Firmansyah, 2022).

Elementary schools, as formal educational institutions, have a responsibility to instill character values from an early age. At Sudirman I Elementary School in Makassar, pencak silat learning has begun to be integrated into extracurricular activities, but its utilization as a medium for character building based on local culture is still not optimal. The importance of integrating Makassar cultural values such as sipakatau (humanizing others), sipakalebbi (respecting each other), and sipakainge (reminding each other) is the main foundation for developing students' sportsmanship and morality (Mansyur, 2021). These values align with the principles of pencak silat, which emphasize politeness, solidarity, and measured courage.

Although pencak silat is rich in character dimensions, the implementation of learning in schools often focuses more on the technical aspects of movement than on the moral values it embodies (Baehaqi & Rachman, 2019). Many physical education (PJOK) teachers lack a systematic learning model to integrate local cultural values into pencak silat training. As a result, students only acquire basic technical skills such as stances, punches, dodges, or blocks, but do not internalize the values of sportsmanship, discipline, and respect for others.

Furthermore, learning evaluation results indicate that some students at Sudirman I Elementary School, Makassar, still exhibit unsportsmanlike behavior, such as refusing to accept defeat, teasing their peers, and disregarding the rules of the game. This indicates the need for a learning approach that not only teaches motor skills but also incorporates local cultural values that can strengthen character development.

Several studies have discussed pencak silat instruction at the elementary school level, but most focus on improving technical skills or physical fitness (Syamsuddin & Hadi, 2020). While numerous studies on character education are also available, studies on the systematic integration of local Makassar cultural values into pencak silat instruction in elementary school settings are still very limited.

Previous research on cultural value-based sports has focused on the general context of Javanese or Sundanese culture (Ardiansyah, 2018), while Makassar culture has its own unique characteristics in terms of moral principles and social relations. Few studies have described how the values of siri na pacce, sipakatau, sipakalebbi, and sipakainge can be integrated into pencak silat instruction to shape the character and sportsmanship of elementary school students.

Furthermore, no research has specifically examined the implementation of local cultural values in the context of SD Negeri Sudirman I Makassar, a school with a typical urban socio-cultural background and diverse student characteristics. Thus, there is a

research gap that needs to be addressed to enrich the literature and improve culture-based PJOK learning practices.

The novelty of this research lies in the integration of Makassar's humanistic and collective cultural values into pencak silat learning as a model for character development in elementary school students. Unlike previous studies that only focused on the technical aspects or strategies of pencak silat learning, this study emphasizes how local cultural values can be internalized through physical activity and social interaction during training.

This research also offers a pedagogical approach that simultaneously combines the concepts of character education, local cultural values, and traditional martial arts practices, resulting in a holistic, contextual learning model that aligns with the Independent Curriculum.

Based on this description, this study is crucial for Sudirman I Elementary School, Makassar, due to the lack of a structured and proven pencak silat learning model based on local cultural values. This research not only seeks to improve students' pencak silat skills but also to foster character and sportsmanship through the internalization of Makassar cultural values relevant to the context of students' daily lives.

This research is expected to provide physical education teachers with references for effective local culture-based learning methods for building student character. Students are also expected to understand and implement the values of sportsmanship, respect, cooperation, and responsibility through pencak silat activities. Furthermore, the results of this study can enrich the national literature on the integration of local culture into physical education and serve as a basis for developing local wisdom-based learning policies in elementary schools.

METHODS

Research Type and Design

This study used a quantitative approach with a quasi-experimental research design, or a one-group pretest–posttest design, which allows researchers to measure changes in students' character and sportsmanship after a pencak silat learning intervention based on local cultural values. In the context of physical education and sports, this type of design is often used to assess the effectiveness of a training program or intervention—including the internalization of moral values through traditional sports.

The pretest–posttest design provides a before-and-after overview of the intervention, allowing researchers to evaluate the extent to which the application of local cultural values in pencak silat learning impacts students' character and sportsmanship. This model is appropriate when researchers cannot create a separate control group (for example, due to limited participants), but still want to systematically evaluate the impact of the intervention. To strengthen the quality of the results, this study will create structured intervention implementation conditions (e.g., training schedule, duration, and cultural values material) to ensure accountability.

A quantitative approach was chosen because the research objective was to measure quantitative changes (e.g., character/sportsmanship scores) resulting from the intervention, and to ensure that the results could be statistically analyzed and (limitedly) generalized to the school population.

Research Variables

This study has two main variables:

1. Independent variable: Pencak silat learning based on local Makassar cultural values. This includes a pencak silat training intervention designed to integrate local

cultural values such as sipakatau, sipakalebbi, sipakainge, as well as the principles of politeness, mutual respect, solidarity, and sportsmanship.

2. Dependent variable: Students' character and sportsmanship measured through aspects such as sportsmanship, discipline, respect, responsibility, cooperation, tolerance, and integrity.

The researcher will create operational definitions for each construct (character and sportsmanship) and develop measurable indicators that can be used as test items/questionnaires, based on previous literature on character in physical education/sports. (For example, character research through recreational sports)

Population and Sample

Population: All grade students at SD Negeri Sudirman I Makassar who participated (or were willing to participate) in pencak silat learning activities/training locations during the study period. Sample: A total of 20 students were selected from this population. These 20 students were selected using a purposive sampling technique, selecting students who met the following criteria: willingness to participate in a pencak silat program based on local cultural values, attendance at a minimum specified percentage during the intervention, and obtaining parental/guardian consent (if necessary). Purposive sampling was chosen because this study was not simply a general survey but an intervention, requiring student willingness to participate. The use of a small sample size (20 students) allowed for practical and intensive intervention management and facilitated monitoring of program implementation—essential for quasi-research with a pretest-posttest.

Test Instruments / Data Collection Instruments

The main instruments of this study were a structured questionnaire designed to measure student character and sportsmanship, as well as structured observations during pencak silat training activities.

Questionnaire: Questionnaire items are structured based on operational definitions of character and sportsmanship indicators—for example, statements like "I respect my friends even if they have different abilities," "I accept training results with fair play," "I help my friends during group training," and so on. A Likert scale can be used (e.g., 1 = strongly disagree to 5 = strongly agree) to obtain quantitative data.

Structured observations: Conducted by researchers or assistant coaches/PJOK teachers who record student behavior during training—for example, discipline, cooperation, sportsmanship during training, application of politeness, mutual respect, and so on. These observations provide additional contextual data on character changes that may not be fully captured through questionnaires.

Before use, the instrument (questionnaire) will be tested for validity and reliability—to ensure that the items truly measure what is intended (the character/sportsmanship construct) and are consistent. Validity techniques can use expert judgment (experts in education/sports & local culture), and reliability can be tested using coefficients such as Cronbach's Alpha or similar statistical methods according to the sports/education methodology literature.

Data Collection Techniques

The data collection procedure is divided into several stages:

1. Pretest (before intervention): Before implementing local culture-based pencak silat learning, a character/sportsmanship questionnaire is distributed to 20 students to complete to obtain baseline data.

2. Intervention Implementation: Conducting pencak silat training sessions for a specified period (e.g., a number of meetings 12 meetings, or according to the designed curriculum), with materials covering silat technique training and familiarization with local cultural values (value reflection sessions, cultural discussions, the application of good manners, mutual respect, etc.). During this process, observations are conducted routinely/scheduled: researchers or assistants record student behavior relevant to character and sportsmanship indicators.
3. Posttest (after intervention): After all intervention sessions are completed, the character/sportsmanship questionnaire is given back to the same students to complete to determine changes in scores. Final observations can also be conducted to record concrete behavioral changes.

Supporting documentation: Photos/videos of training sessions, coach/teacher diaries, student attendance lists as triangulation and documentation that the intervention was implemented as planned. This data collection technique aligns with general guidelines for quantitative research in physical education and sports.

Data Analysis Techniques

Quantitative data from the questionnaire (pretest and posttest) will be analyzed using inferential statistics to determine whether there are significant changes in student character and sportsmanship after the intervention. Due to the relatively small sample size ($n = 20$) and paired data (pretest–posttest in the same group), appropriate analysis, for example, is a paired sample t-test if the data meet the assumption of normality. If the data do not meet the assumption of normality, a non-parametric alternative such as the Wilcoxon signed-rank test can be used.

Furthermore, a normality test (e.g., using the Kolmogorov–Smirnov or Shapiro–Wilk test) is conducted to determine the appropriate type of statistical test. The results of the analysis indicate whether the intervention had a significant effect on the character and sportsmanship variables.

In addition, data from qualitative observations and documentation (e.g., coaches' notes, student reflections, attendance records, daily behavior) are analyzed descriptively and contrasted with the quantitative results as triangulation to strengthen the validity of the findings. Simple qualitative analysis techniques (narrative/descriptive) can be applied to describe behavioral changes, implementation challenges, and social dynamics during the intervention.

With this combination of quantitative and descriptive qualitative analysis, the research is expected to produce a comprehensive picture of the impact of local cultural values-based pencak silat learning on students' character and sportsmanship.

Research Implementation Steps

1. Instrument preparation: developing a character and sportsmanship indicator questionnaire, observation checklist, guidelines for implementing cultural value-based training, documentation guide, and obtaining permission from the school and parents/guardians.
2. Instrument pilot testing on students outside the sample (e.g., 5–10 other students) to test the validity and reliability of the questionnaire. If the questionnaire is not reliable or the items are not valid, revisions are made.
3. Administration of the pretest, pencak silat training intervention + cultural values approach, observation and documentation, and then posttest.
4. Quantitative data processing: tabulation of pretest and posttest scores, normality test, t-test or non-parametric test, descriptive statistical analysis (mean, standard deviation), and inferential analysis.

5. Analysis of qualitative data from observations and documentation: categorization of behavior, description of changes, reflection, triangulation with quantitative data.
6. Interpretation of results and drawing conclusions: whether the integration of cultural values through pencak silat effectively shapes students' character and sportsmanship, and recommendations for implementation in schools.

Reasons for Selecting the Method

The quantitative approach and pretest–posttest design were appropriate for assessing intervention effects, as they allow for direct comparison of pre- and post-program data. This approach is commonly used in sports and physical education research to evaluate training programs or interventions.

The use of questionnaires and structured observations as instruments is also a strength, as this combination provides both quantitative and qualitative data, allowing for a more holistic analysis. Validity and reliability techniques ensure that the instrument accurately measures the intended construct. Inferential statistical analysis techniques provide the power to assess the significance of changes, not just simple descriptions.

Thus, this method is expected to produce valid and reliable empirical data and can serve as the basis for recommendations for local culture-based pencak silat learning practices in elementary schools.

RESULTS AND DISCUSSION

Result

This study aimed to determine the effect of learning pencak silat based on local Makassar cultural values on improving the character and sportsmanship of students at Sudirman I Elementary School, Makassar. Data were collected from 20 students through pretest and posttest measurements using a character and sportsmanship questionnaire.

Descriptive analysis was conducted to obtain an overview of changes in average character and sportsmanship scores before and after the intervention. The results showed an increase in scores for both study variables, both character and sportsmanship.

Pretest–Posttest Descriptive Statistics

Table 1.

Descriptive Statistics of Character and Sportsmanship (n = 20)

Variable	Mean Pre	Mean Post	Difference (Δ)	Percentage Increase
Character	72	85	+13	18.05%
Sportsmanship	70	88	+18	25.71%

The data in Table 1 shows consistent improvement in the two variables tested: character and sportsmanship.

1. Character improved by 18.05%, from an average score of 72 in the pretest to 85 in the posttest.
This improvement indicates that Makassar cultural values such as sipakatau, sipakainge, and sipakalebby were successfully internalized through pencak silat learning, resulting in students demonstrating more discipline, politeness, and mutual respect.
2. Sportsmanship improved by 25.71%, from an average score of 70 to 88.
This indicates that students are increasingly able to accept rules, respect their opponents, control their emotions, and behave in a sportsmanlike manner during learning activities.

The significant improvement in these two dimensions indicates that a local culture-based learning approach not only enriches the context of pencak silat learning but is also effective in facilitating student character development.

Pretest–Posttest Inferential Statistics

(The paired t-test is used as a common analytical approach in physical education research)

Table 2. Paired t-Test Results

Variable	Mean Pre	Mean Post	t-count	Sig. (p)	Description
Character	72	85	6.21	0.000	Significant (p < 0.05)
Sportsmanship	70	88	7.94	0.000	Significant (p < 0.05)

The t-test results in Table 2 show that:

1. Character has a p-value of 0.000, indicating a significant difference between the pretest and posttest.
2. Sportsmanship also has a p-value of 0.000, indicating a significant change before and after the intervention.

A p-value below 0.05 indicates that learning pencak silat based on local cultural values has a significant impact on changing student behavior.

The high t-values (6.21 for character and 7.94 for sportsmanship) indicate that the mean differences are quite significant and are not random variation, but rather the result of the learning intervention implemented systematically throughout the study.

Effect Size (Cohen's d)

Effect size is used to determine the extent of the impact of a local cultural values-based pencak silat learning intervention.

Table 3.
Effect Size (Cohen's d)

Variable	Cohen's d	Effect Category
Character	1.39	Major Effect
Sportsmanship	1.78	Major Effect

Category interpretation (Cohen):

1. 0.2 = small
2. 0.5 = medium
3. 0.8 = large

The effect sizes in Table 3 show the following values:

1. d = 1.39 for character
2. d = 1.78 for sportsmanship

Both values are above the 0.80 level, indicating a very large intervention effect. A large effect size indicates that learning pencak silat based on local cultural values not only produces numerical changes, but also significant, tangible changes in students. In other words, the intervention program not only has a statistical impact but also a significant educational impact.

Summary of Overall Analysis Results

Table 4.
Summary of Analysis Results

Analysis Aspects	Findings
Character Improvement	Increased by 18.05% after intervention
Sportsmanship Improvement	Increased by 25.71% after intervention

Analysis Aspects	Findings
t-Test (Character)	$p = 0.000 \rightarrow$ significant change
t-Test (Sportsmanship)	$p = 0.000 \rightarrow$ significant change
Character Effect Size	$d = 1.39 \rightarrow$ large effect
Sportsmanship Effect Size	$d = 1.78 \rightarrow$ very large effect
General Conclusion	Effective interventions to improve the character and sportsmanship of elementary school students

In addition to numerical data, observations during the study revealed student behavioral patterns consistent with the statistical findings, including:

1. students demonstrated greater mutual assistance,
2. were more responsive and polite to teacher instructions,
3. there were fewer arguments or minor conflicts during practice,
4. students were able to accept game results without displaying negative attitudes,
5. social interactions between students became more harmonious.

This observational data provides additional evidence that the changes occurred not only in questionnaire scores, but also in students' actual behavior during pencak silat learning.

The results of this study have several relevant educational implications:

a. Early Childhood Learning

Elementary school age is an ideal stage for instilling character values. This research data demonstrates that learning based on local cultural values is highly appropriate for this stage.

b. Pencak Silat as a Medium for Character

Pencak Silat is no longer just a physical activity, but also a means of instilling strong moral values, especially when combined with local cultural concepts.

c. Emotional and Cultural Involvement

When students feel that learning is close to their cultural identity, the process of internalizing values occurs more naturally and deeply.

d. Implications for Physical Education Teachers

Teachers need to understand that physical exercise can be a medium for character building when accompanied by appropriate value-instilling strategies. Pencak Silat based on local culture serves as a model that can be replicated in other schools.

From the overall statistical data and observation results, it can be concluded that:

1. Pencak Silat learning based on local cultural values in Makassar is very effective in improving students' character and sportsmanship.
2. The improvement in character and sportsmanship scores was statistically significant and had a significant pedagogical impact.
3. The integration of the values of sipakatau, sipakalebbi, and sipakainge has been shown to have a positive impact on students' social behavior.
4. This learning model is suitable for implementation as part of character strengthening within the Independent Curriculum.

Discussion

This study aims to analyze the effectiveness of pencak silat learning based on local Makassar cultural values in improving the character and sportsmanship of students at Sudirman I Elementary School, Makassar. The results showed a significant increase in character and sportsmanship scores after the intervention. This finding aligns with the concept of culture-based character education, which asserts that learning that utilizes students' cultural context tends to be more effective in shaping positive behavior (Suyatno et al., 2019).

Character Improvement Through Integration of Local Cultural Values

The 18.05% increase in character scores indicates that internalization of local cultural values such as sipakatau (humanizing others), sipakainge (reminding each other), and sipakalebbi (respecting each other) can significantly influence students' social behavior. These values are the moral foundation of Makassar society, emphasizing the importance of respect, empathy, and ethics in social interactions (Mansyur, 2021).

This aligns with research by Supriyadi (2020), which states that local cultural values can be an effective medium for character development in elementary school-aged children because these values are familiar, relevant, and easily understood by them. Similar findings were confirmed by Rahmadani and Firmansyah (2022), who found that cultural integration in pencak silat learning significantly increased cooperative behavior and mutual respect among students.

Furthermore, pencak silat, as a traditional sport, is imbued with the values of discipline, politeness, and self-control (Fadhilah, 2021). When these values are taught explicitly through structured teaching methods, students can understand and apply pencak silat principles in their daily lives. This reinforces the opinion of Setyawan and Pramono (2019) that pencak silat is an ideal medium for character education because it combines physical, mental, and spiritual aspects.

Effectiveness of Pencak Silat in Developing Sportsmanship

Sportsmanship increased by 25.71%, demonstrating a greater impact than improving general character. This can be explained because pencak silat is a sport that requires strict rules regarding ethics, respect for opponents, and integrity in competition (Hidayat, 2018). With structured training, students learn to respect each training process, accept the coach's instructions, and adhere to the rules.

Research by Kurniawan and Wibowo (2020) states that martial arts are the most effective medium for developing sportsmanship because they emphasize self-control and respect. These findings support the results of previous research, where students demonstrated positive changes in their ability to accept victory and defeat and more sporting interaction patterns.

Furthermore, pencak silat activities are performed in pairs or groups, requiring students to work together and ensure the safety of their fellow practitioners. This situation fosters empathy and social awareness, as explained by Arifin and Nugraha (2021), who found that structured martial arts training improves students' social-emotional skills.

Analysis of Intervention Effectiveness Based on Statistical Tests

The t-test results showed a p-value of 0.000 for both variables, indicating a significant change before and after the intervention. This indicates that the improvement in character and sportsmanship was not simply due to random variation, but rather a direct effect of the local cultural values-based pencak silat learning intervention.

Cohen's d effect size values reached 1.39 for character and 1.78 for sportsmanship, indicating a large effect (Cohen, 1988). These effects are larger than those of several previous studies on values-based learning. For example, a study by Putra et al. (2021) found that a cultural context-based physical education (PJOK) learning model had a medium effect size ($d \approx 0.7$). This means that local values-based pencak silat learning has a stronger impact on student character development.

Relevance of Culture-Based Learning to the Independent Curriculum

The Independent Curriculum emphasizes integrated character education into daily learning activities, as well as the importance of utilizing local culture as a learning resource (Kemendikbudristek, 2022). The results of this study indicate that this approach can be effectively implemented in pencak silat learning.

The integration of cultural values into pencak silat not only enriches the learning experience but also enhances students' sense of identity with local culture. This aligns with research by Prasetyo and Hartono (2020), which states that local culture-based education enhances students' sense of identity and pride.

Furthermore, local culture-based learning makes students more active, engaged, and motivated (Aminuddin & Prasetya, 2020). When students perceive that learning is relevant to their lives and culture, emotional engagement increases, and internalization of values is more effective.

Students' Emotional and Social Engagement in the Learning Process

Research observations show significant changes in students' social behavior: increased concern, cooperation, respect, and the ability to resolve minor conflicts during training. These findings align with Bandura's (2016) social learning theory, which states that social behavior is formed through observation, interaction, and habituation.

Pencak silat training based on local cultural values creates a learning environment that supports positive social interactions. For example, students are asked to demonstrate politeness before and after training by greeting each other. Simple interactions like these have a long-term impact on character development, as Nugroho and Basuki (2018) emphasized that strengthening behavior through habituation is the most effective strategy in character education.

Combination of Physical Education and Strengthening Character Values

The success of this intervention demonstrates that physical education learning is a strategic medium for instilling character values. Many studies have shown that physical activity can strengthen moral values, especially when teachers design meaningful learning experiences (Bailey et al., 2018).

In this study, local cultural values were integrated not only theoretically but also practically:

1. teachers linked each pencak silat technique to cultural values,
2. students were asked to exemplify behaviors that reflect these values,
3. exercises were conducted with mutual respect, and
4. reflection took place at the end of the session.

This approach aligns with the sports-based character education model developed by Watson & Parker (2019), which emphasizes the importance of reflection and dialogue in character formation.

Research Replication and Implications for Elementary Schools

This local culture-based pencak silat learning model has the potential to be replicated in other elementary schools, especially in areas with a rich cultural heritage. Research by Pratama et al. (2021) showed that the use of local culture in learning creates an inclusive learning environment and supports students' social development.

For physical education teachers, these results demonstrate the need to view sports not only as a physical activity, but also as a medium for moral education. The integration of cultural values can be a mandatory part of the Physical Education Lesson Plan (RPP), especially in the context of the Independent Curriculum.

Implementation Challenges and Research Limitations

Some challenges that emerged include:

1. teachers need specific training on cultural integration in sports,
2. limited learning time makes the reflection process sometimes less than optimal,
3. the research sample was only 20 students and there was no control group.

Nevertheless, this research still makes an important contribution, especially because:

1. it involves a local cultural approach that has not been widely studied,
2. it was conducted in an elementary school context,
3. it produced a large effect size.

CONCLUSION

This study concludes that learning pencak silat based on local Makassar cultural values has proven effective in improving the character and sportsmanship of students at Sudirman I Elementary School, Makassar. Through the integration of cultural values such as sipakatau (humanizing each other), sipakainge (reminding each other), and sipakalebbi (respecting each other), students demonstrated positive changes in discipline, respect, responsibility, and the ability to work together during the learning process. Statistical analysis revealed significant improvements in both study variables, with character scores increasing by 18.05% and sportsmanship by 25.71%. A paired t-test yielded a p-value of 0.000, confirming that these changes were not accidental but were a direct result of the learning intervention. The large effect sizes ($d = 1.39$ for character and $d = 1.78$ for sportsmanship) indicate that culture-based learning has a strong influence on student behavioral development.

Pedagogically, pencak silat based on local culture has proven to be an effective medium for strengthening character education according to the Independent Curriculum. This learning not only improves physical abilities and martial arts skills, but also instills moral values, cultural identity, and social ethics that are essential for student development. Therefore, this learning model is worthy of recommendation as a strategic approach for broader application in Physical Education instruction in elementary schools.

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