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COMICS AS EDUCATIONAL TOOLS: A NARRATIVE REVIEW OF THE LITERATURE

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ABSTRACT

This study, “Comics as Educational Tools: A Narrative Review of the Literature (2000–2025),” examines the role of comics in education over a 25-year period. It aims to analyze research categories, identify main thematic focuses, assess distribution across educational levels, and evaluate research trends to inform future practice. A narrative literature review was conducted on 58 selected sources, including journal articles, theses, and research reports. Findings indicate that peer-reviewed articles dominate the literature, while research is unevenly distributed across educational levels, with secondary and higher education receiving more attention than primary and preschool levels. Five main themes emerged: reading literacy, reading motivation, EFL/ESL, visual and multimodal literacy, and pedagogy and curriculum integration. Comics were found to improve literacy, engagement, conceptual understanding, and higher-order thinking, demonstrating their versatility as an interactive and multimodal learning medium. However, most studies are small-scale, short-term, and limited in cross-cultural application, highlighting the need for systematic, long-term, and contextually relevant research. Overall, the study underscores the value of comics as an effective educational tool, emphasizing teacher readiness, curriculum integration, and culturally responsive approaches to optimize learning outcomes.

KEYWORDS: comics in education, narrative literature review, visual literacy, reading motivation, pedagogy, multimodal learning

INTRODUCTION

Education plays a crucial role in preparing societies to compete globally, equipping future generations with essential life skills, and fostering individuals who are competent in knowledge, skills, and innovation. To achieve this, learning environments must be enriched with diverse educational materials, as these resources directly influence student learning (Karagöz, 2018). Variations in learning styles can pose challenges in educational practices, making it necessary to incorporate tools and

equipment that both diversify the learning environment and make learning more engaging and meaningful. Reliance solely on textbooks can lead to boredom and fail to motivate new learning, highlighting the need for supplementary elements that enhance both enjoyment and retention (Doğan, 2015). Among visual resources such as caricatures, simulations, cartoons, and photographs, comics have emerged as a particularly effective medium due to their visual appeal and expressive potential, gaining increasing popularity in recent years (Çiçek Şentürk & Selvi, 2023; Topkaya, 2016; Indrayani et al., 2024).

BACKGROUND OF THE STUDY

The integration of comics into educational practice has garnered sustained scholarly attention due to their demonstrated potential to enhance literacy, foster learner motivation, promote language development, and improve visual comprehension. As a multimodal medium that combines verbal and visual elements, comics support meaning-making, engagement, and creative thinking, particularly among learners who encounter difficulties with conventional text-based instructional approaches. Since the pioneering work of Sones (1944), a substantial body of research has established the pedagogical value of comics across diverse disciplines, including language arts, science, physics, business ethics, military training, and healthcare education. Cognitive-based studies further indicate that the combination of text and imagery enhances reading comprehension, information retention, and problem-solving skills by activating dual channels of learning (Carney & Levin, 2002; Gambrell & Jawitz, 1993; Mayer & Sims, 1994). Beyond cognitive benefits, comics have been shown to promote reading motivation, support critical and visual literacy, strengthen learners' emotional engagement with narratives, and encourage sustained reading practices (Krashen, 1993; Versaci, 2001). Although early resistance to the educational use of comics emerged, particularly through Fredric Wertham's mid-twentieth-century critique concerning their moral and psychological effects, such claims were later criticised for lacking empirical evidence (Beaty, 2005; Ndalianis, 2011). Contemporary research has since reaffirmed comics as flexible and effective instructional tools that can function as lesson introductions, student-centred learning activities, assessment instruments, and catalysts for discussion (Özdemir, 2010; Barbre, 2018; Koutnikova, 2017). Empirical evidence, especially from Southeast Asian contexts, further supports the effectiveness of comic-based instruction, with pre- and post-intervention studies reporting significant improvements in students' achievement in areas such as science learning, vocabulary acquisition, and reading comprehension (Krishnan & Othman, 2016; Sanjaya, 2017; Kamil et al., 2017; Nur Fadhila & Widodo, 2019). Therefore, comics represent an effective and high-potential instructional medium for supporting meaningful learning across various disciplines and educational levels. The integration of visual and textual elements not only enhances comprehension and information retention but also stimulates learner motivation, critical thinking, and active engagement. Despite earlier criticisms, contemporary empirical evidence clearly confirms the effectiveness of comics as an alternative pedagogical tool that is both relevant and aligned with the demands of twenty-first-century learning.

RESEARCH PROBLEM

Despite growing interest in the use of comics as educational tools, the existing research remains fragmented and uneven, with notable gaps in understanding regarding the diversity and quality of reference sources, predominant research themes, and the distribution of studies across educational levels. Additionally, there is limited systematic analysis of temporal trends in comics-in-education research, particularly from 2000 to 2025, which constrains the ability of educators and researchers to synthesise existing evidence, identify knowledge gaps, and develop evidence-based strategies for the effective integration of comics across diverse pedagogical contexts. Consequently, a comprehensive investigation is required to evaluate the quality of sources, map research themes, analyse coverage across educational stages, and examine trends over time, to provide a holistic understanding of comics as a pedagogical medium and guide future research and practice.

RESEARCH OBJECTIVES AND RESEARCH QUESTIONS

This study aims to provide a systematic and comprehensive examination of the literature on comics in education by assessing the diversity and scholarly quality of reference sources, identifying the predominant research themes in comic-based educational studies, and analysing the distribution of research across different academic levels. Furthermore, the study seeks to examine longitudinal research trends in the field of comics in education over the period from 2000 to 2025. Guided by these objectives, the study addresses the following research questions: to what extent are the reference sources on comics in education diverse and of high academic quality; what key research themes emerge from existing studies on comic-based education; how is research on comics distributed across various educational levels; and what trends can be identified in comics-in-education research between 2000 and 2025.

SIGNIFICANCE OF THE STUDY

This study is important because it provides a comprehensive understanding of the role of comics in education by evaluating the diversity and quality of reference sources, identifying key research themes, analysing their distribution across primary, secondary, and higher education levels, and assessing research trends from 2000 to 2025. By doing so, it highlights well-studied areas and underexplored topics, reveals gaps in coverage across educational stages, and tracks the evolution of pedagogical approaches. The findings offer evidence-based insights that can guide future research, curriculum development, and teaching practices, ensuring that comics are used effectively as a flexible, multimodal educational tool.

SCOPE OF STUDY

The scope of this study encompasses research on the use of comics in education from 2000 to 2024. It systematically examines both local and international literature to evaluate the diversity and quality of reference sources. The study focuses on empirical and peer-reviewed works, as well as relevant theses, dissertations, and professional publications, to provide a comprehensive overview of the pedagogical

applications of comics, highlight research gaps, and inform future educational practices and curriculum development.

LITERATURE REVIEW

Comics are a distinctive visual-verbal narrative medium, defined variously as stories conveyed through pictures or drawings (Alsaç, 1994), sequential image-based story-making art (Chute, 2008), thematically integrated illustrations (Rogers, 2018), continuous narratives depicted through multiple images (Diegritz, 1979), or stories featuring recurring characters interacting via speech bubbles with a balance of text and visuals (Inge, 1997). Eisner (1985) emphasized their capacity to engage both verbal and visual senses. Key characteristics—including sequential storytelling, text-image integration, dialogue in boxes, and protagonists—facilitate comprehension, promote active engagement, and enjoy broad social acceptance across age groups, providing a strong foundation for educational applications (Gallup Institute, 1929; Tuncer, 1993; Metken, 1970).

As an educational tool, comics combine text and visuals to enhance learning, memory, and comprehension, making complex concepts more accessible. Through storytelling and storyboarding, they foster organization, meaning-making, and higher-order thinking, while engaging students in creative thinking, writing, and dialogue, motivating learners who may struggle with traditional text-heavy instruction (Sangeetha, 2025). By linking visual and verbal elements, comics strengthen composition skills, reading, writing, critical thinking, and collaboration, as students brainstorm, share ideas, and appreciate diverse perspectives. Furthermore, comics integrate multiple skills across art, writing, and technology, engaging visual, kinesthetic, and linguistic learners to create a holistic, interactive learning experience that transforms abstract ideas into concrete visual narratives (Combs, 2003).

The use of comics to support educational objectives has grown in recent years (Ahmadi et al., 2017; Chu & Toh, 2020; Toh & Cheng, 2022). Early experiments by W. W. Sones demonstrated that comics could serve as effective classroom tools (Blanch & Mulvihill, 2013; Zagkotas, 2018). Nevertheless, their educational application was initially controversial; psychiatrist Fredric Wertham (1954) criticized comics for violent and suggestive content, claiming their use in classrooms represented “an all-time low in American science” (Ahmadi et al., 2017; Ndalians, 2011). Despite such criticism, historical evidence indicates that comics have enhanced student interest, understanding, and motivation across diverse fields, including reading, language arts, physics, business ethics, military training, and healthcare (Gerde & Foster, 2008; Green & Myers, 2010; Haugaard, 1973; Hutchinson, 1949; Kakalios, 2002; Sones, 1944; Williams, 2008). Institutional initiatives, such as the Maryland Comic Book Initiative, further attest to their pedagogical value (MSDE, 2004; Ottaviani, 2009).

Contemporary research highlights comics’ ability to enhance critical literacy (Chun, 2009), cultural and historical knowledge (Chisholm et al., 2017), linguistic structures (Ludewig, 2017), media literacy (Cook, 2017), and cross-disciplinary literacy (Park, 2016), while supporting meaning-making and

reducing cognitive load in vocabulary acquisition (McClanahan & Nottingham, 2019). Most studies have focused on English as a first language, particularly in tertiary contexts (Boerman-Cornell, 2016; Lawn, 2011; Schwarz, 2010), with fewer investigating foreign language learning, where learner dynamics differ substantially. This gap underscores the need to explore how comics influence motivation, willingness to communicate, and language achievement in second or foreign language contexts.

Finally, comics are particularly effective in capturing and sustaining students' attention due to their multimodal format, which combines dynamic illustrations, dialogue, and sequential storytelling. By transforming abstract or complex concepts into relatable narratives, comics stimulate curiosity, encourage active participation, and reduce anxiety around challenging subjects, making learning more enjoyable and accessible. As such, they constitute a powerful pedagogical tool that motivates learners, fosters engagement, and supports deeper comprehension across disciplines.

Comics, as a visual-verbal narrative medium integrating text and images, have been shown to enhance students' comprehension, literacy, and creativity, while fostering motivation, interest, and engagement; research indicates their effectiveness across disciplines, including first and second language teaching, supporting critical and cross-disciplinary literacy, facilitating understanding of complex concepts, and promoting active participation, making them a holistic and highly effective pedagogical tool in contemporary education.

RESEARCH METHODOLOGY

This study adopts a descriptive qualitative approach through a narrative literature review (Ahmad, 2025; Usman et al., 2025; Snyder, 2019), critically analysing journal articles, theses, and research reports published between 2015 and 2024. Data were sourced from academic databases including Scopus, Web of Science, Google Scholar, ERIC, and ProQuest, using keywords related to comics in education, visual literacy, and comic-based learning. A staged screening process ensured inclusion of only relevant and academically valuable sources, with abstracts reviewed first, followed by full-text analysis.

Thematic analysis was employed to identify and categorise key themes and patterns, highlighting trends, issues, and research gaps (Boyatzis, 1998; Braun & Clarke, 2012; Flick, 2022). This involved systematic coding, clustering of codes into themes, and interpretation to reveal conceptual relationships (Naeem et al., 2023). The approach provides a comprehensive overview of the pedagogical potential of comics, emphasising the integration of visual and verbal elements, and supporting student-centred learning and active engagement (Elliott, 2018).

RESULT

The results of this study are presented according to four research questions: the diversity and quality of reference sources on comics in education; the primary research themes explored in studies on comic-

based education; the distribution of research across different educational levels; and the trends observed in comics-in-education research over the period from 2000 to 2025.

Number of References by Research Category Related to Comics in Education

Out of 257 references, only 58 were identified for the period 2000 to 2025, reflecting the niche nature of the topic, the application of strict selection criteria, limited research in certain countries, and the dispersion of articles across multiple journals. Table 1 presents the classification of references according to publication category.

Table 1: Category × Number of References on Comics in Education

Category	Number of References
Peer-Reviewed Journal Articles	41
Theses / Dissertations / Academic Works	4
Scopus-Indexed Articles	7
Web of Science (WoS)-Indexed Articles	3
Non-Indexed / Books / Professional / Others	3
Total	58

Table 1 presents the distribution of references related to the use of comics in education according to publication category. The majority of references originate from peer-reviewed journal articles (41 references), while smaller numbers come from theses, dissertations, and academic works (4 references), as well as articles indexed in Scopus (7 references) and the Web of Science (3 references). The remaining three references include non-indexed sources such as books and professional publications. This data illustrates the diversity and quality of the referenced literature, providing a solid academic foundation for this study.

Main Themes in Research on Comics in Education

Identifying the main themes in research on comics in education is crucial as it provides focus and structure to the study, facilitates the systematic synthesis of literature, highlights the pedagogical aspects emphasised in the use of comics, allows for comparison of findings across contexts, educational levels, and cultures, and helps to identify research gaps for future studies. Table 2 presents the key themes that have been identified in research on comics in education.

Table 2: Main Themes in Research on Comics in Education

Theme No.	Main Theme	Articles (Author & Year)	No. of Studies
1	Comics as a Tool to Enhance Reading Literacy	Allen & Ingulsrud (2003); Allen & Ingulsrud (2005); Bitz (2004); Barbre (2018); Killeen (2013); Kerneza & Košir (2016); Pantaleo (2011); Pantaleo (2015); Ripley (2012); Rosenberg (2018); Sabeti (2011); Sabeti (2014); Tilley (2008); Versaci (2001); Versaci (2008); Williams (2008)	16
2	Reading Motivation and Student Engagement	Azam (2018); Deashara (2016); MacQueen (2022); Mahir et al. (2016); Nafisah & Pratama (2020); Zimmerman (2008); Bolton-Gary (2012); Howard (2017)	8
3	Comics in Language Teaching and Learning (EFL/ESL)	Ahmadi et al. (2017); Basol (2011); Cimermanová (2015); Khoii & Forouzesh (2010); Kılıçkaya & Krajka (2012); Megawati & Anugerahwati (2012); Novanti & Suprayogi (2021); Sanjaya (2017); Saputri et al. (2021); Sari Manik (2019); Selong et al. (2021); Ravelo (2013)	12
4	Visual and Multimodal Literacy	Cohn (2013); Cohn et al. (2012); Mathews (2014); McVicker (2018); Nakazawa (2002); Wolk (2007); Hansen (2012); Hoover (2012)	8
5	Integration of Comics in Pedagogy and Multi-Subject Curriculum	Aleixo & Sumner (2017); Brown (2013); Chou et al. (2015); Dallacqua & Peralta (2018); Dallacqua (2020); Danzak (2011); Dea et al. (2024); Leung et al. (2014); Lewkowich (2019); Manning-Lewis (2019); McGrail et al. (2017); McGrail et al. (2018); Simon (2012); Wiseman et al. (2021)	14
Total			58

Table 2 presents the classification of studies on the use of comics in education according to main themes. The most extensively studied theme is “Comics as a Tool to Enhance Reading Literacy,” with 16 studies, followed by “Integration of Comics in Pedagogy and Multi-Subject Curriculum,” comprising 14 studies, highlighting the emphasis on the role of comics in supporting literacy and broad pedagogical applications. Other themes, such as “Comics in Language Teaching and Learning (EFL/ESL),” involve 12 studies, while “Reading Motivation and Student Engagement” and “Visual and Multimodal Literacy” each include 8 studies. This analysis reflects the diversity of research focus, ranging from enhancing reading literacy and student motivation to the use of comics in language

teaching, visual literacy, and multi-subject curriculum integration, emphasising the role of comics as a flexible and multi-dimensional pedagogical medium.

Distribution of Research Focus Across Educational Levels

Analysing the distribution of research focus across educational levels is important as it provides insights into the application and effectiveness of comics at each stage, identifies priorities and research gaps, and offers guidance for planning teaching strategies and integrating comics into the curriculum. Table 3 presents the distribution of research focus according to educational level.

Table 3: Distribution of Research Focus by Educational Level

Educational Level	Number of Studies	Summary of Focus
Primary School	14	Studies primarily target early literacy, visual literacy, and support for struggling readers.
Secondary School	25	Research emphasizes reading literacy, motivation, student engagement, and application of comics across subjects.
Higher Education	19	Focus on integrating comics in subject-specific teaching, visual literacy, and multimodal learning.

Table 3 reveals an uneven distribution of research on the use of comics in education across educational levels. Secondary education dominates with 25 studies, reflecting a focus on enhancing reading literacy, motivation, and student engagement during a critical developmental stage for adolescent learners. Higher education accounts for 19 studies, emphasising the integration of comics in subject-specific teaching, visual literacy, multimodal learning, and EFL/ESL contexts, though the number of studies remains limited. Primary education has the fewest studies (14), primarily targeting early literacy, visual literacy, and support for struggling readers, highlighting a significant research gap in foundational learning. Overall, the distribution indicates a concentration on more readily measurable educational stages, underscoring the need for balanced, systematic research across all levels to evaluate the pedagogical potential of comics comprehensively, including long-term outcomes and culturally contextualised applications.

Research Trends on Comics in Education by Theme

Analysing research trends on comics in education by theme is important as it highlights the development of studies over time, identifies key topics and research gaps, evaluates the evolution of pedagogical approaches, and provides guidance for planning future research. Figure 1 presents the research trends according to theme.

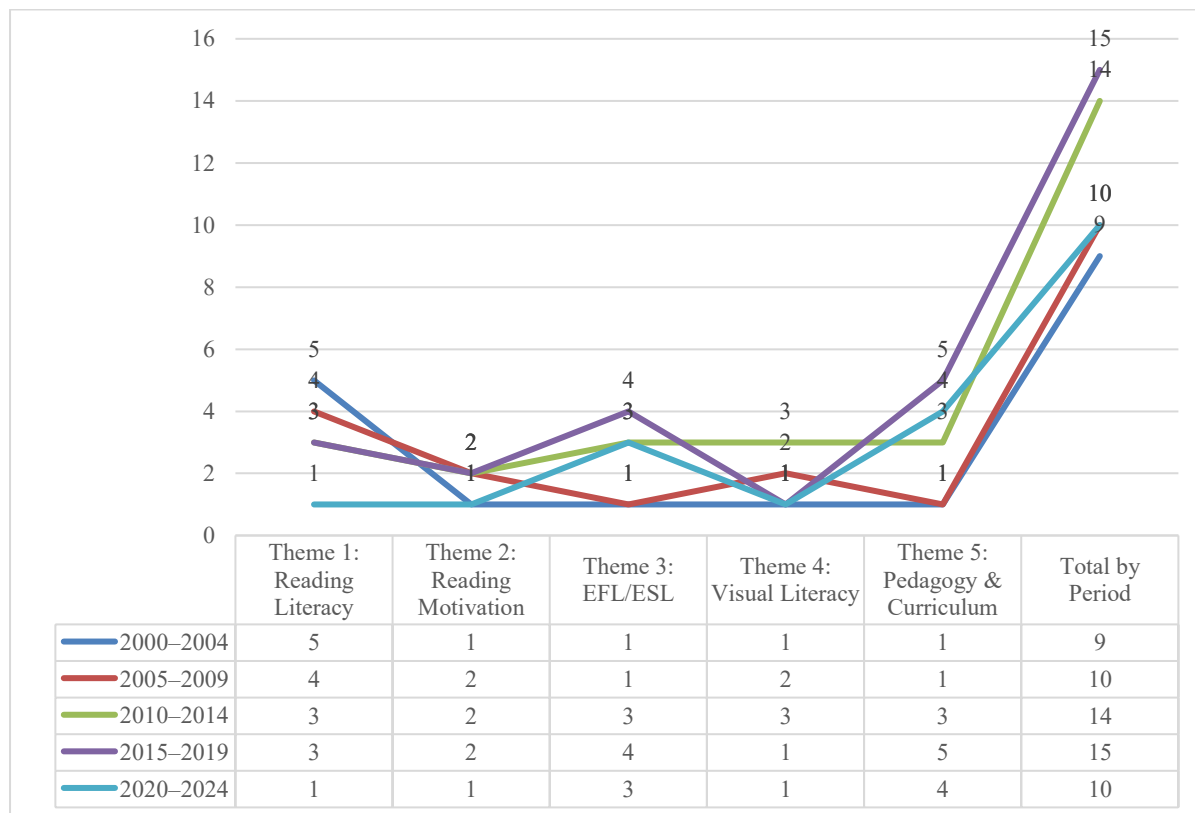


Figure 1: Research Trends on Comics in Education by Theme

Figure 1 illustrates a clear and progressive development pattern in research on comics and education over the period 2000 to 2024. Theme 1 (Reading Literacy) dominated early studies (2000–2009), indicating the initial phase of validating comics as a legitimate medium for developing foundational literacy. However, the number of studies in this theme declined to moderate and low levels after 2015, suggesting a shift in research focus from issues of legitimacy to more specific applications. Themes 2 (Reading Motivation) and 3 (EFL/ESL) showed consistent growth, particularly after 2015, reflecting contemporary educational needs that emphasise student engagement and support for language learning in multilingual contexts. Theme 4 (Visual Literacy) peaked during 2010–2014, aligning with increased interest in multimodal and cognitive theory, before declining as research became more application-oriented. Meanwhile, Theme 5 (Pedagogy and Curriculum) experienced a marked rise over the last two decades, indicating a shift towards the systematic integration of comics into multi-subject curricula and digital learning. Overall, the table demonstrates the evolution of the field from foundational exploration to strategic, pedagogically oriented use, in line with the demands of 21st-century education.

Through the narrative literature review, five main themes—reading literacy, reading motivation, EFL/ESL, visual literacy, and pedagogy and curriculum—have been identified as the primary focus of research on comics in education. However, other themes may remain underexplored, partly due to the

limited number of articles and certain constraints in research. Nevertheless, these identified themes continue to dominate as they represent topics that are either more widely studied or more easily measurable through empirical investigation.

DISCUSSION

The analysis of research on comics in education provides insight into the diversity of sources, thematic focus, distribution across educational levels, and prevailing research gaps. By examining 58 studies, key patterns and limitations emerge that highlight both the potential and the underexplored aspects of comics as an educational tool (Boerman-Cornell, 2016; Lawn, 2011; Schwarz, 2010).

DIVERSITY AND QUALITY OF REFERENCE SOURCES

The analysis of references in comics-in-education research reveals notable disparities across source types. Peer-reviewed journal articles dominate, reflecting their recognised reliability, rigorous evaluation, and wide accessibility through major academic databases (Ahmadi et al., 2017; Chu & Toh, 2020; Sangeetha, 2025). In contrast, theses, dissertations, and other academic works are cited less frequently, largely due to limited accessibility outside their host institutions, lack of broad indexing, and absence of stringent peer review, which may reduce their perceived authority (Ndalianis, 2011; Zagkotas, 2018). Similarly, studies published in Scopus- and Web of Science-indexed journals are comparatively few, constrained by high publication standards and competitive selection processes (MSDE, 2004; Ottaviani, 2009). Non-indexed sources, books, and professional publications constitute the smallest proportion, reflecting their dispersed nature, limited empirical focus, and emphasis on practical rather than scholarly contributions (Combs, 2003; Ndalianis, 2011). Collectively, these patterns underscore the field's reliance on accessible, credible sources to ensure methodological rigor and academic credibility. However, this reliance also highlights an underrepresentation of diverse perspectives, suggesting a need for broader inclusion of varied source types to provide a more comprehensive understanding of comics as an educational medium (Boerman-Cornell, 2016; Lawn, 2011).

RESEARCH THEMES IN COMICS EDUCATION

Analysis of 58 studies reveals five main themes in the use of comics in education: enhancing reading literacy, promoting reading motivation and student engagement, language teaching (EFL/ESL), visual and multimodal literacy, and cross-subject pedagogical integration (Allen & Ingulsrud, 2003; Aleixo & Sumner, 2017; Azam, 2018; Chisholm et al., 2017; Chun, 2009). Evidence suggests that comics can strengthen reading skills, capture student interest, support interactive language learning, and develop visual literacy, while remaining adaptable across various curricula (Allen & Ingulsrud, 2003; Azam, 2018). Most studies are small-scale and short-term, reflecting practical and methodological constraints (Rasmet et al., 2025; Yusuf et al., 2025). Longitudinal research demands significant time, funding, and logistical support, which are often unavailable. Early studies have primarily focused on pilot interventions to assess feasibility and immediate outcomes, prioritising student engagement and learning gains over factors such as teacher readiness or multicultural applicability (Ahmadi et al., 2017;

Toh & Cheng, 2022). Investigating long-term effects and cross-cultural implementation further involves complex variables that are difficult to control, while limited institutional support for non-traditional pedagogical methods constrains large-scale or extended studies (MSDE, 2004; Ottaviani, 2009). These findings highlight the need for systematic and contextually grounded research to ensure that comics are utilised as effective pedagogical tools rather than merely as entertainment (Combs, 2003; Sangeetha, 2025).

DISTRIBUTION ACROSS EDUCATIONAL LEVELS

Research on comics in education predominantly targets primary and secondary levels, where students are developing foundational reading and literacy skills (Boerman-Cornell, 2016; Lawn, 2011). At these stages, the multimodal nature of comics effectively supports comprehension, engagement, and vocabulary acquisition, while motivating reluctant readers (Allen & Ingulsrud, 2003; Azam, 2018). The structured classroom environment also facilitates controlled interventions and measurement of learning outcomes. Conversely, research at higher education levels remains limited due to perceptions of comics as unconventional pedagogical tools, the complexity of aligning interventions with subject-specific content, and a prioritisation of measurable academic outcomes over broader benefits such as engagement, creativity, and visual literacy (Gerde & Foster, 2008; Green & Myers, 2010; Kakalios, 2002). The relatively recent adoption of multimodal and visual pedagogies in tertiary education further contributes to the scarcity of empirical studies and limited understanding of long-term implications (Lawn, 2011; Schwarz, 2010). At the preschool level, research is similarly sparse, largely because of challenges in designing age-appropriate, curriculum-aligned materials, addressing ethical considerations such as parental consent, and the perception that traditional storybooks are more suitable for young children (Nisa Khoirotul Mahfudoh & Sunarso, 2024). This uneven distribution underscores the need for more balanced research across all educational levels to fully explore the pedagogical potential of comics (Ahmadi et al., 2017; Chu & Toh, 2020).

RESEARCH TRENDS AND CONTEXTUAL GAPS

Research trends reveal a thematic imbalance. Reading literacy has received the most attention, likely because it is a foundational skill, aligns with curriculum standards, and is relatively straightforward to assess using standardised methods (Allen & Ingulsrud, 2003; Azam, 2018). In contrast, reading motivation and visual literacy remain underexplored, as they are complex, multidimensional constructs that are difficult to operationalise, often requiring longitudinal or qualitative approaches, and involve subjective, context-dependent processes (Chun, 2009; Cook, 2017). Research has moderately addressed language teaching (EFL/ESL) and pedagogy and curriculum; however, the application of comics within specific cultural and instructional contexts remains limited (Boerman-Cornell, 2016; Lawn, 2011). Variations in cultural norms, teaching approaches, and classroom dynamics can influence how comics are perceived and integrated, yet these factors have received insufficient empirical attention (Chisholm et al., 2017; Ludewig, 2017). Overall, these patterns highlight the need for comprehensive research that addresses all pedagogical themes, educational levels, and learning

contexts to fully understand the potential of comics as an educational tool (Rasmet et al., 2025; Sangeetha, 2025).

In summary, research on comics in education demonstrates a reliance on peer-reviewed journal articles, with limited diversity in sources. Studies focus predominantly on reading literacy, while reading motivation, visual literacy, and context-specific applications remain underexplored. Most research is small-scale, short-term, and concentrated at primary and secondary levels, with preschool and higher education contexts receiving limited attention due to developmental, ethical, and logistical challenges. These trends underscore the importance of systematic, longitudinal, and contextually sensitive studies to fully realise the potential of comics as a versatile and effective pedagogical medium.

IMPLICATIONS OF THE STUDY

This study indicates that comics have significant potential as a pedagogical tool in Malaysia, particularly for enhancing reading literacy, student interest and engagement, and supporting the comprehension of abstract concepts through visual and creative literacy. Integrating comics into curricula and teaching modules can make learning more interactive and accessible, aligning with 21st-century educational approaches. However, the effectiveness of using comics depends on teacher readiness and competency, highlighting the need for appropriate training and resource provision. Further research within the local context, including long-term evaluation, cross-level application, and cultural adaptation, is essential to ensure that comics function as a relevant and high-impact educational medium.

LIMITATIONS OF THE STUDY

This study faced several limitations affecting the comprehensiveness of the literature review. These include restricted access to databases and full-text articles, a focus on English-language publications only, the limited timeframe (2000–2024), and a tendency to prioritise high-impact journal articles. Additional challenges involved duplication, inconsistent metadata, and limited access to theses or local studies. While the obtained literature was sufficient for analysis, it may not fully represent all existing research in the field of comics and education.

RECOMMENDATIONS

Future research is recommended to focus on long-term studies across educational levels, including diverse cultural contexts, while evaluating strategies for integrating comics into teaching and developing structured modules. High-impact empirical approaches, such as experimental or quasi-experimental studies, can provide robust evidence to support educational policies and comic-based teaching practices, positioning comics not merely as entertainment but as an interactive and effective pedagogical tool.

CONCLUSION

The uniqueness of comics as an interactive medium lies in their combination of images and text, enabling the delivery of information visually and narratively, making it more engaging and easier for students to understand. Beyond entertainment, comics offer opportunities for students to develop creativity through storytelling, dialogue writing, and storyboard design, thereby promoting active engagement in learning. Through this interactivity, comics help students grasp complex concepts, organise ideas logically, and apply knowledge across diverse learning contexts. Therefore, when used systematically in the classroom, comics can serve as an effective educational tool, supporting academic achievement, visual literacy, and higher-order thinking skills comprehensively.

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