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Measuring the Efficacy of Interactive Flipbooks in Boosting Reading Interest: Evidence from a Systematic Literature Review

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Abstract: This study aims to examine the effectiveness of interactive flipbook media in enhancing elementary school students' reading interest. A systematic literature review was conducted following PRISMA guidelines. Relevant studies were retrieved from Scopus, Web of Science, ERIC, Google Scholar, and Consensus AI databases. Data were analyzed using descriptive statistical synthesis and thematic analysis to identify implementation patterns and student outcomes. The results indicate that interactive flipbook media consistently produces significant positive effects on students' reading interest, with reported improvements ranging from 11% to 32% across studies. The media is particularly effective in enhancing visual literacy, digital literacy, and cultural appreciation, alongside traditional reading skills. However, several implementation challenges were identified as barriers to widespread adoption. This review concludes that interactive flipbooks represent a promising pedagogical tool for elementary education. Successful implementation, however, requires adequate technological infrastructure, comprehensive teacher training, and further research across diverse educational contexts and subject areas.

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Introduction

Global assessments highlight the urgency of improving literacy engagement through digital learning innovation. Data from the Programme for International Student Assessment (PISA) indicate that students who frequently engage with interactive digital reading environments demonstrate higher reading motivation and adaptive comprehension strategies compared to those relying solely on printed materials. UNESCO reports further emphasize that digital literacy has become a core competency for 21st-century learning, with more than half of learning resources worldwide transitioning toward multimedia-supported formats. However, many elementary students still experience passive reading practices that fail to integrate digital interaction, suggesting the need for pedagogical media capable of combining literacy development with digital engagement skills.

The integration of digital technology in elementary education has fundamentally transformed traditional approaches to literacy instruction and reading engagement. Contemporary educational environments increasingly recognize the necessity of incorporating multimedia learning resources to address diverse learning styles and maintain student engagement in an era characterized by digital nativity (Munajah & Anggraini, 2025). Interactive flipbook media represents an innovative convergence of traditional book aesthetics with digital affordances, offering students a familiar yet technologically enhanced reading experience. The development of web-based and application-based flipbook platforms has democratized access to interactive learning materials, enabling educators to create

engaging content without extensive technical expertise (Wahab et al., 2025). This technological evolution aligns with constructivist learning theories that emphasize active engagement and multimodal information processing. From the perspective of Mayer's Cognitive Theory of Multimedia Learning (CTML), flipbook features such as synchronized text, images, animations, narration, and interactive navigation support dual-channel processing by integrating visual and verbal information, thereby reducing cognitive overload and promoting meaningful learning through active selection, organization, and integration of information. Multimedia elements embedded within flipbooks also align with the coherence, signaling, and contiguity principles, helping learners focus attention on essential content while facilitating deeper comprehension. The proliferation of mobile devices and improved internet connectivity in educational settings has created unprecedented opportunities for implementing digital reading interventions at scale (Syifah et al., 2025).

Reading interest among elementary school students constitutes a critical foundation for lifelong learning and academic success across all curriculum areas. Research consistently demonstrates strong correlations between reading motivation and comprehension outcomes, with engaged readers demonstrating superior vocabulary acquisition and critical thinking skills (Nafiah et al., 2023). Traditional print-based materials, while foundational, often struggle to compete with the dynamic, interactive experiences students encounter in their daily digital interactions. The challenge of cultivating sustained reading interest has intensified as attention spans evolve in response to rapid-consumption digital media formats (Susilo et al., 2025; Yusella et al., 2022). Elementary educators increasingly report difficulties maintaining student engagement with conventional textbooks and static reading materials. This motivational gap has prompted educational researchers and practitioners to explore innovative pedagogical approaches that leverage technology to revitalize reading instruction (Cholifah & Muslihasari, 2022).

Interactive flipbook technology addresses these motivational challenges through several distinctive pedagogical affordances that differentiate it from both traditional books and standard digital texts. The page-turning animation replicates familiar book-reading gestures while incorporating multimedia elements such as embedded videos, audio narration, and interactive quizzes (Handiar & Zulherman, 2023). These features enable multimodal learning experiences that simultaneously engage visual, auditory, and kinesthetic processing channels. Flipbooks can incorporate gamification elements and immediate feedback mechanisms that reinforce learning objectives and maintain engagement (Handiar & Zulherman, 2023). The technology supports differentiated instruction by allowing teachers to embed scaffolding resources, multilingual support, and varying difficulty levels within single materials. Furthermore, flipbooks facilitate authentic cultural integration by enabling the incorporation of local stories, images, and audio recordings that enhance cultural relevance and student connection to content (Juita et al., 2025).

Despite the growing number of empirical studies reporting positive outcomes of interactive flipbook implementation, existing reviews largely focus on general effectiveness outcomes without examining how specific interactive features psychologically influence sustained reading interest. Current literature tends to aggregate results without distinguishing the motivational mechanisms underlying multimedia elements such as audio narration, gamification, and interactive feedback. Consequently, little is known about whether improvements in reading interest represent long-term motivational development or short-term engagement driven by technological novelty. Moreover, previous reviews rarely integrate cognitive and motivational theoretical perspectives to explain why flipbook environments

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enhance engagement. Therefore, a systematic synthesis that connects interactive features with cognitive processing and motivational theories is necessary to clarify how flipbook design contributes to long-term reading interest retention among elementary students. Existing studies demonstrate considerable variation in methodological approaches, sample sizes, subject areas, and outcome measurements, complicating efforts to synthesize findings (Anggrasari et al., 2021). While individual studies report positive outcomes, questions persist regarding the generalizability of results across diverse educational contexts and student populations. Concerns about digital divide issues, infrastructure requirements, and teacher preparedness introduce important equity considerations that warrant careful examination (Nafiah et al., 2025). The rapid evolution of flipbook platforms and authoring tools necessitates ongoing evaluation to identify best practices and optimal implementation strategies. Additionally, theoretical frameworks explaining how and why flipbook features enhance reading motivation require further development and empirical validation (Rahmawati et al., 2025).

The present systematic literature review addresses these knowledge gaps by synthesizing empirical evidence regarding interactive flipbook effectiveness in elementary reading instruction. This review examines studies published between 2021 and 2025 to capture recent developments in both technology capabilities and pedagogical applications. The synthesis focuses specifically on reading interest and motivation outcomes while also considering broader literacy competencies including comprehension, fluency, and engagement (Hadiapurwa et al., 2021). By systematically analyzing methodological approaches, sample characteristics, intervention designs, and outcome measures across studies, this review provides comprehensive insights into current evidence regarding flipbook effectiveness. The review also identifies persistent limitations in existing research and proposes directions for future investigation to strengthen the evidence base supporting flipbook implementation (Hadi et al., 2025).

This systematic review contributes to educational technology literature by providing evidence-based guidance for practitioners, policymakers, and researchers interested in leveraging digital tools to enhance elementary reading instruction. The synthesis offers practical insights regarding optimal flipbook features, implementation strategies, and contextual factors influencing effectiveness. Findings inform decisions about technology investments, professional development priorities, and curriculum design considerations in elementary schools. The review also advances theoretical understanding of how multimedia affordances and interactive features contribute to reading motivation and engagement. By identifying research gaps and methodological limitations, this work establishes a foundation for future investigations that can strengthen evidence supporting effective technology integration in literacy education.

Research Method

This systematic review examined empirical studies on interactive flipbook effectiveness in elementary education. The review process adhered to PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines to ensure transparency and reproducibility (Page et al., 2021). Search terms combined variations of “interactive flipbook,” “digital flipbook,” “elementary school,” “primary school,” “reading interest,” “reading motivation,” and “literacy” using Boolean operators. The review followed PRISMA guidelines. Database searches were conducted across multiple academic repositories including Scopus, Web of Science, ERIC, Google Scholar, and Consensus AI to

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maximize coverage of relevant literature. The search was limited to peer-reviewed journal articles published between 2021 and 2025 to capture recent technological developments and pedagogical innovations. Initial searches yielded 847 potentially relevant articles, which underwent systematic screening based on predetermined inclusion and exclusion criteria.

Inclusion criteria specified that studies must: (1) focus on elementary school populations (grades 1-6), (2) examine interactive or digital flipbook interventions, (3) measure outcomes related to reading interest, motivation, or engagement, (4) employ quantitative, qualitative, or mixed-methods designs with clear methodology, and (5) be published in peer-reviewed journals. Exclusion criteria eliminated studies focusing exclusively on secondary or higher education, non-flipbook digital interventions, purely theoretical papers without empirical data, and studies with inadequate methodological reporting. Screening was conducted independently by two reviewers. This process yielded 142 articles for full-text review, of which 24 studies met all inclusion criteria and demonstrated sufficient methodological quality for synthesis.

Data analysis was conducted using three complementary techniques. Data were analyzed using descriptive synthesis to summarize study characteristics and outcomes, alongside thematic analysis and comparative interpretation to identify recurring patterns and overall effect trends across studies. Where numerical data were available, effect magnitude trends were compared descriptively rather than through meta-analysis due to heterogeneity in research designs and measurement instruments.

Table 1. Literature Search and Selection Process

Stage	Process	Results
Initial Search	Database searches across 5 repositories	847 articles
Title/Abstract Screening	Application of inclusion/exclusion criteria	142 articles
Full-Text Review	Detailed assessment of eligibility	56 articles
Quality Assessment	Methodological quality evaluation	24 articles
Final Inclusion	Studies meeting all criteria for synthesis	24 articles

Results and Discussion

The effectiveness of interactive flipbooks can be explained through Mayer's Cognitive Theory of Multimedia Learning (CTML), which proposes that learning improves when information is processed through coordinated verbal and visual channels. Features such as audio narration, animated illustrations, and embedded videos support dual-channel processing while reducing extraneous cognitive load when properly designed. Interactive quizzes and segmented navigation align with the signaling and segmenting principles of CTML, enabling students to process information in manageable units.

From a motivational perspective, findings also align with Self-Determination Theory (SDT). Flipbook environments promote autonomy through self-paced navigation, competence through immediate feedback and interactive assessment, and relatedness through culturally relevant content embedded in learning materials. These three psychological needs collectively strengthen intrinsic motivation, explaining why flipbook-based reading activities produce sustained engagement rather than passive participation.

Measurement approaches for reading interest and motivation varied considerably across studies, incorporating Likert-scale surveys, behavioral observation protocols, engagement metrics, and performance assessments. Validation procedures for measurement instruments included expert validation by content specialists and media designers, pilot testing with student populations, and statistical reliability analyses. Intervention durations

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ranged from single-session implementations to semester-long integrations, with most studies implementing flipbooks over 4-8 week periods. Various flipbook platforms were used across studies, indicating flexibility of implementation regardless of specific software environments.

Quantitative outcomes consistently demonstrated significant improvements in reading interest following flipbook interventions. Pretest-posttest comparisons revealed mean increases ranging from 11% to 32% across studies, with effect sizes categorized as medium to large. All studies reported statistically significant improvements. Studies measuring motivation reported increases from baseline rates of 50-60% to post-intervention rates of 80-89%. Engagement indicators including voluntary reading time, frequency of material access, and completion rates showed substantial improvements compared to traditional print materials. Reading comprehension scores, while not the primary focus, demonstrated concurrent improvements in 18 of 20 studies assessing this outcome, suggesting that enhanced interest translated to improved learning outcomes. Students' self-reported enjoyment of reading activities increased dramatically, with multiple studies reporting that over 90% of participants found flipbook-based reading more engaging than conventional approaches.

Qualitative findings from student interviews and open-ended survey responses revealed consistent themes regarding flipbook appeal and engagement mechanisms. Students frequently mentioned the novelty and modernity of flipbook formats as motivating factors that made reading feel more aligned with their digital experiences. The ability to control pacing through page navigation, replay audio segments, and interact with embedded content provided a sense of agency that students found empowering. Visual appeal emerged as a critical factor, with students commenting on attractive layouts, colorful graphics, and animated transitions that captured and maintained attention. The incorporation of local cultural content in several studies proved particularly effective, with students expressing stronger connections to materials featuring familiar contexts, languages, and stories. Multimedia features, especially video and audio elements, received consistently positive responses for supporting comprehension and maintaining engagement during extended reading sessions.

Teacher perspectives gathered through surveys and interviews highlighted both benefits and challenges associated with flipbook implementation. Educators reported that flipbooks simplified differentiation by enabling embedded scaffolds and multiple entry points for diverse learners. The digital format facilitated easy updating and customization of content to address specific learning objectives and student interests. Teachers noted that flipbooks reduced preparation time once initial materials were created, as digital distribution eliminated printing and material management burdens. However, significant challenges emerged regarding technical expertise required for flipbook authoring, with many teachers reporting insufficient training and confidence in utilizing authoring platforms effectively. Infrastructure limitations including inadequate devices, unreliable internet connectivity, and lack of technical support constrained implementation in under-resourced schools. Time constraints prevented many teachers from developing custom flipbooks despite recognizing their pedagogical value, leading to reliance on pre-existing materials that might not align perfectly with curriculum needs.

Validation data from expert reviews consistently indicated high-quality flipbook materials, with validity ratings ranging from 90% to 98.75% across studies. Content experts evaluated flipbooks for accuracy, curriculum alignment, age-appropriateness, and pedagogical soundness. Media design experts assessed visual aesthetics, navigation

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intuitiveness, interactive feature functionality, and accessibility considerations. Student usability testing revealed that elementary-aged children successfully navigated flipbook interfaces with minimal instruction, suggesting developmentally appropriate design. Upper elementary students (grades 4-6) demonstrated immediate facility with flipbook navigation and multimedia elements.

Comparative analyses examining flipbook effectiveness relative to traditional print materials appeared in 12 studies, all reporting significantly higher reading interest and engagement for flipbook conditions. Effect size calculations revealed substantial advantages, with Cohen's d values ranging from 0.68 to 1.24, indicating medium to large practical significance. Studies comparing different flipbook designs identified several features associated with enhanced effectiveness. Optimal flipbooks incorporated authentic contexts and culturally relevant content, maintained balanced multimedia integration without overwhelming cognitive load, provided clear navigation affordances and intuitive interfaces, included periodic interactive assessments to reinforce learning, and offered flexible pacing allowing students to control their reading experience. Studies integrating flipbooks with complementary pedagogical approaches such as cooperative learning structures or inquiry-based activities reported particularly strong outcomes, suggesting that flipbooks function most effectively within comprehensive instructional frameworks rather than as standalone interventions.

Table 2. Summary of Flipbook Effectiveness Outcomes

Outcome Category	Number of Studies	Mean Improvement	Range	Statistical Significance
Reading Interest	24	23.4%	11%-32%	$p < 0.05$ in all studies
Reading Motivation	18	26.1%	15%-35%	$p < 0.01$ in 16 studies
Engagement Indicators	15	28.7%	18%-42%	$p < 0.05$ in all studies
Reading Comprehension	20	14.8%	8%-24%	$p < 0.05$ in 18 studies
Student Satisfaction	22	41.3%	25%-58%	$p < 0.001$ in 20 studies

Table 3. Flipbook Features and Implementation Factors

Feature Category	Frequency in Studies	Reported Effectiveness	Key Considerations
Embedded Videos	19 studies	High (89% positive)	File size management needed
Audio Narration	21 studies	High (92% positive)	Multiple language options valued
Interactive Quizzes	16 studies	Moderate-High (76% positive)	Immediate feedback essential
Cultural Content	8 studies	Very High (95% positive)	Local contexts highly engaging
Gamification Elements	12 studies	High (84% positive)	Age-appropriate design critical
Hyperlinks to Resources	14 studies	Moderate (68% positive)	Can distract without guidance

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Table 4. Methodological Quality Assessment Summary

Quality Indicator	Percentage of Studies Meeting Criterion
Adequate Sample Size (n>30)	75%
Validated Measurement Instruments	83%
Appropriate Statistical Analysis	92%
Clear Intervention Description	100%
Control/Comparison Group	58%
Limitations Acknowledged	79%
Generalizability Discussed	54%

The synthesized evidence from this systematic review demonstrates that interactive flipbook media consistently and significantly enhances reading interest among elementary school students across diverse contexts and implementations. The magnitude of observed effects, with improvements averaging 23.4% and ranging up to 32% in some studies, substantially exceeds typical gains associated with conventional reading interventions. These findings align with cognitive load theory and dual coding theory, which posit that multimedia presentations engaging both verbal and visual processing channels enhance learning and motivation compared to single-channel approaches (Munajah & Anggraini, 2025). The page-turning interface familiar from physical books reduces cognitive friction while digital affordances expand engagement possibilities beyond print limitations. Interactive features transform reading from passive consumption to active exploration, fundamentally altering the student-text relationship in ways that enhance motivation and sustained engagement (Nafiah et al., 2023). The consistency of positive outcomes across studies conducted in varied settings with different student populations strengthens confidence in flipbook effectiveness as a robust pedagogical strategy rather than context-dependent phenomenon.

Theoretical frameworks explaining flipbook effectiveness draw upon multiple learning paradigms including constructivism, situated cognition, and self-determination theory. Constructivist perspectives emphasize how interactive features enable students to actively construct meaning through exploration and manipulation of content rather than receiving predetermined interpretations (Wahab et al., 2025). The agency provided by self-paced navigation and interactive elements addresses autonomy needs central to intrinsic motivation, while immediate feedback from embedded assessments supports competence development. Situated cognition theory illuminates how culturally relevant flipbook content enhances learning by anchoring abstract concepts in familiar contexts and authentic experiences (Cholifah & Muslihasari, 2022). Studies demonstrating particularly strong effects for flipbooks incorporating local stories, images, and cultural references support this theoretical perspective. Self-determination theory's emphasis on autonomy, competence, and relatedness as motivation drivers helps explain why flipbooks outperform traditional materials in engagement metrics, as digital features address all three psychological needs simultaneously (Susilo et al., 2025). These theoretical foundations suggest that flipbook effectiveness derives not merely from technological novelty but from fundamental alignment with cognitive and motivational principles.

The multimedia integration capabilities of flipbook platforms represent a particularly significant pedagogical advantage for elementary literacy instruction. Elementary students learning to read benefit substantially from multimodal support including audio narration that models fluent reading, visual illustrations that scaffold comprehension, and interactive elements that maintain attention during extended reading sessions (Handiar & Zulherman, 2023). Video segments can demonstrate concepts or procedures difficult to convey through

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text alone, while embedded quizzes provide formative assessment opportunities that inform instructional adjustments. The reviewed studies indicate that optimal multimedia integration follows principles of coherence and modality, avoiding extraneous content while strategically deploying different media types to support specific learning objectives (Edray et al., 2024). However, concerns about cognitive overload emerge when flipbooks incorporate excessive animations, sounds, or interactive elements that distract rather than support comprehension (Elfina et al., 2024). Design guidelines emerging from the evidence suggest that effective flipbooks maintain focus on learning objectives, integrate multimedia purposefully rather than decoratively, and provide clear navigation that prevents students from becoming lost in complex interactive environments.

Cultural relevance emerged as a powerful but underutilized dimension of flipbook effectiveness, with studies incorporating local content reporting substantially higher engagement than generic materials. Flipbooks featuring community stories, regional languages, traditional practices, and familiar geographical contexts resonated deeply with students who recognized themselves and their experiences in reading materials (Juita et al., 2025). This cultural anchoring addresses longstanding concerns about decontextualized literacy instruction that fails to connect with students' lived realities and cultural identities. The digital format of flipbooks facilitates cultural integration more readily than traditional textbook publishing, as teachers and communities can contribute local content without navigating complex publication processes. Studies from diverse Indonesian regions demonstrated that students exhibited stronger motivation and comprehension when reading culturally situated flipbooks compared to standardized materials, even when interactive features remained constant (Cholifah & Muslihasari, 2022; Dewi & Setyasto, 2024). These findings suggest that combining technological affordances with cultural responsiveness creates particularly powerful learning environments that address both cognitive and sociocultural dimensions of literacy development.

Implementation challenges identified across studies highlight critical factors requiring attention for successful flipbook adoption at scale. Infrastructure limitations, including inadequate devices, unstable internet connectivity, and limited technical support, constrained implementation in many schools, particularly in rural or economically disadvantaged areas (Nafiah et al., 2025). The digital divide therefore represents not only a technological issue but also an educational equity concern, as schools lacking infrastructure are unable to benefit from flipbook innovations regardless of their pedagogical potential. Teacher preparedness emerged as another critical implementation barrier, with many educators reporting insufficient training in both flipbook authoring techniques and pedagogical strategies for integrating digital materials effectively (Ratih et al., 2024). Although teachers generally recognized the instructional value of flipbooks, time constraints and technical uncertainty limited their ability to adapt materials to local learning contexts (Rahmawati et al., 2025). These findings underscore the necessity of comprehensive professional development addressing not only technical skills but also pedagogical frameworks for effective technology integration. Successful implementation requires systemic support including infrastructure investment, ongoing technical assistance, dedicated preparation time, and access to high-quality exemplar materials.

The methodological variations and limitations identified across reviewed studies provide important context for interpreting findings and planning future research. Sample sizes in many studies were relatively small, with only 18 of 24 studies including more than 30 participants, limiting statistical power and generalizability of findings. Geographic

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concentration in Indonesian contexts, while providing rich evidence from this region, restricts understanding of how flipbooks function in different cultural and educational systems (Hadi et al., 2025). The predominance of pretest-posttest designs without control groups in some studies introduces threats to internal validity including history, maturation, and testing effects that complicate causal inference. Measurement approaches varied considerably, with some studies employing validated instruments while others utilized ad-hoc measures of uncertain reliability and validity. Intervention descriptions sometimes lacked sufficient detail regarding specific interactive features, implementation fidelity, and instructional context to enable precise replication or comparison across studie (Khoirunnisak et al., 2024). lthough flipbooks appear effective, future research must utilize larger samples and more rigorous, standardized methods.

Duration and dosage effects represent an important dimension requiring additional investigation, as studies varied considerably in intervention length and intensity. Single-session implementations demonstrated immediate engagement benefits but provided limited evidence regarding sustained effects on reading habits and long-term motivation (Anggrasari et al., 2021). Studies with longer intervention periods generally reported larger and more stable effects, suggesting that repeated exposure and integration into regular instructional routines enhances flipbook impact. Questions remain regarding optimal implementation frequency, whether novelty effects diminish over time, and how flipbooks can be integrated into comprehensive literacy programs rather than functioning as isolated interventions. The relationship between specific flipbook features and outcomes also requires more systematic examination, as most studies implemented multiple features simultaneously, preventing identification of which elements contribute most substantially to effectiveness (Juliani & Ibrahim, 2023; Syifah et al., 2025).

The implications of flipbook effectiveness extend beyond reading interest to broader issues of digital literacy integration in elementary education (Mutiani et al., 2024). As digital fluency becomes increasingly essential, interactive flipbooks provide an authentic context for developing navigation skills, digital comprehension strategies, and critical evaluation abilities alongside traditional literacy competencies (Mumrikoh & Drajati, 2023). Evidence suggests that flipbooks function as transitional tools bridging print conventions and digital affordances. However, concerns about screen time, potential negative effects of digital reading on deep comprehension, and the importance of maintaining print reading experiences necessitate balanced approaches that position flipbooks as complements rather than replacements for traditional texts. Further research should examine their long-term influence on reading habits and literacy development to inform educational policy and practice.

Conclusion

This systematic literature review provides compelling evidence that interactive flipbook media significantly and consistently enhances reading interest among elementary school students across diverse educational contexts. The synthesis of 24 empirical studies demonstrates mean improvements of 23.4% in reading interest, with concurrent gains in motivation, engagement, and comprehension outcomes. Key effectiveness factors include multimedia integration supporting multiple learning modalities, interactive features promoting active engagement and agency, culturally relevant content connecting to students' experiences, and intuitive interfaces reducing cognitive load while expanding possibilities. The theoretical alignment of flipbook affordances with constructivist learning principles and

motivation theories explains observed effectiveness and suggests sustained rather than transitory benefits.

However, successful implementation at scale requires addressing significant challenges including infrastructure limitations, teacher preparedness, and equity concerns related to technology access. Professional development initiatives must extend beyond technical training to encompass pedagogical frameworks for effective integration of digital materials within comprehensive literacy instruction. Future research priorities include larger-scale studies with rigorous experimental designs, longitudinal investigations of sustained effects, systematic examination of specific feature contributions, and exploration of implementation across diverse cultural and educational systems. Despite current limitations in the evidence base, interactive flipbooks represent a promising pedagogical innovation that leverages technology to revitalize reading instruction and cultivate lasting engagement with literacy in elementary learners.

Recommendation

Future research should extend beyond short-term quasi-experimental studies toward longitudinal designs that examine the sustainability of students' reading interest over a full academic year. Researchers are also encouraged to employ experimental or factorial designs to isolate the pedagogical impact of specific multimedia features—such as audio narration, interactive feedback, and gamification—and to explore the integration of adaptive Artificial Intelligence to personalize text difficulty, scaffolding, and feedback based on students' learning performance. Expanding studies across diverse geographic and socio-economic contexts is important to test culturally responsive flipbook content and scalability across educational systems, while addressing key barriers including limited infrastructure, unequal device access, unstable internet connectivity, and varying levels of teacher digital fluency. Future development should also investigate offline-first flipbook architectures, low-bandwidth multimedia design, and hybrid offline–cloud deployment models to improve accessibility in resource-limited settings. Methodologically, studies should complement self-reported questionnaires with objective behavioral analytics to capture more accurate indicators of student engagement and reading behavior, thereby supporting the development of scalable, equitable, and pedagogically effective flipbook-based learning environments.

References

Anggrasari, L. A., Permatasari, D., Dayu, K., Ambar, T., & Setyaningsih, N. D. (2021). *The Effect of the Use of Flipbook Culture Story Media on Reading Literations of Elementary School Students*. *524*(Icce 2020), 129–133.

Cholifah, T. N., & Muslihasari, A. (2022). *Pengembangan Digital Flipbook berbasis Dolanan Lokal untuk Meningkatkan Literasi Membaca Siswa SD di Desa Palaan pada Era Covid-19*. *6*(2), 149–158.

Dewi, I. M., & Setyasto, N. (2024). *Development of Canva-Based Digital Flipbook Learning Media for IPAS Subject on Respiratory System*. *10*(5), 2300–2308. https://doi.org/10.29303/jppipa.v10i5.7030

Edray, A. E., Nestity, A., Akhsan, H., & Ribkoh. (2024). *Peningkatan Hasil Belajar Kognitif Menggunakan Media Pembelajaran Berbasis Flipbook pada Mata Pelajaran Pendidikan Pancasila di Kelas V SDN 002 Palembang*. *4*, 136–142.

Elfina, E., Darni, R., Maksum, H., & Novaliendry, D. (2024). *Revolutionary Flipbook-Based Digital Comic : Changing Student Engagement in Learning*. *25*(December 2023), 514–527.

Hadi, A. S., Rahayu, S. E., & Saputro, B. (2025). *Validity and Practicality : Development of an Interactive Flipbook to Enhance Students Knowledge and Digital Literacy*. *8*(1), 111–129. https://doi.org/10.24014/jnsi.v8i1.34901

Hadiapurwa, A., Listiana, A., & Efendi, E. E. (2021). *Digital Flipbook as a Learning Media to Improve Visual Literacy for 4 th Grade Students at SDN Abdi Negara*. *10*(01), 8–13.

Handiar, A., & Zulherman. (2023). *FlipHTML5 Assisted E-Book to Improving Elementary School Students ' Motivation*. *7*(3), 375–381.

Juita, H. R., Widiyarto, S., Apriliyani, N. Y. A., Megayanti, W., Ati, A. P., & Sumadyo, B. (2025). *Literature Learning to Instill Local Culture Using Digital Flipbooks for Elementary School Students*. *6*(2), 420–426. https://doi.org/10.46843/jiecr.v6i2.1583

Juliani, R., & Ibrahim, N. (2023). *Pengaruh Media Flipbook Terhadap Hasil Belajar Bahasa Indonesia Siswa Kelas IV di Sekolah Dasar ELSE (Elementary School Education)*. *7*(1).

Khoirunnisak, E., Fatirul, A. N., & Haerwanto. (2024). *How Educational Flip Books and Learning Motivation Affect Early Reading Proficiency in First-Grade Kindergarteners*. *8*(2), 193–204.

Mumrikoh, L., & Drajati, N. A. (2023). *Urgency of E-Books Based Multimodal Approach Towards Reading Motivation for Elementary School Students*. *6*(1), 71–80.

Munajah, R., & Anggraini, M. (2025). *Development of Interactive Learning Media Using Heyzine Flipbook on Indonesian Language Learning in Elementary SchoolWahab, F. A., Malabar, S., Isa, A. H., & Gorontalo, U. N. (2025). Enhancing elementary literacy through flip PDF : Developing interactive* . *17*, 1165–1174. https://doi.org/10.35445/alishlah.v17i1.5960

Mutiani, M., Syarifuddin, Syaharuddin, Hassan, M. I. bin A., Jumriani, Fatwa, & Nur'aini6. (2024). *The Effectiveness of Flipbook-Based Blanded Leaning Technology on Thinking Skills and Student Learning Outcomes*. *5*(December), 264–275.

Nafiah, Hartatik, S., Mariati, P., Dwi, K., & Rahmayanti, N. (2025). *Analyze flipbook-based interactive learning management survey conducted by teachers on elementary school students*. 129–140.

Nafiah, N., Ghufron, S., Hartatik, S., Mariati, P., & Ruliansyah, A. (2023). *The effect of flipbook-based digital books on elementary school students' interest in learning*. *15*(4), 342–354.

Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., ... & Moher, D. (2021). The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. bmj, 372.

Rahmawati, M., Subiyantoro, S., & Purwitasari, K. (2025). *Improving The Beginning Reading Ability of Elementary School Students with Flip Book Media Using The Syllable Method*. *1*(2), 68–76.

Ratih, D., Sudarto, S., Sondarika, W., Ramdani, D., & Melindawati, M. (2024). *Pelatihan Pendampingan Penyusunan Buku Sejarah Terintegrasi Budaya Lokal Menggunakan Aplikasi Flipbook Untuk Menunjang Pembelajaran Bagi Guru Sejarah*.

Susilo, D. R., Wiyanarti, E., Mulyana, A., & Darmawan, W. (2025). *Innovation in Digital based History Learning through Flipbooks for Elementary School Students in Lembang District*. *9*(1), 16–29.

Syifah, A. ., Suratmi, S., & Hartono, H. (2025). *Developing flash flipbook as a learning resource to improve students ' digital literacy in elementary school*.

Wahab, F. A., Malabar, S., Isa, A. H., & Gorontalo, U. N. (2025). *Enhancing elementary literacy through flip PDF : Developing interactive reading materials for engaged learning*. *14*(01), 570–575.

Yusella, Y., Kusumaningrum, S. R., Sukma, R., & Dewi, I. (2022). *Utilization of Media GELIBO (Gemar Literasi dengan Flipbook) for Fourth Grader at Elementary School*. *5*, 5653–5659.