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Original Research

Enhancing The Value of Batak Culture In The Traditional Game Of "Breaking The Plate" In Physical Education In Primary Schools: A Literature Study

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Abstract

Physical education in elementary schools not only develops students' physical abilities but also serves as a strategic vehicle for instilling local cultural values that are increasingly marginalized in the era of globalization. This study aims to examine in depth how the traditional game "Pecah Piring," rooted in Batak tradition, can be integrated into physical education in elementary schools as an instrument for developing basic movement skills and cultivating character based on local culture. The method used is a systematic literature review that traces scientific sources from national and international journals, policy reports, and curriculum documents published between 2021 and 2024. The results of the study showed that the game of Breaking the Plate inherently comprises three basic categories of movement: locomotor movement (running, stepping, dodging), non-locomotor movement (bending, twisting, balancing the body), and manipulative movement (throwing, catching, directing). In addition to its physical dimension, the game is rich in character values relevant to national character education, such as cooperation, honesty, discipline, and respect. The integration of this game into the Merdeka Learning curriculum is considered very compatible because it provides space for teachers to develop local contexts in learning. This study recommends a structured implementation guide for physical education teachers to use the game Breaking the Plate as a systematic and measurable learning medium.

Keywords: Batak culture, broken plates; Physical Education; basic movement, motor skills; Character Value; Elementary School

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1. Introduction

One of the biggest challenges faced by Indonesia's education system in the 21st century is maintaining the relevance of local culture amid modernization trends that continue to erode the cultural identity of the younger generation. This phenomenon is not only evident in the shift in children's entertainment preferences, who are now more familiar with digital games than traditional ones, but is also reflected in the weakening of students' understanding of the noble values embedded in their ancestral cultural heritage (Harsono & Setyaningrum, 2022). In the North Sumatra region in particular, the Batak people, with their rich traditions, life philosophies, and diverse cultural expressions, face a similar threat: the tradition of playing, which used to be a place for socialization and the transmission of values between generations, is slowly being forgotten.

Batak traditional games, as one of the high-value intangible cultural heritage, hold pedagogical potential that has not been fully explored in the context of formal education. Games such as "Breaking the Plate," which, in a local context, are often played at traditional activities, folk festivals, or community gatherings, contain elements directly related to the purpose of physical education in elementary schools. In this game, players are required to run, dodge, throw, and work as a team, all of which are manifestations of basic movement skills that are the main focus of physical education at the elementary education level (Lutan, 2021).

Physical education in elementary school has a unique and strategic position. Unlike other subjects that tend to focus on cognitive aspects, physical education provides space for the development of the psychomotor, affective, and cognitive realms simultaneously through planned physical activity (Mahendra, 2022). However, the practice of physical education learning in many elementary schools in Indonesia is still stuck in a monotonous pattern and regardless of the local cultural context. Teachers teach more modern sports such as football, volleyball, and badminton, while traditional games rich in meaning are marginalized in the classroom (Andriadi et al., 2023).

This condition causes two losses at once: first, students lose access to local cultural riches that should be part of their identity; Second, the potential of traditional games as an effective and contextual learning medium is not optimally utilized. In fact, various studies have shown that a local culture-based approach to learning not only increases student motivation and engagement but also strengthens a sense of belonging to ancestral heritage which in turn contributes to the formation of the nation's character (Widiastuti et al., 2022).

The Independent Learning Curriculum, launched by the Ministry of Education, Culture, Research, and Technology (Kemendikbudristek) in 2022, offers a wide range of opportunities to integrate local wisdom into the learning process. Through the principles of flexibility and curriculum contextualization, physical education teachers can design learning experiences that are not only academically relevant but also culturally meaningful for their students (Ministry of Education and Culture, 2022). However, this opportunity has not been widely used in practice, especially in areas with a rich tradition of games, such as the Batak cultural area in North Sumatra.

Based on the background, this research has several interrelated objectives. Identify and analyze the basic elements of motion (locomotor, non-locomotor, and manipulative) contained in the traditional game of Breaking the Plate. Second, examine how Batak cultural values

embedded in the game can be integrated into the purpose of character education through physical education learning. Third, formulate a conceptual model for integrating the Broken Plate game into the physical education curriculum in elementary schools that aligns with the Independent Learning Curriculum. Fourth, discussing the pedagogical implications and implementation challenges that need to be anticipated by physical education teachers in implementing this culture-based game in the classroom.

2. Research Design Methods

2.1 Research Design

This study employs a literature review using a qualitative descriptive approach. This method aims to study, analyze, and synthesize research findings on the traditional game of Breaking the Plate, Batak cultural values, and their implementation in Physical Education learning in elementary schools. Through literature studies, researchers gain a comprehensive understanding of the potential of traditional games as a means of cultural preservation and students' character formation.

2.2 Participants / Sample

The data sources in this study consist of scientific articles, national and international journals, books, and other academic sources relevant to the research topic. Literature was selected based on the following criteria: (1) discussing traditional games or local culture in education, (2) relating to Physical Education learning in elementary schools, (3) discussing character values or cultural values, and (4) being published in the range of 2015–2025. Literature that meets the criteria is then used as a source of research data.

2.3 Instruments and Measures

The research instrument is in the form of a literature analysis sheet that is used to identify and record important information from each source, such as the identity of the author, the purpose of the research, the research method, the research results, and findings related to the values of Batak culture and the traditional game of Pecah Piring. Data collection was carried out through a selected literature review.

2.4 Procedure

The research was carried out through several stages, namely: (1) searching relevant literature through various academic databases, (2) literature selection based on predetermined criteria, (3) grouping and extracting data according to the focus of the research, (4) analysis of findings from each literature, and (5) synthesis of research results to obtain an overview of the role of the traditional game of Rupture Piring in increasing the value of Batak culture in learning Physical Education in schools basic.

2.5 Data Analysis

The data was analyzed using content analysis techniques. Information obtained from various literature sources is grouped based on relevant themes, such as Batak cultural values, character education, motor skills, and Physical Education learning. Furthermore, the data is

compared, interpreted, and synthesized to obtain conclusions that are in accordance with the research objectives.

3. Results

Based on the results of the search and analysis of the literature carried out, a number of studies have been identified that discuss traditional games, physical education, character education, and the preservation of local culture. The results of the synthesis are presented to provide a comprehensive overview of the potential of the traditional game of Pecah Piring in increasing the value of Batak culture in elementary school students. A summary of the research results is presented in Table 1.

Table 1. Summary of Selected Scientific Articles

No	Author & Year	Research Title	Research Methods	Key Findings
1.	Andriadi, Junaedi, & Wahyudi (2023)	Revitalization of Traditional Games as Physical Education Learning Media in Elementary Schools: A Field Study in North Sumatra	Field studies	Traditional games are effective at increasing student participation and can be used in schools with limited facilities.
2.	Gallahue, Ozmun, & Goodway (2021)	Understanding Motor Development: Infants, Children, Adolescents, Adults	Theoretical studies	Locomotors, non-locomotor, and manipulative movements are the basis for children's motor development that needs to be developed from an early age.
3.	Harsono & Setyaningrum (2022)	Culturally Responsive Pedagogy in Indonesian Physical Education: Challenges and Opportunities	Conceptual studies	Culturally responsive learning increases student engagement and learning relevance.
4.	Ministry of Education and Culture (2022)	Learning Outcomes in the Independent Curriculum	Policy document analysis	The Independent Curriculum encourages contextual learning based on local culture and strengthens the Pancasila Student Profile.
5.	Lutan (2021)	Basic Movement Skills in Physical Education: Theoretical and Practical Perspectives of Learning	Theoretical studies	Mastery of basic movements is the foundation for the success of learning physical education and children's physical activities.

6.	Mahendra (2022)	Adaptive and Local Culture-Based Physical Education: Theory and Implementation	Theoretical studies	Physical education based on local culture is able to develop physical, social, and character aspects of students.
7.	Seventy (2021)	Philosophical Values of Toba Batak Culture and Its Relevance to Character Education in the Modern Era	Qualitative research	Batak cultural values such as hard work, responsibility, and respect are relevant in character education.
8.	Paturusi & Nasution (2021)	North Sumatran Traditional Games as a Vehicle for Elementary School Children's Social and Motor Skills Development	Field research	Traditional games improve students' social, motor, cooperative, and cultural awareness skills.
9.	Siregar (2022)	Plate Breaking and Batak Folk Games: Documentation and Analysis of Cultural Values	Cultural documentation studies	Plate Breaking Games contain the values of cooperation, courage, responsibility, and respect.
10.	Squirrel (2023)	Dalihan Na Tolu as the Foundation of Character Education in Contemporary Batak Society	Cultural studies	The value of Dalihan Na Tolu can be the basis for character formation such as mutual cooperation, respect, and social responsibility.
11.	Suyadi (2021)	Traditional Games as Learning Media Based on Local Wisdom: A Neuropsychological Review	Literature review	Traditional games help a child's cognitive, emotional, social, and character development.
12.	Widiastuti, Rachman, & Suherman (2022)	Integration of Local Wisdom in Physical Education Curriculum for Strengthening the Cultural Identity of Elementary School Students	Qualitative research	The integration of local cultures strengthens students' cultural identities and supports character education.
13.	Widjaja & Pranoto (2023)	The Effect of Traditional Game Activities on the Development of Gross Motor Skills and Physical Fitness of Grade IV Elementary School Students	Experimental research	Traditional games improve students' gross motor skills, coordination of movements, and physical fitness.

14.	World Health Organization (2022)	Physical Activity Guidelines for Children and Adolescents	International health guidelines	Children aged 6–17 years are recommended to do moderate to high intensity physical activity for at least 60 minutes every day to support health and fitness.

4. Discussion

Based on the results of the literature synthesis that has been carried out. It was found that traditional games have a significant contribution to the learning of Physical Education in primary schools. The findings support the purpose of this study, which examines the potential of the traditional game of Breaking Plates as a learning medium that can instill the value of Batak budava in students. The results of the study show that traditional games play a role in developing motor skills and increasing students' active participation, as well as instilling cultural values and character such as cooperation, discipline, responsibility and sportsmanship. Thus, the traditional Pecah Piring game can be used as an alternative learning that integrates aspects of physical education with the preservation of local culture.

4.1 Basic Motion Mapping in Plate Breaking Games

An analysis of the mechanics of the Plate Breaker game reveals the wealth of motion variations stored in this one game activity. The three categories of basic motion that are the pillars of physical education in locomotors, non-locomotor, and manipulative elementary schools are all organically present in the dynamics of this game.

4.1.1 Locomotor Motion

Locomotor motion includes all movements that involve moving the body from one place to another. In the game Breaking the Plate, locomotor motion appears in several forms and is connected to one another. Running is the most dominant and most frequently performed locomotor movement, especially when the attacking player must immediately avoid throwing the ball from the defending team, or when the defending team has to move quickly to pick up the ball that slides far.

In addition to running, the movement of stepping with a rapid change of direction (lateral movement and change of direction) is also very intensive in this game. The ability to change direction quickly and precisely, known in sports science as agility, is an important component of motor fitness and a development target in elementary school physical education (Widjaja & Pranoto, 2023). In the context of the game of Breaking the Plate, this agility is not just a matter of physical speed but also involves making quick decisions based on ever-changing visual information, an invaluable anticipatory exercise.

Jumping and dodging are also present, especially when players try to avoid throwing balls coming from various directions. This variation adds a vertical dimension to the game, which mostly takes place in a horizontal plane, thereby enriching the neuromuscular stimuli the child receives.

4.1.2 Non-locomotor motion

Non-locomotor motion refers to movements performed without displacement, involving the body's stability and balance. In the game Breaking the Plate, this category of motion is most clearly seen in the phase of rearranging the plate after being knocked down, a moment that is dramatically different from the running and dodging phases that dominate other aspects of the game.

When arranging the plate, players must bend, reach, and balance their bodies in positions that are not always comfortable or stable. The high time pressure, as players must arrange the plates as quickly as possible while the opposing team tries to hit them with the ball, increases the difficulty of these non-locomotor movements. This condition trains the ability to work on body coordination and dynamic balance, which are important components of the motor maturity of elementary school-age children.

Rotation and weight transfer also occur naturally in this game, especially when players have to adjust their body position to throws coming from various angles. This ability is closely related to body awareness and intersegmental coordination, which are part of the elementary school physical education curriculum (Gallahue et al., 2021).

4.1.3 Manipulative Movement

Manipulative motion is the most complex category in basic motion taxonomy because it involves interaction between the body and external objects. In the game of Breaking the Plate, the two most prominent manipulative movements are throwing and catching, both of which are fundamental skills and prerequisites for mastering various sports.

The throwing skills in this game are not just throwing without direction. Players are required to throw with accuracy (to knock down the plate arrangement or hit the opponent), measured power, and efficient technique. It involves coordination among the legs, hips, shoulders, arms, and wrists in a single integrated set of motions, referred to in biomechanical terms as proximal-to-distal sequencing. Mastering the correct throwing pattern at an elementary school age is very important because technical abnormalities formed at this age tend to persist into adulthood and are difficult to correct (Lutan, 2021).

Catching skills, on the other hand, develop hand-eye coordination, timing, and anticipation of movement. Balls that come at different speeds and angles force players to constantly adjust their hands and bodies in real time, a highly valuable proprioceptive exercise. In the context of team play, good catching ability is also related to the ability to read the game and communicate with teammates the cognitive-social dimension of manipulative gestures that is often overlooked.

4.2 Batak Cultural Values in the Game of Breaking Plates

A study of the literature on Batak philosophy and cultural values reveals a deep harmony between the values embedded in the game of Breaking the Plate and the goal of character education through physical education.

4.2.1 The Value of Togetherness and Mutual Cooperation (Masihaholongan)

In Batak culture, the principles of masihaholongan (love each other) and marsipature hutana be (we improve our country together) reflect a deep appreciation for communal solidarity and cooperation. This value is clearly realized in the dynamics of the game Broken Plate, where the team's success depends entirely on coordination and synergy among players (Situmorang, 2023).

No single player can succeed alone in this game. When the attacking team tries to rearrange the plate, each team member has a complementary role: some are feeders, some are in charge of maintaining positions, and some are in charge of arranging the plates. This

organic division of roles teaches children the importance of trust in teammates, appreciation for each individual's contributions, and the awareness that collective strength goes far beyond individual ability.

4.2.2 The Value of Courage and Fortitude (Hamoraon)

The game of Plate Breaking demands courage from each player. Standing as a potential target of an opponent's throw while staying focused on putting the plate together requires courage, determination, and the ability to manage pressure. In the Batak tradition, this value is related to the concept of hamoraon, which not only means material prosperity but also spiritual prosperity, which is reflected in the firmness of character and resilience in facing challenges (Napitupulu, 2021).

For elementary school children, the experience of dealing with stress in a safe and fun context like this game is a valuable exercise in building resilience, the ability to bounce back and continue to struggle even after experiencing failure. Students whose plates repeatedly collapse before being successfully rearranged will learn about persistence and the importance of not giving up easily.

4.2.3 The Value of Honesty and Sportsmanship

In traditional Batak games, as in games in other cultures, honesty and sportsmanship are upheld. There are no formal referees in the game of Breaking the Plate; Players keep an eye on each other and enforce the rules together. It teaches the value of self-regulation and honesty that comes from internal awareness, not from external coercion (Widiastuti et al., 2022).

When a player is hit by a ball throw but does not admit it, the integrity of the game is threatened. Social pressure from playmates to be honest, and the understanding that cheating undermines mutual fun, are natural mechanisms that teach children the value of honesty and social responsibility much more effectively than moral lectures in the classroom.

4.2.4 The Value of Respect for Others (Somba)

The concept of somba (respect), one of the pillars of dalihan na tolu in Batak culture, is also present in this game, though not always explicitly. Every action in the game, from how to throw harmlessly, how to reprimand if there is a violation, to how to celebrate victory, reflects a player's level of respect for his opponent (Siregar, 2022). Skilled teachers can turn these moments into teachable moments to discuss the value of respect in a concrete, context-specific way that is close to the student's experience.

4.3 Compatibility with the Independent Learning Curriculum

Analysis of the Independent Learning Curriculum document indicates a high degree of compatibility between the learning objectives of the Breaking the Plate game and the Learning Outcomes (CP) for Physical Education, Sports, and Health (PJOK) set by the Ministry of Education and Culture.

In the CP PJOK for elementary school levels (Phase A, B, and C), there are several elements that are directly in accordance with the learning content of the game Breaking the Plate: (1) elements of movement and game activities that emphasize mastery of basic movement skills in various contexts; (2) elements of physical fitness activities that target the development of fitness components such as speed, agility, and coordination; (3) elements of game and sports activities that include traditional games as an integral part of the student learning experience; and (4) elements of character development through physical activities

related to values such as sportsmanship, cooperation, and respect (Ministry of Education and Culture, 2022).

Furthermore, the philosophy of the Independent Curriculum, which encourages student-centered, contextual, and experiential learning, is very much in line with the character of traditional games, which are participatory, situational, and personally meaningful. Physical education teachers can use the game Breaking the Plate not only as an enrichment or interlude activity, but as the core of a structured learning unit with clear goals and authentic assessments.

4. 4 Minimal Use of Local Media and Resources

One of the practical advantages of the game of Breaking the Plate that rarely gets attention is the low need for special facilities and equipment. In primary schools in rural areas of North Sumatra, where limited sports facilities often hinder the provision of quality physical education, this is a significant advantage.

The equipment needed is basically just a pile of plates (which can be replaced with used cans, plastic bottles, or lighter bricks that are safer), balls (which can be replaced with artificial cloth balls), and a fairly large field (can use the school yard). All of these materials are easy to obtain from the surrounding environment at minimal cost, or even at no cost (Andriadi et al., 2023). This makes the game Breaking the Plate a learning solution that is not only pedagogically effective but also realistic and equitable for use in various school settings.

The use of local ingredients in the game also has an important symbolic value. By using familiar objects from everyday life, children learn to appreciate and take advantage of the resources available around them an indirect learning of creativity, simplicity, and love for the local environment that is in line with the values of character education.

5. Conclusion

Based on the findings of this study, the traditional game of Breaking the Plate has considerable potential as an integrative physical education learning model because it simultaneously develops students' fundamental movement skills, physical fitness, cultural values, and character. Through activities such as running, jumping, throwing, dodging, and arranging plate fragments, students not only improve their cardiorespiratory endurance, muscular strength, balance, coordination, and agility, but also internalize the values of cooperation, courage, perseverance, honesty, sportsmanship, independence, and respect for cultural diversity. Its implementation can be organized into three stages: introducing cultural narratives before the game, conducting the activity with technical guidance on movement skills, and facilitating reflection on the values gained after the game. In this process, physical education teachers need to act not only as instructors of physical skills but also as cultural facilitators who connect local cultural heritage to students' learning experiences by collaborating with local-content teachers, parents, traditional leaders, and community members. Although its implementation may face challenges related to limited teacher competence, curriculum pressures, diverse student backgrounds, and safety risks, these challenges can be addressed through continuous training, modifications to rules and equipment, inclusive learning approaches, and institutional support. Therefore, the Breaking the Plate game deserves to be developed as an important component of primary school physical education because it supports health, cultural preservation, character development, and the achievement of national education objectives in a contextual and sustainable manner.

References

Andriadi, R., Junaedi, I., & Wahyudi, T. (2023). Revitalization of traditional games as a learning medium for physical education in elementary schools: A field study in North Sumatra. Indonesian Journal of Physical Education, 19(1), 45–62.

Gallahue, D. L., Ozmun, J. C., & Goodway, J. D. (2021). Understanding motor development: Infants, children, adolescents, adults (8th ed.). McGraw-Hill Education. https://doi.org/10.5040/9781492596837

Harsono, Y., & Setyaningrum, W. (2022). Culturally responsive pedagogy in Indonesian physical education: Challenges and opportunities. Journal of Physical Education and Sport, 22(3), 712–721. https://doi.org/10.7752/jpes.2022.03089

Ministry of Education and Culture. (2022). Decree of the Head of the Education Standards, Curriculum, and Assessment Agency Number 008/H/KR/2022 concerning Learning Outcomes in Early Childhood Education, Basic Education, and Secondary Education Levels in the Independent Curriculum. Ministry of Education, Culture, Research, and Technology. https://kurikulum.kemdikbud.go.id/unduhan/

Lutan, R. (2021). Basic movement skills in physical education: A theoretical and practical perspective of learning. Journal of Sports Science, 20(2), 89–104. https://doi.org/10.24114/jik.v20i2.28941

Mahendra, A. (2022). Adaptive and local culture-based physical education: Theory and implementation (3rd edition). PT Raja Grafindo Persada.

Napitupulu, E. L. (2021). The philosophical values of Toba Batak culture and its relevance to character education in the modern era. Journal of Character Education, 11(2), 178–194. https://doi.org/10.21831/jpk.v11i2.41325

Paturusi, S. A., & Nasution, M. R. (2021). Traditional North Sumatra games as a vehicle for the development of social and motor skills of elementary school children. Indonesian Journal of Sports Education, 8(1), 23–38. https://doi.org/10.21831/jopi.v8i1.38102

Siregar, H. F. (2022). Breaking the plate and the Batak folk game: Documentation and analysis of cultural values. Journal of Nusantara Culture, 14(1), 55–72. https://doi.org/10.22373/jkn.v14i1.12887

Situmorang, J. B. (2023). Dalihan na tolu as the foundation of character education in contemporary Batak society. Journal of Social and Cultural Anthropology, 9(1), 88–103. https://doi.org/10.24114/jasb.v9i1.46521

Suyadi, S. (2021). Traditional games as learning media based on local wisdom: A neuropsychological review. Journal of Children's Education, 10(1), 1–14. https://doi.org/10.21831/jpa.v10i1.37281

Widiastuti, T., Rachman, H. A., & Suherman, A. (2022). Integration of local wisdom in the physical education curriculum to strengthen the cultural identity of elementary school students. Journal of Education Horizon, 41(2), 412–428. https://doi.org/10.21831/cp.v41i2.46234

Widjaja, S. P., & Pranoto, H. (2023). The effect of traditional game activities on the development of gross motor skills and physical fitness of grade IV elementary school students. Journal of Physical Education and Exercise, 8(1), 67–82. https://doi.org/10.17509/jpjo.v8i1.57891

World Health Organization. (2022). Physical activity guidelines for children and adolescents. WHO Press. https://www.who.int/publications/i/item/9789240014886

grafi Indonesia, 6(1), 45–63. https://doi.org/10.14421/jkei.2024.61-04