Jurnal Bisnis dan Pemasaran Digital (JBPD)
ISSN: 2798-3293, Vol 5, No 1, 2025, 1-17 https://doi.org/10.35912/jbpd.v5i1.5567

Balap Kata Board Game: Revitalizing Traditional Scripts for National Awareness

Etika Filahofia[1*], Muhammad Jalaluddin Usman[2]
Center for Religious & Cross-Cultural Studied (CRCS) UGM, Yogyakarta, Indonesia[1]
SMA Institut Indonesia, Semarang, Indonesia[2]
etikafilashofia@mail.ugm.ac.id[1*], muhammad069@guru.sma.belajar.id[2]

Article History
Received on 26 June 2025
1st Revision on 01 July 2025
2nd Revision on 08 July 2025
3rd Revision on 14 July 2025
Accepted on 20 July 2025

Abstract
Purpose: *Balap Kata* is an educational innovation designed to promote national values and foster awareness of local identity among younger generations amid modernization.
Reseacrh Methodology: This study employs a qualitative-descriptive approach, combining literature review and conceptual analysis to examine the game as a learning medium. The discussion includes game design, mechanics, conveyed cultural values, and relevance in shaping national awareness.
Results: *Balap Kata* is a board game centered on arranging Javanese vocabulary using two scripts: *Aksara Jawa* and *Arab Pegon*. *Aksara Jawa* consists of 20 basic characters, known as *Aksara Nglegena*, while *Arab Pegon* adapts Arabic letters (*Hijaiyah*) for Javanese writing. Both represent the Javanese linguistic heritage, functioning as tools of communication and knowledge preservation that embody the philosophical and spiritual depth of Javanese culture.
Conclutions: The study shows that *Balap Kata* has significant potential as an educational tool to revive interest in regional languages and strengthen national identity through linguistic heritage.
Limitations: The focus on *Aksara Jawa* and *Arab Pegon* highlights their symbolic role in the forgotten cultural and spiritual synthesis of Javanese civilization.
Contribution: This study extends contemporary Game-Based Learning Theory and Culturally Responsive Pedagogy by proposing an integrated conceptual framework that connects traditional script literacy, interactive learning, and cultural identity formation. It contributes to recent discussions on heritage-based education by positioning educational board games as instruments for cultural revitalization, intergenerational knowledge transmission, and the development of national awareness.

Keywords: *Aksara Jawa, Arab Pegon, Balap Kata, Javanese Languange, National Awareness*

How to Cite: Filahofia, E., & Usman, M. J. (2025). Balap Kata Board Game: Revitalizing Traditional Scripts for National Awareness. *Jurnal Bisnis dan Pemasaran Digital*, 5(1), 1-17.

1. Introduction

Indonesia is globally recognized as a nation rich in cultural heritage, reflected in its diverse ethnic groups, languages, customs, and artistic expressions such as temples, traditional dances, and folk art. These forms of cultural wealth reveal that the Indonesian archipelago (*Nusantara*) once housed a

highly developed civilization. As noted by Spranger (2002), culture functions as a structured system of values encompassing science, economy, art, religion, social life, and politics, all evident throughout *Nusantara* history. This grandeur is embodied in past kingdoms such as Sriwijaya and Majapahit. Java, in particular, displayed exceptional cultural sophistication. The ancient Javanese poetry *Kalangwan* by Zoetmulder (1983) illustrates this richness. Understanding such works requires familiarity with the Javanese script and language, as well as insight into their cultural and philosophical contexts. Today, although around 80 million people speak Javanese (Greghson, 2025), few can read or write its traditional script.

Colonialism in the 19th century accelerated this decline. Dutch rule disrupted local traditions, introduced Western lifestyles, and fostered social hierarchies that marginalized indigenous culture (Koentjaraningrat, 1983). Consequently, Western cultural elements integrated into Javanese life, shaping language, technology, economy, art, and religion (Soekiman, 2011). Zoetmulder (1983) attributes the disappearance of local scripts to damaged manuscripts, waning interest, and political change. Yet language remains vital as a vessel of identity and wisdom. Javanese, through its scripts: *Aksara Jawa* and *Arab Pegon*, embodies this heritage. Many classical texts were written using these systems (Padmosoekotjo, 1984), and mastering them preserves access to ancestral knowledge while strengthening national awareness.

To revitalize these scripts, we developed *Balap Kata*, a board game designed to introduce the Javanese writing system. The game uses two scripts: *Aksara Jawa*, derived from the *Pallava* and *Kawi* scripts (Sari, 2018), and *Arab* Pegon, adapted from Arabic characters (Nawaksara, 2024). While the former employs syllabic structures of *Nglegéna, Sandhangan,* and *Pasangan*, the latter represents cultural synthesis between Javanese and Islamic traditions. As Latin script dominates modern communication, traditional scripts are fading. *Balap Kata* offers an engaging solution through interactive gameplay that teaches players to arrange and read Javanese words using both scripts. Beyond entertainment, it functions as an educational tool promoting cultural preservation.

Cultural continuity need not rely solely on formal education. Game-based learning like *Balap Kata* bridges tradition and modernity, fostering appreciation for ancestral heritage. Ultimately, this initiative aims to renew linguistic pride, reinforce national awareness, and sustain Indonesia diverse cultural identity across generations. Although research on cultural preservation through traditional games has begun to grow, few studies have examined board games as tools for revitalizing traditional writing systems such as *Aksara Jawa* and *Arab Pegon*. Our study addresses this gap by developing a board game that functions as a literacy medium for learners of both scripts.

At the same time that we address how we define design, we must also consider how we share it. Designing good games, educational or otherwise, is inherently complex (Gaydos, 2015). In the commercial game industry, this challenge is addressed through books, blogs, and post-production reviews (Wawro, 2015), as well as through formal education structures such as game design courses and degree programs. These venues discuss how to design better games, framing the process as both an art (Schell, 2008) and a craft. By sharing their practices, methods, and lessons learned, the industry provides valuable frameworks that can also guide the creation of educational games such as *Balap Kata*.

In recent years, the field of game science has grown significantly, expanding the literature on game-based learning and design. The overall findings of contemporary studies confirm that this domain is evolving into a robust, multidisciplinary field intersecting with learning efficacy, educational technology, and behavioural science. While measuring the impact of educational games remains complex, evidence from Randomized Controlled Trials (RCTs) and longitudinal, data-driven studies demonstrates positive effects of game-based learning on student outcomes (Kato, 2008). These findings highlight the importance of combining qualitative and quantitative approaches to improve learning design and assess effectiveness.

Game science is emerging as a dynamic field connecting simulation, serious games, gamification, and digital education. Studies consistently show that games enhance engagement, motivation, and behavioural outcomes compared to traditional methods. Furthermore, blended learning approaches, combining game-based and face-to-face methods, yield even stronger results. However, more active design research is needed to ensure educational games meet diverse cultural and learner needs. Within this evolving context, *Balap Kata* makes a unique contribution by situating game-based learning within cultural revitalization. It integrates traditional scripts into a modern board game framework, promoting literacy in *Aksara Jawa* and *Arab Pegon* while strengthening cultural identity and national awareness among players.

This study emphasizes that *Balap Kata* is not merely a game, but a conceptual innovation in culture-based education**.** It bridges ancient linguistic heritage and modern learning design, applying principles from game science to the preservation of *Aksara Jawa* and *Arab Pegon.* By transforming traditional literacy into an interactive, participatory experience, *Balap Kata* contributes to both educational theory and cultural sustainability. The originality of this approach lies in its integration of traditional script revitalization and game-based learning, a combination rarely explored in prior research. As a model of creative pedagogy, *Balap Kata* demonstrates how culturally grounded innovation can enhance national awareness, strengthen local identity, and inspire future generations to value and sustain Indonesia cultural legacy.

2. Literature Review

2.1 Cultural Literacy Theory

The traditional writing systems in Southeast Asia have strong roots in the Pallava script, a writing system originating from South India (Sari, 2018). This script began to be known in the *Nusantara* (Indonesian archipelago) around the 4th century, along with the influence of Hindu-Buddhist kingdoms in the region. As one of the Brahmi-derived scripts, Pallava became the progenitor of many local writing systems that later developed across Southeast Asia (Nawaksara, 2022).

By the 8th century, the Pallava script underwent simplification and adaptation, giving birth to a new form known as the Kawi script. The Kawi script was widely used in the Nusantara and served as the main writing system for various regional languages such as Old Javanese, Old Sundanese, Balinese, Batak, Makassarese, Bugis (Lontara), and others (Nawaksara, 2021). This diversity reflects the extensive and flexible usage of Kawi in shaping local literacy.

Focusing on its development within the Javanese language context, the Kawi script played a central role before evolving into what is now known as the Aksara Jawa script. This transformation occurred gradually, beginning with Kawi Awal (early Kawi) (750–925 CE), which retained significant similarities to the Pallava script. It then progressed into Kawi Akhir (late Kawi) (929–1292 CE), which displayed more ethnic and regional adaptations. During the Majapahit Empire golden era (1294–1527 CE) (Nawaksara, 2021), the script underwent refinement in aesthetic and graphic structure, ultimately evolving into the standardized *Aksara Jawa Carakan* (Figure 1) script around the 18th century (Padmosoekotjo, 1984).

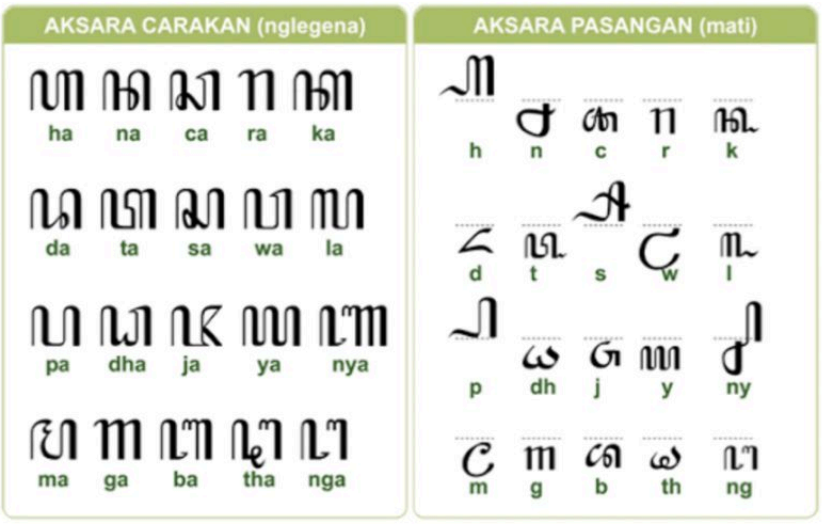


Figure 1. Aksara jawa carakan

The development of writing systems in the *Nusantara* did not stop with Indian influence. The region's strategic geographic position along major trade routes made it a melting pot for various cultural exchanges, including those from the Middle East. The intensification of contact with the Islamic world from the late 13th century led to the assimilation of cultural and literary practices, shaping another major writing system used in the Javanese language.

One result of this interaction was *Arab Pegon*, a writing system that adopted the Arabic script (*Hijaiyah*) to transcribe local languages, including Malay and Javanese. This process began around 1326 CE, when Arabic script was first used to write the Malay language in a form called *Jawi*. Later, this script was adopted by the Javanese people, particularly during the reign of the Pajang Sultanate (1568–1618 CE), a time when Islam had spread widely throughout Java and religious propagation was in full swing (Nawaksara, 2024).

The development of the *Arab Pegon* in Javanese occurred in two major stages: *adoption* and *adaptation*. First, the Arabic script system, as used in the Malay language (Jawi), was adopted into Javanese (Nawaksara, 2024). Then, the system was modified to suit Javanese phonology, resulting in a script specifically used to write Javanese with Arabic characters (Figure 2 , known as *Arab Pegon* (Kartosoebroto, 1923).

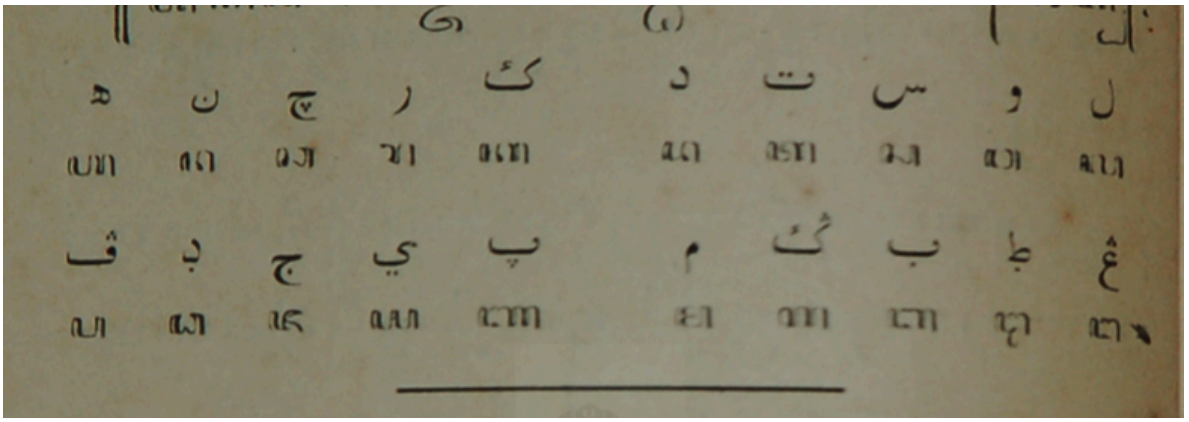


Figure 2. Phonological adaptation of Arabic letters to Javanese

In line with these historical developments of writing systems, Salikhovna (2025) reveals that learners continue to experience persistent challenges in mastering phonology, acquiring script literacy, and

navigating dialectal variation, while cultural knowledge, despite its essential role, remains insufficiently emphasized, making communicative and competency-based methods, the balanced integration of both standard and colloquial varieties, and the use of digital tools the most effective approaches for supporting language learning.

Moreover, Rafid (2025) highlight that "Community Schools" (*Sekolah Rakyat*) can cultivate critical awareness within impoverished communities, strengthen local participation, and integrate education with indigenous knowledge, although their effectiveness is still hindered by limited inter-agency coordination, shortages in human resources, and inadequate facilities; therefore, sustainable policy support, cross-sector collaboration, and strong community engagement are crucial to reinforce the role of Community Schools as instruments of social transformation and inclusive education.

Thus, the evolution of writing systems in the Javanese language reflects a rich cultural dynamic born from the blend of local traditions and foreign influences. *Aksara Jawa* and *Arab Pegon* represent two complementary facets of Javanese literary identity, one originating from the east through India, and the other from the west through the Islamic world. Both now stand as invaluable cultural heritages awaiting reintroduction to younger generations as part of preserving culture and reinforcing national identity.

2.2 Interactive Educational Media

Educational media encompasses all forms of communication tools that can be used to deliver information from the source to the receiver in an efficient and effective learning process (Ningtyas, 2023). The term media originates from the Latin word medium, meaning a channel or bridge of communication between sender and receiver. Within an educational context, media refers to tools and materials used in teaching and learning activities (Daryanto, 2016). In simple terms, educational media supports the teaching–learning process by helping messages or content be effectively understood by learners.

Among the many forms of educational media, board games represent a unique medium that combines interaction, strategy, and social engagement. Board games typically include components such as tokens, cards, and dice and follow structured rules involving both chance and skill. As an educational tool, board games promote player-centred learning**,** encouraging critical thinking, decision-making, and problem-solving (Wirawan, 2024).

There is also an increasing use of digital and non-digital games in learning contexts, collectively known as educational games. These games take multiple forms and are implemented across diverse educational settings. Despite their popularity and promising pedagogical claims, several scholars note a persistent lack of empirical evidence regarding the added value of Game-Based Learning (GBL) , reviewed GBL and serious game literature and concluded that this field still lacks rigorous (quasi-) experimental research on learning effectiveness. The difficulty in defining what constitutes an educational game*,* its design elements, implementation, and intended learning outcomes has contributed to inconsistent results and theoretical fragmentation. As Thomas (2008) observed, while educational games are increasingly used for teaching, the research community continues to debate their foundational assumptions.

Recent studies, however, have begun to address these gaps through more data-driven and cross-disciplinary approaches**.** Nautival and Kaur (2024) introduced a practical framework for designing and implementing educational board games in K-12 settings, demonstrating measurable improvements in student engagement and cognitive outcomes. Hashim, Zulkifli, and Rahman (2024) found that gamification using board games significantly enhances motivation and participation in science education, while Yaman, Sousa, Neves, and Luz (2025) emphasized the need for contextual and curricular alignment for successful GBL implementation.

In addition, Mustofa (2025) show that the structured SLC program effectively develops Islamic character traits, such as independence and responsibility, supported by strong collaboration between

schools, parents, and students, although its implementation is still hindered by parental absenteeism, presentation-related comprehension issues, and overlapping teacher responsibilities.

Similarly, Arthur and Imoro (2025) demonstrate that although most teachers across districts were rated proficient or distinguished, pedagogical skill gaps remain, particularly in Tolon, and both teacher attendance and teaching competence were found to be strong predictors of students' academic achievement and potential long-term dropout risks.

Complementing these findings, Solihudin (2025) report a remarkably high demand for accessible multimedia physics resources (with 100% teacher support and 98% student agreement), supported by very strong validation results for both materials (~90%+) and media (≈83.75%), as well as high practicality ratings from small-group trials (86.32%), teacher field tests (84.82%), and student responses (79.98%); collectively, these indicators show that the developed resources significantly improved learning outcomes in static and dynamic electricity.

From a broader theoretical lens, Engerman (2016) concept of "playcology" provides a valuable sociocultural framework for understanding the relationship between players, learning communities, and cultural ecosystems. Situated at the intersection of play and learning ecologies (Barron, 2006), "playcology" posits that play activities and their mediating artifacts form interconnected systems that shape meaning-making and learning. This framework highlights how culture and play are inseparably linked**,** suggesting that educational games do not exist in isolation but within social and cultural contexts that define their significance.

In this sense, *Balap Kata* embodies both game-based learning principles and the cultural ecology of play. It serves not only as an interactive educational tool but also as a cultural artifact that revives local wisdom through the *Aksara Jawa* and *Arab Pegon* systems. Positioned within this expanding field of game science, *Balap Kata* contributes a novel model of culture-based education, bridging traditional literacy with modern pedagogical design to cultivate national awareness and identity.

2.3 Culture-Based Nationalism

The writing systems of the Javanese language, *Aksara Jawa* and *Arab Pegon*, are invaluable cultural heritages inherited from the intellectual legacy of the Javanese people (Sari, 2018). More than mere graphic symbols, scripts are communication tools that enable humans to exchange information, contemplate meaning, and record the journey of civilization and history. Through scripts, humanity understands itself, its environment, and its society across time. In other words, script is the key to understanding cultural identity and the collective history of a nation.

This importance is underscored, Kartodirjo (2017) states that a nation unaware of its own history will lose its identity and character. Historical knowledge is not just a branch of science, but a *conditio sine qua non*, a necessary condition, for the emergence of national consciousness. Through historical awareness, there arises a moral and social responsibility in the nation-building process. Therefore, preserving cultural heritage, such as traditional scripts, is a vital step in reviving such awareness.

Furthermore, Meihan (2021) emphasized that historical consciousness is closely linked and inseparable from the rise of nationality and nationalism. Nationality is the preliminary stage of nation-state formation, while nationalism is the ideology that strengthens its foundation. This ideology can only grow sustainably when accompanied by continuous nurturing of historical awareness. The degree of national integration, according to Meihan (2021) can be maintained through the development of inclusive and non-discriminatory historical narratives.

In this context, scripts are not merely writing tools, but symbols of civilization and identity. They serve as reminders of past intellectual achievements and as inspiration for future development. When the younger generation is reintroduced to *Aksara Jawa* and *Arab Pegon*, they do not merely learn letter forms, they embark on a journey through the historical and cultural identity of their people. Thus, to learn a script is to reconnect with one's heritage, history, and national identity.

From a broader perspective, the revitalization of traditional scripts can also be understood through the lenses of cultural literacy and playcology. The concept of playcology, Engerman (2016) describes an ecosystem of play, learning, and cultural meaning-making, in which play serves as a medium through which communities negotiate values, identities, and traditions. Rooted in both sociocultural and historical contexts, playcology highlights how play and culture are inseparable in shaping collective understanding.

Viewed through this lens, *Balap Kata* functions not only as an educational tool but also as a cultural artifact that activates the ecology of cultural learning. By engaging with *Aksara Jawa* and *Arab Pegon* through playful interaction, learners become part of a living cultural continuum, one that revives ancestral literacy while fostering national pride. In this sense, culture-based nationalism is not merely an ideology but a participatory practice, sustained through creative and educational engagement with traditional forms of knowledge.

3. Research Methodology

This study employs a qualitative–descriptive approach with elements of conceptual analysis. The choice of this method is based on the nature of the research problem, which focuses on understanding meaning, value, and cultural function rather than quantifiable measurement. A qualitative–descriptive framework allows the researcher to interpret the symbolic and philosophical aspects embedded in the *Balap Kata* board game as a form of culture-based educational innovation. Conceptual analysis complements this by framing the theoretical connections between cultural literacy, national awareness, and game-based learning design.

3.1 Data Sources and Collection

Data were collected from both primary and secondary sources**.** Primary data consisted of an in-depth examination of *Balap Kata* game components, visual elements, gameplay mechanics, rulebooks, and linguistic content involving *Aksara Jawa* and *Arab Pegon. Secondary data* included scholarly literature, archival documents, and previous studies related to traditional scripts, game-based learning, and cultural revitalization.

3.2 Data Validation

To ensure the credibility of findings, the study employed data triangulation and expert review. Triangulation was conducted by cross-referencing textual, visual, and theoretical data to maintain consistency and reliability of interpretation. Expert review involved consultation with linguists, cultural experts, and educational technologists to validate the interpretation of *Aksara Jawa* and *Arab Pegon* representations within the game design. This validation process ensures that the analysis remains academically grounded and contextually relevant.

3.3 Data Analysis

Data analysis followed three main stages. Mapping Stage: Identifying structural components of the Balap Kata game, including its semiotic, linguistic, and visual aspects. Interpretation Stage: Analyzing how these elements reflect Javanese cultural values and support learning objectives. Synthesis Stage: Integrating findings into a broader conceptual framework that links cultural literacy, educational media, and nationalism.

3.4 Research Flow

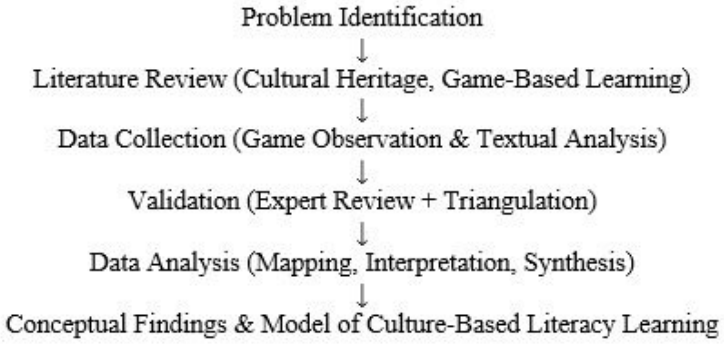


Figure 3. The research procedure

The research procedure can be summarized as follows in Figure 3 below:

This methodological design ensures that the *Balap Kata* study not only describes the phenomenon but also constructs a conceptual model of how traditional scripts can be revitalized through game-based media. Ultimately, the method demonstrates the game's role as both an educational tool and a vehicle of cultural identity and nationalism**.**

4. Results and Discussions

4.1 Balap Kata: An Educational Board Game on Javanese Scripts

Balap Kata is an innovative educational board game designed to teach the Javanese language by utilizing two native Nusantara writing systems: *Aksara Jawa* and *Arab Pegon*. This game was created as a fun and interactive method to introduce and preserve these traditional scripts. The rules are simple: players must form Javanese words using Aksara Nglegena and *Abjad* Pegon cards. The player (represented by a pawn) who reaches the finish line first is crowned as the *Nayaka Aksara*, the master of scripts. The components of Balap Kata game are presented in Figure 4.



Figure 4. Balap Kata game components

In *Balap Kata*, players do more than compete to form words, they are invited to explore the rich linguistic and cultural heritage of Javanese tradition, which is increasingly marginalized by the tides of modernization. The game is expected to help players recognize script forms, expand their Javanese vocabulary, and appreciate the cultural values embedded in the use of these scripts.

Balap Kata includes the components, such as 1 main game board (*Balap Kata* Board), as shown in Figure 5.

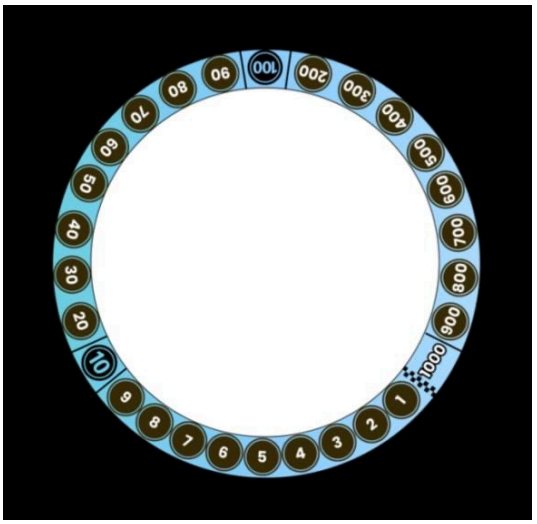


Figure 5. Game board Balap Kata



Figure 6. Sandhangan boards for Aksara Nglegena



Figure 7. Sandhangan boards for Abjad Pegon

Eight *Sandhangan* boards, consisting of 4 *sandhangan* boards for *Aksara Nglegena* (Figure 6) and 4 *sandhangan* boards for *Abjad Pegon* (Figure 7) .

One rulebook, one Javanese vocabulary dictionary, four Punokawan playes pawns (Figure 8) and 129 playing cards of 22 Aksaran Nglegena cards x3 copies (Figure 9) and 21 Abjad Pegon cards x3 copies (Figure 10).



Figure 8. Prototypes of Punokawan

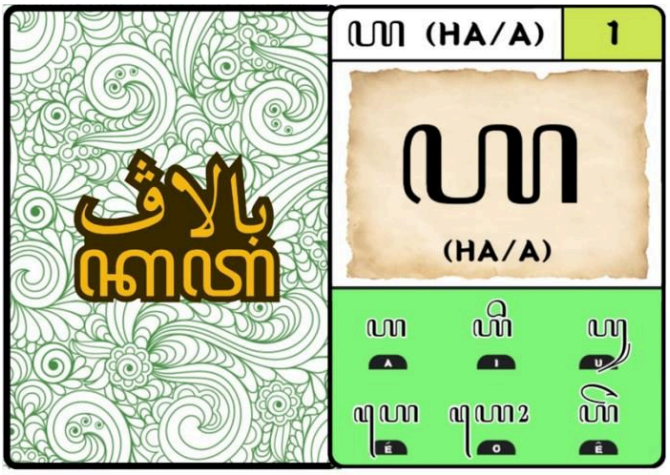


Figure 9. Aksara Nglegena Card

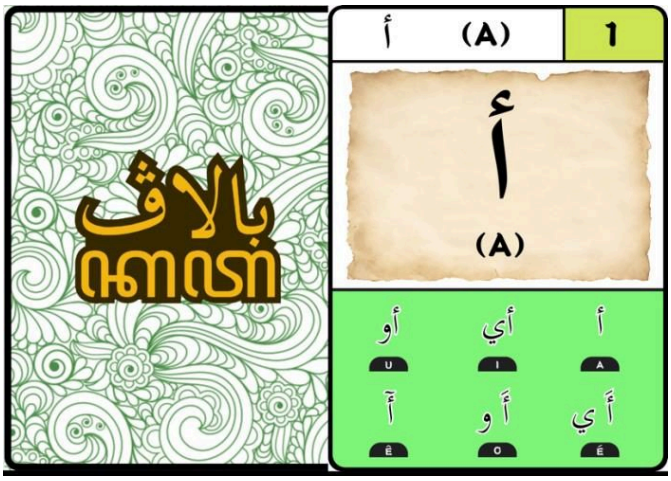


Figure 10. Aksara Pegon Cards

After successfully placing the first word, subsequent turns allow players to mix letters from both script systems. Each letter card has a point value indicated at the corner. The total point value of a word determines how far a player's Punokawan pawn can move along the game track. Players with the most effective strategy, those who can form high-scoring words efficiently, advance faster toward the finish line.

The game ends when a player either; reaches the finish line with their pawn, or accumulates more than 1,000 points. That player earns the honorary title *Nayaka Aksara*, reserved for those proficient in reading, constructing, and preserving traditional scripts. Through *Balap Kata*, learning local scripts becomes an exciting journey filled with adventure, cooperation, and healthy competition, reconnecting younger generations with the literary heritage of the archipelago.

Through the development and implementation of *Balap Kata* as an interactive educational medium, it is hoped that society, especially the younger generation, can re-engage with, understand, and embrace traditional scripts such as *Aksara Jawa* and *Arab Pegon*. Our primary goal is for this game to not only serve as a joyful learning tool but also act as a bridge to rebuild cultural awareness**,** strengthen local identity**,** and foster a sense of ownership toward ancestral heritage**.**

4.2 Implementation of the Balap Kata Board Game in the Revitalization of Traditional Scripts

This *Balap Kata* game is aimed at children (and adults) who want to learn the Javanese script (*Aksara Jawa*) in a way that is not monotonous and fun through games. In principle, humans themselves are homo ludens, namely creatures who live on earth and like to play (Nashier & Heryanto, 2023). Even some studies reveal that playing activities are very important for the development of children's potential, because through playing, children indirectly gain new knowledge in the game (Prasetyo & Roderico, 2024).

There are three learning styles possessed by each individual, namely motoric learning style, visual learning style, and motoric and visual learning style (Wirawan, 2024). The learning style that uses educational games is a learning style that utilizes motoric and visual aspects. The use of visual design in games can be used as a communication medium to convey positive learning information about something to children. In addition, this learning style can also stimulate human memory.

According to the results of research by the National Training Laboratories in 2020 on the average memory retention of humans after undergoing a learning process within 24 hours, it has a significant impact on the memory of each individual. This level is arranged based on the lowest to the highest impact, namely: lectures which only have a 5% impact from the entire material delivered, books which only have a 10% impact from the knowledge absorbed after 24 hours, audio-visuals which have a 20% impact and can be absorbed longer in students' memory, demonstration which has a 30% impact within 24 hours, group discussion which has a 50% impact after 24 hours, practicum has a 75% impact on memory ability, Peer Teaching has a 90% impact due to the request to act as a teaching assistant or mentor (Wirawan, 2024).

These things are facilitated in one game medium, namely board game. This is one reason that further strengthens our steps to continue developing the *Balap Kata* game. Where our board game is currently still in the prototype stage with a readiness level reaching approximately 85%. The game components have been fully developed. Inside there are script cards (*Aksara Nglegena* and *Abjad Pegon*) which contain basic letters along with transliteration and vocabulary; a racing board which is the main arena of the game; Sandhangan boards (*Aksara Nglegena* and *Abjad Pegon*) which function to modify letters and words; and game pawns in the form of *Punokawan* characters, iconic figures in Javanese puppet culture, which are used as turn and progress markers for players. In terms of mechanics, the game already has a clear turn flow, a letter-based word formation system, and a point calculation scheme.

Nevertheless, we have tried to implement and playtest in several communities such as the board game community and school students. We did a playtest to check the game mechanics with the Surabaya board game community during the Surabaya Board Game Market (*Subogama*) event. *Subogama* was chosen because it serves as a gathering place for board game masters from all over Indonesia.



Figure 11. Playtest of Balap Kata at the Subogama event

During the playtest, as shown in Figure 11, several players voiced their excitement and curiosity about the traditional writing systems. One participant, a university student, remarked:

"I didn't know the Javanese language had a script like this! It like discovering a hidden part of our culture."

Another participant, an older player, smiled while arranging the *Aksara Jawa* tiles and said:

"This brings back memories, I used to learn this in school, but now I can actually play with it."

These comments reveal how the game triggered both nostalgia and cultural rediscovery. For players unfamiliar with *Aksara Jawa* or *Arab Pegon*, *Balap Kata* became a space for what one participant called "knowledge recreation", a playful form of learning that transforms something once perceived as difficult into an enjoyable cultural experience. The game's mechanics, word arrangement, use of Sandhangan, and interpretation of meanings, successfully lowered the learning barrier to what is often considered a complex writing system.

In the playtest we conducted at *Subogama*, it was actually aimed at finding out how the public responds to learning media of traditional scripts that are packaged in the form of games. Although the duration and flow of the game depend on the players' knowledge of *Aksara Jawa*, everyone agreed that *Balap Kata* is a medium that can be a starting point for recognizing traditional script forms. They arranged words, understood the function of Sandhangan, and linked the words formed to the local cultural context. This proves that game-based learning can lower the threshold of difficulty in learning things that were previously considered foreign or difficult.

Apart from the board game community at Subogama, Surabaya, we also implemented the Balap Kata game in the school environment, precisely at SMA Institut Indonesia Semarang (Figure 12), as a testing ground in the context of formal education.



Figure 12. SMA Institut Indonesia Semarang students playing Balap Kata

This implementation was carried out in between lessons and during student break time. In our observation, the children quite enjoyed the process of arranging Javanese words using *Aksara Nglegena* and *Abjad Pegon*. Although it cannot be denied that some of them initially had difficulty because they were unfamiliar with the letter forms. For students who already understood and were familiar, they could adjust the pace of the game smoothly, but for those who did not, they tended to first try to understand the letter forms on the cards, which made the game run slower. However, all students agreed that *Balap Kata* is a fun game to get to know *Aksara Jawa* compared to learning through classroom teaching materials.

In our observation, the students showed high interest and enthusiasm, from the intensity of the gameplay and how the players were so immersed in the *Balap Kata* game. One participant, Abiel, remarked:

"At first, I didn't understand these letters, but now I can read them. It actually exciting!"

In fact, students who were previously less active in regional language lessons became more involved during the game session. Therefore, essentially *Balap Kata* has great potential to be used as a supplementary learning medium in the local content class of Javanese language.

Overall, the results of this initial implementation show that *Balap Kata* is not just a game, but can also be a bridge connecting traditional knowledge and contemporary learning methods. Through a fun process, players learn to recognize letter shapes, rules of word formation, and understand the cultural context attached to the Javanese language. This is in line with the main goal of developing this game, namely to revive local literacy culture through creative and participatory approaches.

In the future, the game development team (read: us) plans to refine the prototype based on the results of testing, such as adding digital technology based on Virtual Reality (VR) to each card by adding a QR code box on each card. The hope is that players can explore a deeper visual experience, from the history of the script to its cultural context in daily life, directly from their devices. With the combination of educational, cultural, and technological aspects, *Balap Kata* can become a learning medium that is not only functional but also inspiring in preserving the nation's cultural heritage.

4.3 Balap Kata and Its Role in National Consciousness

In addition to being a learning medium, the board game *Balap Kata* also acts as a strategic effort to reawaken the roots of cultural awareness which serve as the foundation of national consciousness. From the series of *Balap Kata* play tests that have been conducted, in fact, many players felt helped in recognizing the writing system of the language they often use in daily life. In addition, *Balap Kata* is also a training tool to recall linguistic memory that has been rarely used and forgotten.

Balap Kata exemplifies how traditional knowledge can be revitalized through play-based learning and participatory experience. By engaging players in recognizing and arranging *Aksara Jawa* and *Arab Pegon*, the game rekindles cultural memory and transforms abstract heritage into lived experience. In doing so, it aligns with the concept of culture-based nationalism, in which identity and unity grow from shared cultural values rather than mere territorial or political boundaries (Kartodirjo, 2017).

In Bennedict Anderson view of "imagined communities," nations are constructed through shared symbols, languages, and media. Within this framework, traditional scripts act as semiotic anchors of collective memory (Sahil, 2024). When participants engage with Aksara Jawa and *Arab* Pegon during gameplay, they are not only decoding symbols but also participating in the reconstruction of collective identity.

Through Balap Kata, learning becomes experiential, reflective, and culturally grounded**.** The players' immersion in linguistic challenges supports digital and symbolic literacy, demonstrating that cultural knowledge can be effectively transmitted through interactive design. The gameplay model supports

Lin (2015) theory of participatory cultural literacy**,** which emphasizes co-creation and active engagement as key to learning retention.

After all, knowledge about scripts can be the gateway to recognizing the identity of our civilization. Through scripts, we are guided to recognize and understand the history of past human civilizations. History, as past experiences, enables humans to *learn* and *study* to become wiser. Humans must be able to extract values as a guide to life and inspiration for the future. The expression historia magistra vitae or "History is the teacher of life" becomes relevant. Other expressions are also presented by (Abdullah, 2012). Jargons such as "Never abandon history", "History is not only knowledge, but also consciousness", and "Learn from history" have been deeply ingrained.

Through scripts, we can learn how the history of our nation used to unfold. This is important, considering that national identity awareness cannot grow without awareness of local identity. Script, as a symbol of civilization and knowledge, holds values, worldviews, and the philosophy of past societies. When the script disappears from daily life, slowly our collective memory as a great nation will also disappear. With *Balap Kata*, the process of cultural learning is no longer one-way and boring. Children, teenagers, even adults are invited to experience first-hand, through gameplay, how to write in the script of their ancestors. This process fosters a sense of ownership, pride, and desire to preserve. These three are the seeds of culture-based nationalism.

In the context of digital literacy, *Balap Kata* reflects the principle that learning in the 21st century should blend traditional knowledge with interactive media. The transition of ancient scripts into a game format symbolizes cultural adaptation in the digital era, where players become both learners and cultural agents. This aligns with the framework of "game science" (Schell, 2008), which posits that well-designed educational games can enhance problem-solving, collaboration, and value internalization.

Cultural nationalism, in this study, refers to the reawakening of national consciousness grounded in local identity and traditional heritage (Meihan, 2021). *Balap Kata* embodies this ideology by situating national pride within creative, educational practice. When players learn ancestral scripts, they are not merely playing, they are reclaiming cultural ownership, fostering pride, and re-establishing continuity with their historical roots.

Ultimately, *Balap Kata* represents a conceptual innovation in culture-based education. It transforms static cultural symbols into dynamic learning experiences. The game demonstrates how educational design, when grounded in cultural philosophy, can cultivate both literacy and nationalism. This synthesis of play, identity, and heritage lays the foundation for a form of nationalism that is inclusive, creative, and forward-looking, rooted not in boundaries, but in shared memory and meaning.

5. Conclusions

5.1 Conclusion

The Balap Kata board game represents an innovative game-based learning medium designed to reintroduce traditional scripts, particularly Aksara Jawa and Arab Pegon, while promoting cultural awareness and national identity. By integrating interactive learning with local cultural values, the game encourages cognitive engagement, cultural appreciation, and active participation among learners. This study highlights the potential of Balap Kata to bridge traditional cultural heritage and modern educational approaches. Theoretically, the study contributes to cultural and educational studies by providing a conceptual framework that connects game-based learning, cultural preservation, literacy development, and national identity formation.

5.2 Research Limitation

This study has several limitations. First, its qualitative-descriptive and conceptual approach limits the ability to empirically measure the effectiveness of Balap Kata on learning outcomes and cultural awareness. Second, the absence of longitudinal evaluation restricts understanding of the game's long-term influence on cultural literacy and national identity formation. Third, the study primarily focuses

on Aksara Jawa and Arab Pegon, limiting the generalizability of its conceptual framework to other traditional scripts and cultural contexts. These limitations highlight the need for further empirical validation.

5.3 Suggestion and Directions for Future Research

Future research should employ quantitative or mixed-method approaches to evaluate the effectiveness of Balap Kata in improving cultural literacy, learning motivation, and national identity awareness. Longitudinal studies are recommended to examine its sustained educational and cultural impacts. Further studies could explore the integration of Balap Kata into local content curricula and investigate the effectiveness of teacher training in implementing culture-based game-based learning. Collaboration with educational and cultural institutions should also be encouraged to expand its application. Future research may develop and evaluate digital or hybrid versions of Balap Kata to enhance accessibility and engagement. Comparative studies involving other traditional scripts and cultural contexts could further strengthen the applicability of the proposed conceptual framework.

Acknowledgement

With sincere respect and heartfelt gratitude, we extend our thanks to all parties who have contributed to the development of this work, particularly in the design and preparation of *Balap Kata* as a learning medium for traditional Javanese script. Special appreciation goes to colleagues, cultural communities, educational institutions, and all individuals who were directly involved in the playtesting process, discussions, and who provided constructive feedback that helped shape this game into a well-developed prototype. As part of our efforts to preserve cultural heritage and strengthen national identity through education, I also welcome opportunities for collaboration with investors, promoters, and sponsors who share the same vision. Such support is expected to help ensure the continued development of *Balap Kata*, so that it may reach a wider audience and play an active role in reviving local script heritage that is increasingly marginalized.

Author Contributions

EF contributed to conceptualization, research design, methodology, data collection, formal analysis, and writing the original draft. MJU contributed to research supervision, validation, interpretation of findings, and manuscript review and editing. Both authors reviewed and approved the final version of the manuscript.

References

Abdullah, T. (2012). Pembinaan kesadaran dan penjernihan sejarah. *Direktorat Sejarah dan Nilai Budaya Direktorat Jenderal Kebudayaan Kementerian Pendidikan dan Kebudayaan*.

Arthur, S., & Imoro, A. R. (2025). Influence of teacher pedagogical skills and attendance on students' academic performance. *Journal of Social, Humanity, and Education (JSHE)*, *6*(1), 17-36. https://doi.org/10.35912/jshe.v6i1.2716

Barron, B. (2006). Interest and self-sustained learning as catalysts of development: A learning ecology perspective. *Human Development*, *49*(4), 193-224. https://doi.org/10.1159/000094368

Daryanto. (2016). *Media pembelajaran*. Gavamedia.

Engerman, J. A. (2016). *Call of duty foradolescent boys: An ethnographic phenomenology of the experience of a gaming culture* (Doctoral dissertation).

Gaydos, M. (2015). Seriously considering design in educational games. *Educational Researcher*, *44*(9), 478-483. https://doi.org/10.3102/0013189X15621307

Greghson, G. (2025). Jumlah penutur Bahasa Jawa mencapai lebih dari 80 juta jiwa. Retrieved from https://ugm.ac.id/id/berita/jumlah-penutur-bahasa-jawa-mencapai-lebih-dari-80-juta-jiwa/

Hashim, N., Zulkifli, S., & Rahman, A. (2024). Gamification using board game approach in science education: A systematic review. *Engineering and Technology Journal*, *7*(3), 145-159. https://doi.org/10.37934/araset.33.3.7385

Kartodirjo, S. (2017). *Pendekatan ilmu sosial dalam metodologi sejarah*. Yogyakarta: Ombak.

Kartosoebroto, M. (1923). *Kitab Tjarakan Djawi-Arob*. Semarang.

Kato. (2008). A Video game improves behavioral outcomes in adolescents and young adults with cancer: A Randomized trial. *Pediatrics*, 305-317. https://doi.org/10.1542/peds

Koentjaraningrat. (1983). *Pengantar Ilmu Antropologi*. Jakarta: Angkasa Baru.

Lin, Y.-T., & etc. (2015). Development of a SoLoMo game-based application for supporting local cultural learning in Taiwan. *Journal of Educational Technology & Society*, *21*(4), 115-128.

Meihan, A. M., & dkk. (2021). Analysis of student's historical awareness level as the basis of developing historical learning media based on mobile learning. *International Journal of Education and Social Science Research*, *4*(1), 36-46. https://doi.org/10.37500/IJESSR

Mustofa, C., & et.al. (2025). The formation of islamic character through the Student-Led Conference (SLC) program (in grade 9 SMP Insan Cendekia madani boarding school development Serpong, South Tangerang City). *Universal Teaching and Learning Journal (UTLJ)*, *1*(2), 99-109. https://doi.org/10.35912/utlj.v1i2.3438

Nashier, L. A., & Heryanto, D. (2023). Implementasi puzzle game pada media pembelajaran aksara sunda. *Jurnal Algoritma*, *21*(1), 259-269. https://doi.org/10.33364/algoritma/v.21-1.1628

Nautival, S., P, B., & Kaur, H. (2024). Let's get on-board: A practical framework for designing and implementing educational board games in K-12 classrooms. *Frontiers in Education*, *9*(14), 205-215. https://doi.org/10.3389/feduc.2024.1420515

Nawaksara, D. (2021). *Kawi, Induk Aksara di Nusantara*. Kediri: Nawaksara.

Nawaksara, D. (2022). *AKSARA sejarah dan perkembangannya dari media tulis kuno hingga media digital*. Yogyakarta: Nawaksara.

Nawaksara, D. (2024). *Aksara Pegon: Sejarah, eksistensi, dan masa depannya di era digital*. Lamongan: Nawaksara.

Ningtyas, S. I. (2023). Penggunaan board game sebagai media pembelajaran untuk melatih berpikir kreatif siswa. *Research and Development Journal of Education, 871-880 v9i2.19392*. https://doi.org/10.30998/rdje

Padmosoekotjo, S. (1984). *Wewaton panulise Basa Jawa nganggo Aksara Jawa*. Surabaya: PT Citra Jaya Murti.

Prasetyo, M. E., & Roderico, B. (2024). Perancangan desain board game pengenalan budaya wayang Punakawan Yogyakarta untuk anak. *Gestalt: Jurnal Desain Komunikasi Visual*, 105-120. https://doi.org/10.33005/gestalt.v6i2.192

Rafid, R., & et.al. (2025). Public schools and critical education: Alternative education policy in Indonesia. *Journal of Social, Humanity, and Education (JSHE), 119-132*. https://doi.org/10.35912/jshe.v6i1.3321

Sahil. (2024). The intersection of Benedict Anderson's "Imagined Communities" and Hindu Nationalism in India. *London School of Economics and Political Science*. Retrieved from https://blogs.lse.ac.uk/religionglobalsociety/2024/03/the-intersection-of-benedict-andersons-imagined-communities-and-hindu-nationalism-in-india/#:~:text=Hindu%20nationalism%20in%20India%20can%20be%20understood,to%20reinforce%20a%20shared%20history%20and%

Salikhovna, K. K. (2025). The issues of developing students' linguistic competence in learning Arabicin scholarly and methodological literature. *Universal Teaching and Learning Journal (UTLJ)Vol 1, No 2, 2025, 149-160, 149-160*. https://doi.org/10.35912/utlj.v1i2.3505

Sari, F. K. (2018). *Makna filosofis dan kearifan lokal dalam Aksara Jawa serta pemanfaatannya sebagai materi pembelajaran bahasa jawa berbasis pendidikan karakter di sekolah menengah pertama*. Surakarta: Pascasarjana Universitas Sebelas Maret.

Schell, J. (2008). *The art of game design: A book of lenses*. MA: Elsevier.

Soekiman, D. (2011). *Kebudayaan Indis: Dari Zaman Kompeni Sampai Revolusi*. Jakarta: Komunitas Bambu.

Solihudin, T.,. (2025). Development of a web-based Multimedia Learning Management System (MLMS) in High School physics learning. *Universal Teaching and Learning Journal*, 1-18. https://doi.org/10.35912/utlj.v1i1.3355

Spranger, E. (2002). *Kultur und Erziehung. Gesammelte pädagogische Aufsätze*. German: Wissenschaftliche Buchgesellschaft.

Thomas, D. (2008). Messages and ,ediums: Learning and mediums: Learning to teach. *Pittsburgh*.

Wawro, A. (2015). 10 Seminal game postmortems every developer should read. *Game Developer*. Retrieved from https://www.gamedeveloper.com/audio/10-seminal-game-postmortems-every-developer-should-read

Wirawan, A. (2024). *Yuk bikin board game edukasi*. Surabaya: Mekanima Inspira Nagara.

Yaman, B., Sousa, F., Neves, P., & Luz, M. (2025). Implementation of game-based learning in educational context: Challenges and intervention strategies. *Electronic Journal of e-Learning*, *23*(1), 1-17. https://doi.org/10.34190/ejel.22.10.3480

Zoetmulder, P. (1983). *Kalangwan. Sastra Jawa Kuno Selayang Pandang*. Indonesia: Penerbit Djambatan.