

Comics as Pedagogical Tools for Malaysian Traditional Games: A Systematic Review

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Abstract

Malaysian traditional games represent an important component of intangible cultural heritage, reflecting historical knowledge, cultural identity, social values, and communal practices transmitted across generations. However, their sustainability is increasingly threatened by technological advancement, changing lifestyles, and the growing dominance of digital entertainment among younger generations. Although previous studies have examined traditional games from cultural, educational, and technological perspectives, limited research has explored comics as a visual communication medium for preserving and promoting traditional game knowledge. This study aims to systematically review existing research on Malaysian traditional games and examine the potential role of comics as a pedagogical and cultural communication medium in supporting heritage sustainability in the digital era. A Systematic Literature Review (SLR) was conducted based on the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA 2020) framework. From 193 identified records, 40 articles were selected for final analysis according to established inclusion and exclusion criteria. The findings indicate that research on Malaysian traditional games has evolved from cultural documentation towards multidisciplinary approaches involving pedagogy, digital technology, visual communication, and heritage preservation. Four dominant themes were identified: pedagogy and game-based learning, digital technology and innovation, visual communication and representation, and cultural heritage preservation. Nevertheless, significant research gaps remain, particularly in integrating comics, digital platforms, educational strategies, and cultural preservation frameworks. Limited empirical studies have investigated the effectiveness of comics-based approaches in improving cultural understanding, learner engagement, and knowledge retention. This study highlights comics as a promising yet underexplored medium for transforming traditional game knowledge into engaging visual narratives and recommends future research on comics-based pedagogical frameworks integrating storytelling, technology, and heritage preservation.

Keywords: Malaysian traditional games; comics; cultural heritage preservation; visual communication; pedagogical medium; systematic literature review; PRISMA.

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Komik sebagai Alat Pedagogi untuk Permainan Tradisional Malaysia: Satu Sorotan Sistematik

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Abstrak

Permainan tradisional Malaysia merupakan komponen penting dalam warisan budaya tidak ketara yang mencerminkan pengetahuan sejarah, identiti budaya, nilai sosial, serta amalan komuniti yang diwarisi dari satu generasi ke generasi yang seterusnya. Walaubagaimanapun, kelestariannya semakin terancam akibat perkembangan teknologi, perubahan gaya hidup, serta peningkatan dominasi hiburan digital dalam kalangan generasi muda. Walaupun kajian terdahulu telah meneliti permainan tradisional dari perspektif budaya, pendidikan dan teknologi, perhatian yang terhad diberikan terhadap komik sebagai medium komunikasi visual dalam usaha memelihara dan mempromosikan pengetahuan berkaitan permainan tradisional. Kajian ini bertujuan untuk meninjau secara sistematik penyelidikan sedia ada berkaitan permainan tradisional Malaysia serta mengenal pasti potensi peranan komik sebagai medium pedagogi dan komunikasi budaya dalam menyokong kelestarian warisan dalam era digital. Pendekatan *Systematic Literature Review* (SLR) telah digunakan berdasarkan garis panduan Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA 2020). Daripada 193 rekod yang dikenal pasti, sebanyak 40 artikel telah dipilih untuk analisis akhir berdasarkan kriteria kemasukan dan pengecualian yang telah ditetapkan. Dapatan kajian menunjukkan bahawa penyelidikan berkaitan permainan tradisional Malaysia telah berkembang daripada pendekatan dokumentasi budaya kepada pendekatan multidisiplin yang melibatkan pedagogi, teknologi digital, komunikasi visual dan pemeliharaan warisan. Analisis tematik mengenal pasti empat tema utama, iaitu pedagogi dan pembelajaran berasaskan permainan, teknologi digital dan inovasi, komunikasi visual dan representasi, serta pemeliharaan warisan budaya. Walau bagaimanapun, masih terdapat jurang penyelidikan yang ketara, khususnya dalam mengintegrasikan komik, platform digital, strategi pendidikan dan kerangka pemeliharaan budaya. Kajian empirikal yang menilai keberkesanan pendekatan berasaskan komik dalam meningkatkan kefahaman budaya, penglibatan pembelajaran dan pengekalan pengetahuan juga masih terhad. Kajian ini mengetengahkan komik sebagai medium yang berpotensi tetapi masih kurang diterokai dalam mentransformasikan pengetahuan permainan tradisional kepada naratif visual yang menarik serta mencadangkan penyelidikan masa hadapan berkaitan pembangunan kerangka pedagogi berasaskan komik yang mengintegrasikan penceritaan visual, teknologi dan pemeliharaan warisan budaya.

Kata Kunci: *Permainan tradisional Malaysia; komik; pemeliharaan warisan budaya; komunikasi visual; medium pedagogi; sorotan literatur sistematik; PRISMA.*

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1.0 Introduction

Comics have increasingly been recognised as a multimodal medium for communicating knowledge by combining visual imagery, written language, symbols, dialogue, and sequential narratives. The interaction of these elements enables readers to construct meaning through the integration of visual and verbal information, providing an alternative to conventional text-based approaches to learning. The educational value of comics has been demonstrated across various contexts, including literacy development (Williams, 1995), reading interest (Haugaard, 1973), scientific learning (Kakalios, 2002), business ethics education (Gerde & Foster, 2008), and medical education (Green & Myers, 2010). These applications suggest that comics can present information in ways that support understanding and engagement, particularly when complex ideas need to be communicated through a combination of explanation, visualisation, and narrative. Beyond their educational function, these characteristics also make comics relevant to the communication of cultural knowledge. In educational settings, cultural practices, values, and traditions can be represented through visual and narrative forms that may facilitate learning, discussion, and cultural awareness. This potential is particularly relevant to Malaysian traditional games, which embody cultural knowledge that has historically been transmitted through community participation and intergenerational learning. In this context, comics may serve not only as pedagogical media but also as a means of interpreting, documenting, and communicating traditional game knowledge in forms that are accessible and meaningful to younger generations.

1.1 Background of the Study

Traditional games form an important part of Malaysia's cultural heritage, carrying knowledge, values, social practices, and traditions that have been passed down across generations. UNESCO (2003) describes intangible cultural heritage as practices, knowledge, and skills recognised by communities as part of their heritage and transmitted through learning and social interaction. In Malaysia, games such as congkak, wau, gasing, sepak raga, and batu seremban reflect the cultural diversity and local knowledge of different communities (Jamil & Liew, 2022; Karim & Rahman, 2020). Their significance, however, extends beyond recreation. Participation in traditional games provides opportunities for interaction, cooperation, creativity, and experiential learning, while also allowing younger generations to encounter cultural knowledge through practice and participation.

The educational value of traditional games makes them relevant to contemporary learning. Bringing these games into educational settings can connect classroom activities with local knowledge and culturally meaningful experiences (Karim & Rahman, 2020). At the same time, the continued transmission of traditional games cannot be taken for granted. Changes in lifestyles, technological development, and the growing popularity of digital entertainment have altered the ways in which younger people spend their leisure time, potentially reducing their exposure to traditional forms of play (Rajan, 2017; Tan & Lee, 2021). These changes raise an important pedagogical question: how can traditional game knowledge be presented in ways that are meaningful and engaging to contemporary learners while retaining its cultural significance?



One possible response lies in the use of comics as a pedagogical medium. Comics bring together illustrations, written text, dialogue, symbols, and sequential narratives, allowing information to be communicated through the interaction of visual and verbal elements. Their educational use has been reported in areas such as literacy, reading, science, business ethics, and medical education (Williams, 1995; Haugaard, 1973; Kakalios, 2002; Gerde & Foster, 2008; Green & Myers, 2010). These characteristics make comics relevant to the teaching of traditional games, where learners need to understand not only rules and gameplay but also their historical background, cultural meanings, and associated values. Through visual and narrative representation, aspects of traditional games can be presented in a form that connects cultural knowledge with learners' educational experiences.

Despite growing research on Malaysian traditional games, existing studies remain spread across areas such as cultural documentation, education, digital technology, and heritage preservation (Jamil & Liew, 2022; Karim & Rahman, 2020). Less attention has been given to how comics can be used specifically as a pedagogical tool for teaching and communicating knowledge about Malaysian traditional games. As a result, the extent, direction, and characteristics of research in this area remain unclear. A systematic review is therefore warranted to examine how existing studies have approached the relationship between traditional games, education, and comics, and to identify the major themes, methodological approaches, research trends, and gaps that may inform future research.

1.2 Research Objectives

Building on the research problem and gaps identified in the existing literature, this study examines the development of research on comics as pedagogical tools for Malaysian traditional games. It focuses on three main areas: publication trends, research developments, and methodological approaches; the major themes emerging from studies on the use of comics in teaching and learning traditional games; and the gaps that remain in the existing body of research. By bringing these strands of research together, the study seeks to clarify the current state of the field and identify directions for further research on the use of comics to support the teaching, learning, and transmission of Malaysian traditional game knowledge.

1.3 Significance of the Study

This study is significant in examining comics as a potential pedagogical medium for teaching and communicating Malaysian traditional game knowledge. It provides a systematic overview of existing research, identifies key themes, methodological approaches, and research gaps, and highlights directions for future research on comics-based approaches to learning and transmitting traditional games.

1.4 Scope of the Study

This systematic literature review examines research on Malaysian traditional games from educational, cultural, technological, and communication perspectives, with particular



focus on comics as a potential pedagogical and cultural communication medium. It covers scholarly journal articles and conference proceedings published between 2013 and 2026, examining how traditional games have been studied and represented through educational, visual, and digital approaches.

2.0 Literature Review

Research on comics and Malaysian traditional games has developed along largely separate lines. Comics have been examined mainly as visual, multimodal, and educational media, whereas traditional games have received attention primarily in relation to cultural heritage, education, and community practices. Although both areas are concerned with learning and knowledge transmission, their intersection remains relatively underexplored. This review therefore brings these strands of research together by examining the pedagogical characteristics of comics, the cultural and educational value of Malaysian traditional games, the potential of comics for cultural communication, and existing research connecting comics with traditional games. This provides a basis for understanding the current state of scholarship and identifying areas that require further investigation

2.1 Comics as a Multimodal and Pedagogical Medium

Comics are increasingly regarded as more than entertainment media, particularly because their integration of images, words, symbols, dialogue, and sequential narrative provides multiple modes of communication. The interaction between visual and verbal elements enables readers to construct meaning through diverse representational forms, thereby supporting multimodal learning (McCloud, 1993; Sitzia & Gramond, 2026). Their educational applications have been documented across literacy, reading, science, business ethics, and medical education, demonstrating their versatility as instructional tools (Graham, 2011; Damanik & Harianja, 2022; Kakalios, 2002; Real, 2006; Williams, 2012). These studies suggest that comics can enhance accessibility of information while fostering learner engagement.

The pedagogical use of comics is also consistent with multimedia learning principles, which emphasize the complementary roles of words and images in knowledge acquisition and cognitive processing (Mayer, 2009). Recent scholarship further highlights their potential in embedding cultural values and heritage knowledge into educational contexts, particularly through digital comics and localized storytelling (Pratiwi, Prasetya, Widiyatmoko, & Subali, 2025; Manouach & Foka, 2025). Taken together, the literature provides a strong basis for considering comics as a pedagogical medium capable of supporting the communication of diverse forms of knowledge, including cultural and heritage learning.

2.2 Malaysian Traditional Games as Cultural and Educational Resources

Malaysian traditional games represent a vital repository of cultural heritage, embodying the practices, values, and social interactions of diverse communities. Games such as *congkak*, *wau*, *gasing*, *sepak raga*, and *batu seremban* have historically been transmitted



through participation, observation, and intergenerational interaction (Jamil & Liew, 2022; Sovieti, et al., 2026; Mastarina & Yasnel, 2025). Their significance extends beyond recreation, as engagement in these games fosters cooperation, communication, creativity, physical development, and cultural understanding, thereby positioning them as valuable resources for both informal and formal educational contexts (Karim & Rahman, 2020; Saputra, & Ekawati, 2018; Hassan & Ahmad, 2020).

However, opportunities for younger generations to engage with traditional games are increasingly constrained by shifting lifestyles, evolving leisure preferences, and the pervasive influence of digital entertainment (Rajan, 2017; Tan & Lee, 2021; Xiong, & Srijinda, 2026). Modernization and globalization further threaten the continuity of these practices, leading to concerns about cultural erosion (Ismail, 2017; Yusof, 2019). The central issue is not merely whether these games retain cultural relevance, but how the knowledge embedded within them can be effectively communicated in rapidly changing learning environments. Recent scholarship highlights the potential of digital storytelling and mobile applications as innovative mediums for preserving and promoting traditional games in ways that resonate with contemporary learners (Mohamad Jan, & Che Din, 2025; Ahmad Zahari et al., 2024).

This challenge underscores the necessity of exploring alternative or complementary pedagogical approaches that introduce traditional games to modern audiences while safeguarding their cultural authenticity. Integrating traditional games into educational curricula, community programs, and digital platforms can ensure their sustainability as both cultural and educational resources (Rahesti, Irawan, & Chuang, 2023; Zakaria, 2021).

2.3 Comics, Cultural Communication and Heritage Learning

The visual and narrative qualities that make comics effective for education also render them highly relevant to cultural communication. Images can depict actions, objects, people, and settings, while words and dialogue provide explanation and context. Sequential storytelling integrates these elements, presenting cultural practices as interconnected experiences rather than fragmented information (Manning, 1998; Eisner, 1985). Such characteristics are particularly pertinent to heritage learning, where understanding a cultural practice requires both knowledge of the practice itself and appreciation of its social and cultural significance (Sitzia & Gramond, 2026).

In the context of traditional games, comics can combine information about gameplay with historical background, cultural meanings, values, and community experiences. This multimodal approach offers learners a contextualized introduction to games they may not encounter directly in everyday life (Manouach & Foka, 2025; Pratiwi, Prasetya, Widiyatmoko, & Subali, 2025). Comics thus serve as cultural artifacts that not only transmit knowledge but also preserve heritage in accessible and engaging forms (Fuhaili & Zulfadli, 2025).



Nevertheless, the potential of comics for heritage learning must be distinguished from claims of effectiveness. While existing research supports their educational use in literacy and science education (Kachorsky, & Reid, 2025; Williams, 2012) further empirical evidence is needed to establish how effectively comics can support the learning and transmission of Malaysian traditional game knowledge. Recent scholarship emphasizes the importance of integrating comics into digital heritage strategies and pedagogical frameworks to ensure both cultural authenticity and educational relevance (Rahesti, Irawan, & Chuang, 2023; Zakaria, 2021).

2.4 Comics and Malaysian Traditional Games

The relationship between comics and Malaysian traditional games remains less clearly established than either area considered independently. Research on Malaysian traditional games has primarily addressed cultural documentation, educational applications, technology, and heritage preservation (Rahman, et al., 2025; Sovieti, et al., 2026); Mastarina & Yasnel, 2025). Meanwhile, scholarship on comics has focused on learning, visual communication, and knowledge representation (McCloud, 1993; Mayer, 2009; Sitzia & Gramond, 2026). These bodies of literature provide complementary perspectives, yet they do not sufficiently explain how comics can be applied specifically to the teaching and transmission of Malaysian traditional games.

This gap is significant because traditional game knowledge encompasses both practical and cultural dimensions. Understanding a game involves learning its rules, equipment, and methods of play, but also requires awareness of its historical background, values, social practices, and cultural meanings (Ismail, 2017; Mastarina & Yasnel, 2025). Comics may offer a promising medium to represent these dimensions together through visual explanation and narrative sequencing, thereby contextualizing gameplay within broader cultural frameworks (Manouach & Foka, 2025; Pratiwi, Prasetya, Widiyatmoko, & Subali, 2025).

Nevertheless, the extent to which this approach has been systematically explored remains unclear. Questions persist regarding which games have been represented, the target learners addressed, and the pedagogical strategies employed. Existing studies highlight the potential of comics for literacy and cultural learning (Fuhaili & Zulfadli, 2025; Kachorsky, & Reid, 2025; Williams, 2012), but further empirical research is needed to establish their effectiveness in supporting the learning and transmission of Malaysian traditional game knowledge.

2.5 Research Gap and Rationale for the Review

The literature reviewed above reveals two established but relatively separate research areas. The first demonstrates the educational and communicative potential of comics, while the second highlights the cultural and educational significance of Malaysian traditional games. What remains less developed is the systematic connection between these areas. Existing studies appear to vary in their purposes, contexts, research



designs, and forms of representation, making it difficult to determine the overall direction of research on comics as tools for teaching and communicating traditional games.

A systematic review is therefore useful for bringing this fragmented body of research together. Rather than assuming that comics are already an established solution, the review examines the available evidence to determine how the relationship between comics, pedagogy, and Malaysian traditional games has been investigated. It considers publication trends, research themes, methodological approaches, and areas that remain underexplored. This approach provides a more grounded basis for assessing the potential of comics in this context and for identifying priorities for future research.

2.6 Literature Review Synthesis

Overall, the literature establishes a clear conceptual connection between comics as multimodal learning media and traditional games as sources of cultural and educational knowledge. However, the evidence connecting these two areas remains fragmented, particularly in the Malaysian context. The key issue is therefore not simply whether comics can represent traditional games, but how they have been used or proposed as pedagogical tools, what aspects of traditional game knowledge they address, and what evidence exists regarding their educational and cultural value. These unresolved issues provide the rationale for the present systematic literature review, which seeks to map the development of research in this area and identify the gaps that can guide subsequent empirical and design-oriented studies.

3.0 Methodology

This study adopted a Systematic Literature Review (SLR) to examine research development on Malaysian traditional games, particularly in education, cultural heritage preservation, digital technology, and visual communication. The SLR approach was appropriate because research in this area spans multiple disciplines and requires a systematic process for identifying, selecting, and synthesising relevant evidence (Okoli, 2015; Snyder, 2019; Xiao & Watson, 2019). The review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA 2020) framework to ensure a transparent and consistent review process (Page et al., 2021).

The literature search was conducted using Scopus, Web of Science (WoS), SpringerLink, ScienceDirect, and Google Scholar. The review covered publications from 2013 to 2026 to provide a focused contemporary evidence base for examining the development of research on Malaysian traditional games. Search terms covered traditional games, Malaysia, cultural heritage, education, technology, digital media, visual communication, and comics, and were combined using the Boolean operators AND and OR. The core search string was: ("traditional game*" OR "traditional play" OR "cultural game*" OR "heritage game*" OR "indigenous game*" OR "folk game*") AND ("Malaysia*" OR "Malaysian" OR "Malay culture*") AND ("preservation" OR "sustainability" OR "cultural heritage" OR education OR learning OR pedagogy OR "digital media" OR technology OR "visual communication" OR comic*). The search string was adapted to the requirements of each database. The use of multiple databases and a structured search strategy



helped broaden coverage and reduce the likelihood of missing relevant studies (Gusenbauer & Haddaway, 2020).

Eligibility criteria were established before screening to ensure consistency with the research objectives (Kitchenham & Charters, 2007; Okoli, 2015). Studies were included if they were published between 2013 and 2026, written in English or Malay, focused on Malaysian traditional games, addressed the defined research contexts, and provided accessible full texts. Only peer-reviewed journal articles were included. Studies were excluded if they fell outside the review period, were written in other languages, focused on traditional games outside Malaysia, did not address the relevant research contexts, or lacked accessible full texts. Conference proceedings, books, theses, dissertations, reports, and other non-peer-reviewed publications were also excluded.

Study selection was conducted in accordance with the PRISMA 2020 guidelines, comprising four sequential stages: identification, screening, eligibility assessment, and inclusion (Page et al., 2021). Retrieved records were screened based on the predefined inclusion and exclusion criteria, followed by full-text assessment of potentially relevant studies. The final selection of studies was subsequently included in the qualitative synthesis. The overall study selection process is illustrated in the PRISMA flow diagram (Figure 1).

Data from the 40 included studies were organised using a structured review matrix covering publication year, publication source, indexing status, research methodology, study context, traditional game examined, research focus, thematic area, key findings, and reported implications or limitations. The matrix supported systematic comparison and identification of publication trends, methodological patterns, thematic developments, and research gaps (Okoli, 2015; Xiao & Watson, 2019). The data were analysed using descriptive and thematic approaches. Descriptive analysis examined publication trends, indexing distribution, and methodological approaches, while thematic analysis identified recurring concepts and patterns across the literature. The analysis followed the stages proposed by Braun and Clarke (2006), including familiarisation, coding, theme development, review, and refinement, with interpretation informed by their reflexive thematic analysis approach (Braun & Clarke, 2021).

4.0 Results

This section presents the findings of the systematic literature review based on the three research objectives established in this study. The analysis begins by examining publication trends and research development related to Malaysian traditional games, including the distribution of studies and methodological approaches adopted by previous researchers. The second objective focuses on identifying the major research themes that have emerged from the literature, particularly in relation to pedagogy, digital technology, visual communication, and cultural preservation. The final objective examines the extent to which comics have been explored as a pedagogical and cultural communication medium, including their potential applications, educational value, and limitations in supporting the preservation and transmission of Malaysian traditional game knowledge in contemporary learning environments.



4.1 PRISMA Screening Process

The article selection process in this study was guided by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 framework. The adoption of PRISMA provided a structured approach for identifying, screening, evaluating, and selecting relevant studies while ensuring transparency and methodological consistency throughout the review process (Page et al., 2021). The framework enabled the researchers to document each stage of the literature selection process, including database identification, removal of duplicate records, title and abstract screening, full-text assessment, and final inclusion of studies that fulfilled the predetermined criteria. This systematic procedure was applied to enhance the reliability of the review findings and minimise potential selection bias. The complete article screening and selection process is presented in Figure 1.

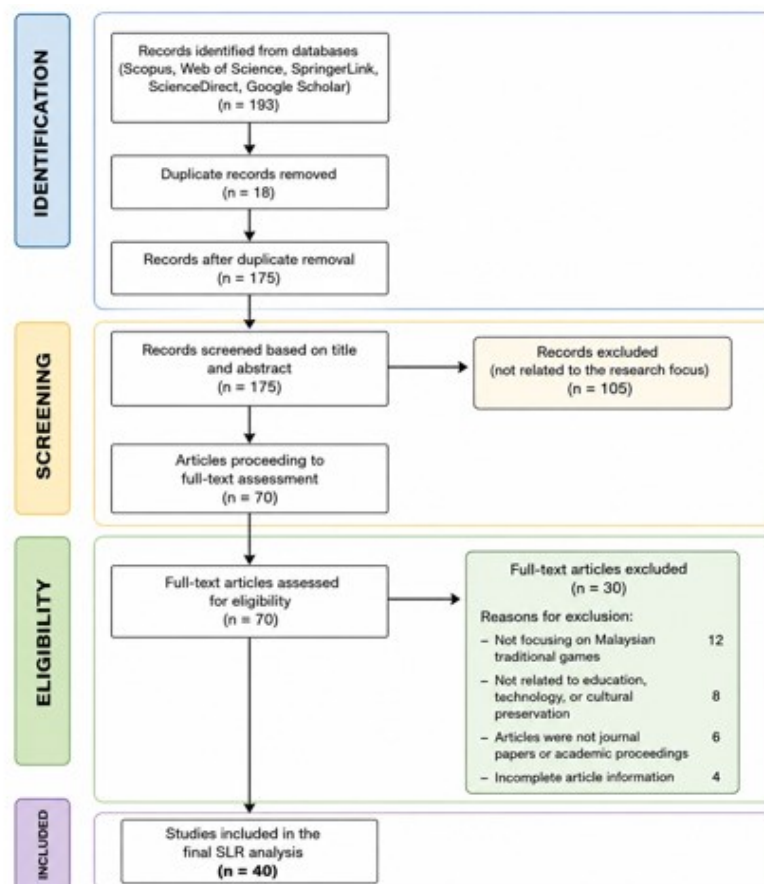


Figure 1: PRISMA Screening Process

Figure 1 presents the PRISMA-based screening process applied in this systematic literature review (SLR) to identify and select studies relevant to Malaysian traditional games. The article selection process followed the four main stages outlined in the PRISMA 2020 framework, namely identification, screening, eligibility assessment, and



inclusion (Page et al., 2021). During the identification stage, a total of 193 records were retrieved from the selected databases. After removing 18 duplicate records, 175 articles remained for the initial screening process. The title and abstract screening stage resulted in the exclusion of 105 articles that were considered unrelated to the research objectives, leaving 70 articles for full-text evaluation.

During the eligibility assessment stage, the remaining full-text articles were examined based on the established inclusion and exclusion criteria. A total of 30 articles were excluded because they did not specifically focus on Malaysian traditional games (n = 12), did not address relevant dimensions such as education, technology, or cultural preservation (n = 8), were not classified as suitable academic publications (n = 6), or contained incomplete publication information (n = 4). Following this evaluation process, 40 articles fulfilled all selection criteria and were included in the final SLR analysis. The systematic screening procedure ensured that the selected studies were aligned with the research objectives and provided a reliable foundation for analysing publication trends, thematic developments, and research gaps related to Malaysian traditional games as shown in Table 2.

Table 2: Distribution of Articles by Publication Period

Publication Period	Number of Articles	Percentage (%)	Related Articles
2013–2017	15	37.5	Borhannudin Abdullah et al. (2013); Che Me (2013); Md. Zulkifli et al. (2014); Putra et al. (2014); Che Pa et al. (2015); Ilinadia & Kadir (2015); Sabzali, (2015); Abu Bakar and Che Pa (2016); Charles et al. (2017); Che Mat & Hassan (2017)
2018–2022	13	32.5	Ali & Ng (2018); Tan & Kuan (2019); Mat Nayan and Kun (2019); Sari et al. (2019); Yusof (2019); Adnan et al. (2020); Azlan et al. (2021); Jailani & Kamarulzaman (2021); Kamaruddin et al. (2021); Malik et al. (2021)
2023–2026	12	30.0	Sulaiman @ Abd Rahim et al. (2023); Jailani et al. (2023); Ahmad Zahari et al. (2023); Ahmad Afandi Yusri et al. (2024); Ahmad Zahari et al. (2024); Jasmin & Abu Bakar (2024); Mohd Yusri and Yang (2024); Mokhtar & Idris (2024); Omar et al. (2024); Zainurin et al. (2024); Abdull Rahman et al. (2025); Mohamad Jan & Che Din (2025)

The systematic screening procedure ensured that the selected studies were aligned with the research objectives and provided a reliable foundation for analysing publication trends, thematic developments, and research gaps related to Malaysian traditional games.



4.2 Publication Trends Related to Malaysian Traditional Games

Table 3 presents the publication trends, research development patterns, and methodological approaches identified from the analysis of 40 selected articles related to Malaysian traditional games.

Table 3: Publication Trends Related to Malaysian Traditional Games

Research Objective Component	Analysis Category	Key Findings (n = 40 articles)
Publication Trends	Distribution of articles by publication period	Research publications were consistently identified from 2013 to 2026. The highest number of publications occurred during 2013–2017 with 15 articles (37.5%), followed by 2018–2022 with 13 articles (32.5%), and 2023–2026 with 12 articles (30.0%).
Research Developments	Evolution of research focus and publication indexing profile	The selected studies were published across various academic platforms: MyJurnal/Malaysian indexed journals: 13 articles (32.5%), Scopus-indexed journals: 12 articles (30.0%), International Journals/Google Scholar indexed publications: 8 articles (20.0%), and Web of Science/International Conference Proceedings: 7 articles (17.5%).
Methodologies	Research approaches employed in previous studies	The methodological distribution shows that qualitative research accounted for 12 articles (30.0%), followed by Design and Development Research with 11 articles (27.5%), quantitative research with 10 articles (25.0%), mixed-method approaches with 4 articles (10.0%), and literature review/systematic review studies with 3 articles (7.5%).

The analysis of publication trends reveals sustained scholarly interest in Malaysian traditional games between 2013 and 2026. The highest number of publications was recorded between 2013 and 2017, with 15 articles (37.5%), reflecting an early research emphasis on documenting traditional games, their historical origins, cultural meanings, and roles within local communities. Between 2018 and 2022, 13 articles (32.5%) were published, with research gradually expanding towards educational applications, child development, experiential learning, and the integration of digital technologies. The most recent period, 2023–2026, produced 12 articles (30.0%), indicating continued research interest alongside a stronger emphasis on digital transformation, technology-supported preservation, interactive learning, and digital storytelling. Overall, the publication trend suggests a gradual shift from documentation and preservation towards more applied and technology-oriented approaches.

In terms of publication visibility, 13 articles (32.5%) were published in MyJurnal or Malaysian-based journals, representing the largest proportion of the reviewed literature.



This distribution reflects the strong connection between traditional game research and local academic discourse, particularly in relation to Malaysian culture, education, and heritage. Meanwhile, 12 articles (30.0%) were published in Scopus-indexed journals, indicating growing international recognition of the topic. A further 8 articles (20.0%) appeared in international journals or Google Scholar-indexed sources, while 7 articles (17.5%) were associated with Web of Science-related publications and international conference proceedings. Although the distribution demonstrates increasing visibility across different academic platforms, the relatively strong concentration of locally indexed publications suggests opportunities for greater international collaboration and broader theoretical engagement.

Methodologically, qualitative research was the most frequently adopted approach, accounting for 12 articles (30.0%), followed by Design and Development Research with 11 articles (27.5%) and quantitative research with 10 articles (25.0%). The prominence of qualitative approaches reflects the importance of examining cultural meanings, historical narratives, community practices, and heritage values, while the substantial use of design-oriented approaches indicates increasing efforts to develop educational materials, digital applications, interactive media, and other resources for cultural preservation. Quantitative studies further demonstrate attempts to evaluate learning outcomes, physical development, motivation, social interaction, and user engagement. Mixed-method studies accounted for 4 articles (10.0%), whereas only 3 articles (7.5%) employed literature review or systematic review approaches. This methodological distribution suggests that the field is increasingly moving from documenting cultural practices towards developing and evaluating practical interventions, although evidence synthesis remains limited.

Overall, the findings indicate that Malaysian traditional game research has developed into a multidisciplinary field encompassing cultural heritage, education, digital technology, and innovation. However, the limited number of systematic reviews and the relatively small body of research addressing visual communication indicate important areas for further investigation. In particular, the potential of comics and visual storytelling as pedagogical and cultural communication media remains insufficiently examined. Future research should therefore explore how comics, including digital and interactive formats, can integrate cultural narratives, educational content, and visual representation to support the preservation, learning, and intergenerational transmission of Malaysian traditional games in contemporary contexts.

4.3 Research Theme Distribution

Based on the thematic analysis of the 40 selected articles, research trends related to Malaysian traditional games were classified into four main themes: (1) pedagogy and game-based learning, (2) digital technology and innovation, (3) visual communication and representation, and (4) cultural and heritage preservation. Table 4 presents the distribution of research themes, including the number of articles and percentage representation for each identified theme.



Table 4: Research Theme Distribution

Main Theme	Number of Articles	Percentage (%)
Pedagogy and Game-Based Learning	15	37.5
Digital Technology and Innovation	10	25.0
Visual Communication and Representation	6	15.0
Cultural and Heritage Preservation	9	22.5
Total	40	100

Table 4 presents the thematic distribution of the 40 selected articles on Malaysian traditional games, revealing four major research themes: (1) pedagogy and game-based learning, (2) digital technology and innovation, (3) cultural and heritage preservation, and (4) visual communication and representation. The distribution demonstrates that research in this field has expanded beyond the documentation of traditional practices towards a more interdisciplinary focus involving education, technology, cultural preservation, and communication. This development reflects the growing recognition of traditional games as cultural resources that can be adapted to contemporary educational and technological contexts.

Pedagogy and game-based learning emerged as the dominant theme, accounting for 15 articles (37.5%), followed by digital technology and innovation with 10 articles (25.0%). The prominence of these themes indicates increasing interest in the educational potential of traditional games and their adaptation through digital technologies. Traditional games have been examined as resources for experiential learning, student engagement, social interaction, skill development, and cultural understanding, while digital approaches have provided new opportunities for documentation, accessibility, interaction, and promotion. Together, these findings suggest a gradual shift towards viewing traditional games not only as recreational practices but also as adaptable resources for contemporary learning and cultural engagement.

Cultural and heritage preservation accounted for 9 articles (22.5%), highlighting the continued importance of traditional games in maintaining cultural identity, collective memory, community knowledge, and intergenerational transmission. In contrast, visual communication and representation was the least represented theme, comprising only 6 articles (15.0%). This relatively limited coverage indicates that visual approaches, including comics, illustration, animation, and digital storytelling, remain comparatively underexplored despite their potential to communicate cultural knowledge in accessible and engaging forms. The imbalance between the stronger representation of pedagogy and technology and the limited attention to visual communication points to an important area for further investigation.

Overall, the thematic findings indicate that Malaysian traditional game research is developing as a multidisciplinary field, but the potential intersection of pedagogy, digital technology, and visual communication remains insufficiently addressed. The limited number of studies focusing on visual representation is particularly significant for the present study, as comics may provide a means of combining cultural narratives, visual storytelling, and educational content within a single medium. Future research should



therefore examine how comics and other visual narrative approaches can be systematically developed and evaluated to support the interpretation, learning, preservation, and intergenerational transmission of Malaysian traditional game knowledge.

4.4 Research Gaps Related to the Use of Comics

The third objective aims to identify research gaps related to the use of comics as a pedagogical medium for preserving and promoting Malaysian traditional games in the digital era. Table 5 presents the identified research gaps related to the use of comics as a pedagogical medium for preserving and promoting Malaysian traditional games.

Table 5: Research Gaps Related to the Use of Comics

No.	Research Gap	Description (Brief)
1	Limited Research on Comics as a Medium for Traditional Game Preservation	Existing studies on Malaysian traditional games mainly focus on documentation, educational applications, and digital technologies. However, the role of comics as a medium for preserving cultural knowledge, gameplay processes, historical narratives, and traditional values remains insufficiently explored.
2	Lack of Integration between Comics, Pedagogy, and Cultural Learning	Although traditional games have been examined as educational resources, limited research has investigated how comics can be systematically integrated into pedagogical approaches to enhance learners' understanding, engagement, and appreciation of Malaysian cultural heritage.
3	Limited Development of Digital Comics for Cultural Heritage Promotion	Digital technologies have increasingly been applied in preserving traditional games; however, research exploring digital comics as an interactive and accessible platform for promoting Malaysian traditional games among younger generations remains limited.
4	Insufficient Empirical Evaluation of Comics-Based Learning Effectiveness	Existing studies provide limited empirical evidence regarding the effectiveness of comics in improving cultural knowledge, learning motivation, student engagement, comprehension, and retention of information related to traditional games.
5	Limited Exploration of Visual Narrative and Communication Strategies in Comics	Research remains limited in examining how visual elements, storytelling structures, illustrations, character representations, and sequential narratives within comics can effectively communicate cultural meanings and gameplay knowledge.
6	Lack of User Experience and Youth Acceptance Studies	Few studies investigate young users' perceptions, preferences, usability experiences, motivation, and acceptance towards comics-based or digital comic learning resources related to Malaysian traditional games.



7	Absence of an Integrated Conceptual Framework for Comics-Based Cultural Preservation	Limited research has developed conceptual frameworks that systematically connect comics, pedagogy, digital technology, visual communication, and cultural preservation to support the sustainability of Malaysian traditional games.
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Table 5 highlights several research gaps concerning the use of comics as a pedagogical medium for preserving and promoting Malaysian traditional games in the digital era. Although existing research has expanded across educational, technological, and cultural domains, the role of comics in transmitting traditional game knowledge remains relatively underexplored. Previous studies have mainly focused on documentation, educational applications, and technology-based preservation, with limited attention to comics as a visual narrative medium for communicating gameplay processes, cultural values, historical contexts, and social meanings. This suggests a need to explore more engaging and accessible approaches to cultural transmission, particularly for younger generations.

Several gaps are also evident in the integration of comics with pedagogy, digital technology, and visual communication. While traditional games have been recognised as valuable resources for experiential and cultural learning, limited research has examined how comics can be systematically incorporated into educational settings or whether comics-based approaches can improve cultural knowledge, motivation, engagement, and retention. Similarly, the potential of digital comics, including interactive and multimedia features, remains insufficiently investigated as a contemporary approach to cultural preservation. There is also limited understanding of how visual elements such as illustration style, narrative structure, character representation, symbolism, and sequential storytelling can be designed to communicate cultural meanings and gameplay knowledge effectively while maintaining cultural accuracy and educational value.

These gaps further indicate the need for greater attention to user experience and youth acceptance, particularly in relation to the usability, perceptions, preferences, and engagement of younger audiences with comics-based cultural learning resources. More importantly, empirical evidence is required to evaluate whether comics can effectively contribute to heritage-based learning and cultural sustainability. Future research should therefore adopt a multidisciplinary approach that integrates comics, pedagogy, digital technology, visual communication, and cultural preservation. Rather than treating comics merely as a form of visual representation, future studies should develop and evaluate comics-based learning frameworks that support cultural interpretation, knowledge transmission, and meaningful engagement with Malaysian traditional games. Such an approach could strengthen the educational and cultural value of comics while contributing to the continued transmission and relevance of traditional games among future generations.

5.0 Discussion

The findings of this systematic literature review provide a clear picture of the changing research landscape surrounding Malaysian traditional games. Across the 40 studies reviewed, research has gradually moved beyond the documentation of traditional games towards broader concerns



involving education, digital technology, cultural preservation, and visual communication. This development suggests that traditional games are increasingly understood not simply as cultural practices that require preservation, but as living cultural resources that can support learning, identity, knowledge transmission, and cultural sustainability. Such a shift is consistent with the broader understanding of intangible cultural heritage as something that is sustained through continued practice, transmission, and adaptation rather than through documentation alone (UNESCO, 2003).

The publication pattern indicates sustained scholarly interest in the field. Of the 40 studies, 15 articles (37.5%) were published between 2013 and 2017, followed by 13 articles (32.5%) between 2018 and 2022 and 12 articles (30.0%) between 2023 and 2026. Although the number of publications declined slightly across the three periods, the distribution indicates relatively continuous research activity rather than a short-term research trend. More importantly, the continuity of publications has been accompanied by a widening of research interests. Earlier studies were more strongly associated with documentation, cultural meanings, and preservation, while later studies increasingly considered educational applications, digital adaptation, and innovative forms of cultural communication. This development indicates that the research field is becoming more multidisciplinary and responsive to contemporary challenges surrounding cultural continuity.

The methodological distribution further supports this observation. Qualitative studies constituted the largest proportion of the reviewed literature, with 12 articles (30.0%), followed by design and development research with 11 articles (27.5%) and quantitative studies with 10 articles (25.0%). Mixed-method studies accounted for only 4 articles (10.0%), while literature and systematic reviews represented 3 articles (7.5%). The prominence of qualitative research is appropriate given the cultural and contextual nature of traditional games, where understanding community practices, meanings, experiences, and historical contexts is important. At the same time, the relatively high proportion of design and development studies indicates increasing efforts to translate traditional games into educational resources, digital applications, and other contemporary forms. However, the limited use of mixed-method approaches suggests that greater integration between cultural understanding and empirical evaluation is needed. This is particularly important for emerging media such as comics, where the development of a visually attractive resource does not in itself demonstrate educational or cultural effectiveness. Future studies should therefore examine both the quality of the developed resource and its effects on knowledge acquisition, engagement, motivation, learning experience, and retention.

The thematic distribution provides further insight into the direction of the field. Pedagogy and game-based learning was the most prominent theme, accounting for 15 studies (37.5%). This finding reflects growing recognition of traditional games as experiential learning resources. Through participation, learners can develop social interaction, problem-solving, creativity, cooperation, and contextual understanding while engaging with culturally familiar practices. Such learning is consistent with experiential learning, in which knowledge develops through active engagement and reflection rather than passive reception (Kolb, 1984). However, the findings also suggest that the educational potential of traditional games has not yet been fully translated into integrated pedagogical frameworks. Much of the existing research focuses on learning activities and outcomes, while less attention is given to how the cultural knowledge, values, histories, and



meanings embedded within games can be systematically incorporated into learning materials. Culturally responsive approaches may therefore provide a useful basis for connecting local heritage with contemporary educational practices (Gay, 2018).

Digital technology and innovation formed the second largest theme, represented by 10 studies (25.0%). This reflects increasing attempts to respond to changing lifestyles and reduced opportunities for younger generations to encounter traditional games. Digital platforms, interactive applications, and other technology-based approaches can improve accessibility and create new opportunities for cultural engagement (UNESCO, 2003; Parry, 2010). Nevertheless, the findings indicate that digitalisation should not be equated with cultural preservation in itself. Technology can reproduce the mechanics or appearance of a traditional game while providing limited understanding of its historical origins, cultural values, or social context. The use of technology should therefore be accompanied by attention to cultural authenticity, contextual interpretation, and the involvement of cultural knowledge holders. From this perspective, technology is most valuable when it facilitates the interpretation and transmission of cultural knowledge rather than simply converting traditional practices into digital products.

Cultural and heritage preservation accounted for 9 studies (22.5%), confirming that documentation and cultural continuity remain central concerns within the field. However, the findings suggest that preservation needs to be considered as an active process of transmission rather than solely as archival activity. A traditional game may be successfully documented yet gradually lose relevance if younger generations no longer understand its meanings or participate in its practice. The continuity of intangible cultural heritage therefore depends partly on the ability to create meaningful opportunities for younger audiences to encounter and interpret cultural knowledge. Educational resources, digital platforms, and storytelling approaches may complement conventional preservation strategies by providing additional spaces for cultural learning and engagement (Giaccardi, 2012; Parry, 2010).

In contrast, visual communication and representation constituted only 6 studies (15.0%), making it the least represented of the four major themes. This finding is particularly significant in relation to the focus of the present study. Traditional games are not defined solely by their rules or procedures; they are also associated with stories, symbols, social practices, material culture, places, and community experiences. Visual communication therefore has the potential to make these dimensions more accessible and meaningful. Comics are particularly relevant because they integrate sequential imagery, narrative, symbolism, dialogue, and written information. These characteristics allow cultural knowledge to be presented through multiple modes of representation (McCloud, 1993; Eisner, 2008).

The relatively small proportion of studies addressing visual communication points to an important research opportunity. The existing literature provides stronger evidence concerning traditional games as educational resources and their adaptation through digital technology than concerning comics as a specific medium for cultural learning. Comics may offer a bridge between these areas by presenting traditional games within narratives that communicate their rules alongside their historical, social, and cultural contexts. Rather than treating comics simply as illustrations accompanying educational content, they can potentially function as multimodal learning resources in which visual and narrative elements contribute directly to cultural understanding.



This possibility is consistent with the broader recognition that learning can be supported through multiple forms of representation and experience (Kolb, 1984; Mayer, 2021).

The review nevertheless indicates that the potential of comics remains insufficiently supported by empirical evidence. Limited research has examined whether comics-based materials can improve cultural knowledge, engagement, motivation, retention, or other learning outcomes specifically in relation to Malaysian traditional games. Existing studies appear to place greater emphasis on content development and representation than on systematic evaluation of learner outcomes. This represents an important evidence gap. Future research should therefore employ experimental, mixed-method, and user-centred approaches to examine not only what is represented in comics but also how learners interact with and learn from them (Sones, 1944; Yang, 2003). Evaluation should include learning outcomes as well as usability, acceptance, engagement, cultural understanding, and learners' perceptions of authenticity.

The design of comics-based cultural resources also requires careful consideration. Narrative structure, illustration style, character development, panel composition, symbolism, clothing, setting, and other visual elements can influence how readers interpret cultural representations (McCloud, 1993; Eisner, 2008). This is particularly important in cultural heritage education because inaccurate or overly simplified representations may distort cultural meanings. At the same time, excessive visual or narrative complexity may reduce accessibility and interfere with learning. The development of comics for cultural learning should therefore balance visual engagement with educational clarity and cultural accuracy. Collaboration among educators, designers, cultural researchers, and cultural knowledge holders would be valuable in ensuring that such resources remain both pedagogically meaningful and culturally appropriate.

Another important gap concerns younger users, who represent a key audience for the continued transmission of traditional games. The reviewed literature provides limited evidence concerning how younger learners perceive and respond to comics-based cultural resources. Factors such as narrative preference, visual design, interactivity, usability, technological acceptance, and perceptions of cultural authenticity may influence their engagement with heritage content. Understanding these factors is important because cultural learning resources should be informed by the experiences and needs of their intended users rather than being developed solely from the perspectives of researchers and designers (Norman, 2013). Future research should therefore incorporate user-centred evaluation to determine how different forms of comics and digital storytelling can support meaningful engagement with traditional games.

Taken together, the findings also reveal a broader conceptual gap. Pedagogy, digital technology, visual communication, and cultural preservation have generally been examined as separate areas of research. Pedagogical studies tend to emphasise learning outcomes, technology-oriented studies focus on applications and platforms, preservation studies concentrate on documentation and continuity, while visual communication studies address representation. The limited integration of these dimensions restricts understanding of how traditional games can be communicated and sustained within contemporary learning environments. An integrated framework is therefore needed to connect cultural heritage knowledge with pedagogy, visual communication, and digital technology.



Such a framework could position traditional games as multimodal cultural learning resources. Cultural heritage knowledge would provide the content and contextual foundation; pedagogy would guide how that knowledge is learned; visual communication would shape how it is represented; and digital technology could extend accessibility, interaction, and engagement. Within this perspective, comics may function as a connecting medium between cultural heritage and contemporary learning. This does not mean that comics should replace direct participation, community transmission, or other forms of cultural preservation. Rather, they can complement these approaches by providing an additional means through which cultural knowledge can be encountered, interpreted, and discussed.

The findings therefore have implications for future research and practice. Researchers, educators, cultural institutions, designers, and creative practitioners could work collaboratively to develop and evaluate comics-based learning resources, including digital comics, interactive storytelling, and multimedia cultural learning applications. Such development should involve cultural communities and knowledge holders to ensure that representations remain grounded in authentic cultural meanings and practices. Importantly, technological and visual innovation should be accompanied by empirical evaluation rather than being assumed to produce educational or cultural benefits.

Overall, this systematic literature review demonstrates that research on Malaysian traditional games is gradually developing from a predominantly preservation- and documentation-oriented field towards a broader multidisciplinary area involving pedagogy, digital technology, cultural heritage, and visual communication. The strongest research emphasis remains on pedagogy and game-based learning, followed by digital technology and innovation, cultural and heritage preservation, and visual communication. While this development indicates increasing recognition of the contemporary relevance of traditional games, the limited integration of these areas remains a significant research gap. In particular, comics are still underexplored as a pedagogical and cultural communication medium, and empirical evidence concerning their effectiveness remains limited. Future research should therefore move beyond the development of comics as visual materials and examine their potential to support cultural knowledge, learning, engagement, and heritage transmission. An interdisciplinary approach integrating cultural studies, education, visual communication, and technology may provide a stronger basis for ensuring that Malaysian traditional games remain accessible, meaningful, and relevant to future generations.

6.0 Implications of the Study

The findings of this systematic literature review highlight the potential of comics as a pedagogical and cultural communication medium for representing Malaysian traditional games. Rather than serving solely as entertainment, comics can provide an accessible way of communicating cultural knowledge, identity, values, and learning experiences, particularly through the combination of illustrations, storytelling, characters, and cultural contexts. These elements may help younger learners develop a better understanding of the history, practices, values, and social meanings associated with traditional games. However, the development of comics-based cultural materials requires careful attention to cultural accuracy and authenticity to ensure that the simplification of heritage content does not result in the loss or distortion of its original meanings and contexts. Collaboration among educators, comic creators, cultural researchers, and local communities is



therefore important in producing materials that are both educationally effective and culturally appropriate. The integration of digital comics and interactive storytelling may further enhance accessibility and engagement among younger audiences, although further empirical research is needed to establish their effectiveness in developing cultural awareness, knowledge acquisition, learner engagement, and knowledge retention. Overall, the findings suggest that comics have considerable potential to bridge Malaysian cultural heritage with contemporary learning environments and to support the continued communication, preservation, and revitalisation of traditional games for future generations.

7.0 Limitations of the Study

This study acknowledges several limitations that should be considered when interpreting the findings. First, the review was limited to selected academic databases and published literature, which may have excluded relevant studies available through other sources such as books, theses, institutional reports, or unpublished works. Second, although this review specifically examined comics as a pedagogical and cultural communication medium for Malaysian traditional games, the limited number of studies focusing explicitly on this area may have influenced the depth of analysis and restricted a more comprehensive understanding of comics-based cultural learning approaches. Third, as this study employed a systematic literature review methodology, it relied on existing evidence rather than conducting direct empirical investigations with learners, educators, comic creators, or cultural communities. Therefore, aspects related to user acceptance, learning effectiveness, engagement, and long-term cultural impact require further empirical validation. Additionally, the thematic interpretation and categorisation of reviewed studies involved analytical judgement by the researchers, although systematic procedures were applied to enhance consistency and transparency. Future research should address these limitations by conducting empirical studies that evaluate the effectiveness of comics in promoting cultural awareness, educational outcomes, and sustainable transmission of Malaysian traditional games among diverse audiences.

8.0 Future Research Recommendations

Based on the identified research gaps, future studies should further investigate the potential of comics as a pedagogical and cultural communication medium for Malaysian traditional games through more comprehensive empirical approaches. While existing studies have highlighted the potential of comics in presenting cultural knowledge, limited empirical evidence is available regarding their effectiveness in enhancing cultural awareness, learning outcomes, engagement, and knowledge retention among different audiences. Therefore, future research should conduct experimental and user-based studies involving students, educators, and cultural communities to evaluate the educational impact of comics-based learning materials. In addition, future studies should focus on developing a conceptual framework that integrates visual communication, narrative design, cultural representation, and learning theories to guide the systematic development of culturally meaningful comics. Further investigations are also recommended to examine the influence of comic design elements, including storytelling techniques, character development, illustration styles, and cultural symbolism, on audience understanding and acceptance. Considering the increasing dominance of digital media, future research should explore the transformation of traditional game narratives into digital comics, interactive comics,



and technology-enhanced storytelling platforms. Moreover, collaborative research involving comic creators, educators, researchers, and cultural practitioners is encouraged to ensure cultural authenticity and meaningful representation. Such research directions would strengthen the role of comics as a sustainable medium for communicating, preserving, and revitalising Malaysian traditional games among future generations.

9.0 Conclusion

In conclusion, this systematic literature review highlights that Malaysian traditional games represent an important cultural resource that extends beyond recreational practices, encompassing historical knowledge, social values, and collective identities that require continuous preservation. The analysis of selected studies demonstrates that research on traditional games has gradually shifted from traditional documentation approaches towards broader multidisciplinary perspectives involving education, digital innovation, visual communication, and heritage sustainability. However, despite the growing interest in preserving and revitalising traditional games, the application of comics as a medium for cultural communication and pedagogical practice remains relatively limited. This study suggests that comics offer significant potential in bridging traditional knowledge with contemporary learning environments by presenting cultural narratives through engaging visual and storytelling approaches. Such integration may enhance learners' understanding, interest, and engagement while supporting the transmission of cultural knowledge among younger generations. Therefore, future research should further investigate the development and evaluation of comics-based learning approaches that combine narrative design, digital technologies, and heritage education to strengthen the sustainability and relevance of Malaysian traditional games in the digital era.

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