

Scripta: Developing an Innovative Educational Play Tool to Boost Early Childhood Reading Literacy

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Abstract

This study aims to develop and assess the feasibility of the Scripta educational play tool to enhance early reading literacy among young children age 5-6 years old. Using the R&D method with the ADDIE model, the study followed the stages of needs analysis, design, development, implementation, and evaluation. The initial product, consisting of illustrated cards, was validated by material experts, media experts, and early childhood practitioners, yielding an average score of 81.5 ("Feasible"). Practicality testing by teachers resulted in an average score of 85.8 ("Highly Practical"). A limited trial involving 12 children showed significant improvement, shifting from predominantly low pre-test scores to high and very high post-test scores. The findings demonstrate that Scripta effectively improves letter recognition, vocabulary mastery, and reading interest through play-based learning. The study highlights the importance of integrating culturally grounded and Islamic value-based interactive media to strengthen early childhood literacy and provide practical benefits for teachers and schools.

Kata Kunci: Literacy, Educational Game, Scripta, Early Childhood.

Abstrak

Penelitian ini bertujuan mengembangkan dan menguji kelayakan alat permainan edukatif Scripta untuk meningkatkan literasi baca anak usia 5-6 tahun. Penelitian menggunakan metode R&D dengan model ADDIE, mulai dari analisis kebutuhan, perancangan, pengembangan produk, implementasi, hingga evaluasi. Produk awal berupa kartu bergambar yang divalidasi oleh ahli materi, ahli media, dan praktisi pendidikan dengan skor rata-rata 81,5 (kategori "Layak"). Uji kepraktisan oleh guru menghasilkan skor 85,8 (kategori "Sangat Praktis"). Uji coba terbatas pada 12 anak menunjukkan peningkatan signifikan dari pre-test kategori rendah menjadi post-test kategori tinggi hingga sangat tinggi. Hasil penelitian menegaskan bahwa Scripta efektif meningkatkan pengenalan huruf, penguasaan kosakata, dan minat baca melalui aktivitas bermain. Implikasinya menekankan pentingnya penggunaan media interaktif berbasis budaya dan nilai Islami dalam mendukung penguatan literasi anak usia dini serta memberikan kontribusi praktis bagi pendidik.

Keywords: Literasi Baca, Alat Permainan Edukatif, Scripta, Anak Usia Dini

INTRODUCTION

Reading literacy skills in early childhood are an essential foundation for shaping competent and competitive human resources (Latifa et al., 2023b, 2023a; Oktaviana et al., 2021; Saleha et al., 2022). These skills go beyond merely recognizing letters and words; they serve as prerequisites for cognitive development, vocabulary enrichment, text comprehension, communication abilities, and emotional regulation that support future learning (Desmita et al., 2023; Puspitasari & Ni'mah, 2024). Strengthening early reading literacy during the preschool years is a sustainable educational priority strategy that directly influences children's academic readiness and their capacity to participate productively in future socio-cultural life (Hasbullah et al., 2024).

This condition indicates that early childhood reading literacy still faces serious challenges. UNESCO data (2006a) places Indonesia at the 62nd rank out of 70 countries regarding literacy level, a warning of the nation's weak literacy foundation. The National Digital Literacy Survey by Kominfo in 2021 also confirms that public literacy skills particularly among the younger generation remain at a moderate level (Kurnia, 2021). Low early reading literacy has long-term implications, including academic difficulties, low competitiveness, and weakened human resource quality.

The issue of reading literacy at the early childhood education level becomes even more evident through the results of the Early Grade Reading Assessment which shows that 57% of early-grade children are unable to understand simple reading texts (Masykuroh & Fajriah, 2023). These findings highlight the fragile literacy foundation beginning from preschool, potentially hindering learning abilities in subsequent educational stages. This reality underscores the need for literacy strategies that are more innovative, contextual, and enjoyable from an early age.

One of the main causes of low reading literacy in early childhood is the limited availability of media or educational play tools that align with children's learning characteristics (Aisyah & Musa, 2023). Young children tend to learn through concrete, visual, and interactive experiences rather than through conventional methods. Unfortunately, existing learning media are often monotonous, generic, and insufficient in accommodating multisensory learning needs (Wulandari et al., 2025). As a result, learning becomes less engaging and fails to stimulate children's intrinsic motivation to read.

In PAUD (early childhood education) practices, teachers still rely heavily on conventional media such as printed books and simple flashcards (Firdausi & Ulfa, 2022). Although flashcards are known to enhance visual memory, their use is often limited due to low contextual relevance, minimal social interaction, and lack of integrated play strategies. This leads children to become easily bored and less encouraged to explore literacy actively. Therefore, innovative educational play tools that integrate various aspects of child development are needed.

Furthermore, the rapid growth of digital technology presents new challenges. Children are increasingly familiar with gadgets from an early age, which, while offering

educational benefits, also brings risks such as screen addiction, reduced physical activity, and limited social interaction (Salum et al., 2024). This condition reinforces the need for teachers to provide balanced learning media that combine visual and interactive elements while retaining physical and social engagement through real-world play.

The urgency of developing educational play tools also relates to the developmental needs of early childhood, who are in a critical period of cognitive and language development (Tanto & Sufyana, 2020). Ages 4–6 represent a golden stage for building phonological awareness, letter recognition, and word–meaning associations (Whitehurst & Lonigan, 1998). When children do not receive adequate literacy stimulation at this stage, they face reading difficulties in primary school (Budiarti et al., 2022). Therefore, providing appropriate play tools during this period is a long-term educational investment.

The problem of low reading literacy affects not only individuals but also national quality. Children with poor literacy struggle to understand information, make decisions, and participate actively in social life (Hanifa & Hidayah, 2025). In the context of national development, weak literacy lowers productivity, increases social inequality, and reduces Indonesia’s global competitiveness. Thus, enhancing literacy from an early age is a strategic necessity.

Previous research has developed visual-based media for supporting children’s literacy, such as digital flashcards, word cards, and picture books (Latifa et al., 2023b; Magfiroh et al., 2023; Maulani et al., 2023; Nurlaila et al., 2025; Warmansyah et al., 2024). However, most studies still focus on vocabulary or phonetic aspects without integrating interactive elements involving strategy, collaboration, and cultural context. This gap opens opportunities for innovative educational play tools that are more holistic. In this context, the idea emerged to develop the Scripta Educational Play Tool, which integrates elements of flashcards, snakes and ladders, and monopoly into one systematic game design (D’Angelo et al., 2018). This tool not only presents letters and words but also includes concrete images familiar to children and vocabulary used in daily life. This integration is expected to stimulate children visually, verbally, cognitively, and socially at the same time.

The uniqueness of the Scripta Educational Play Tool lies in its interactive and enjoyable presentation. Children do not merely receive information passively; they actively participate in a game that requires letter recognition, word construction, and meaning comprehension (Naufal, 2021). Thus, learning to read becomes an engaging and meaningful play experience aligned with early childhood developmental characteristics. In addition to supporting reading literacy, this play tool has the potential to develop additional skills such as strategic thinking, basic numeracy through step-counting in the game, and social skills through peer interaction (Maulani et al., 2025). Although the main focus of the research is reading literacy, these added values support the argument that educational play tools can offer multidimensional benefits (Nurmadiyah, 2016).

From a practical perspective, the Scripta Educational Play Tool provides a concrete solution for teachers who struggle to find literacy media that meet children's needs (Thahir et al., 2024). With its attractive, contextual, and user-friendly design, this tool facilitates literacy learning more effectively (Nudiati, 2020). This aligns with early childhood education goals that emphasize play-based learning. For PAUD institutions, especially Integrated Islamic Kindergarten (TKIT An-Nahl), the development of this play tool supports the need for learning media consistent with the identity of an Islamic integrated school. The chosen vocabulary includes cultural and Islamic elements, reinforcing both character and literacy development. Therefore, Scripta functions not only as an academic resource but also as a medium for identity formation in children.

The urgency of this research is strengthened by the fact that many teachers still depend on commercial media that are generic, non-contextual, and not tailored to the specific needs of children in Islamic integrated schools. Through a needs-based development approach, this research aims to produce a highly relevant, practical, and beneficial educational play tool. From an academic standpoint, this research contributes to the study of early childhood learning media development. Its focus on reading literacy through an educational play tool that integrates traditional game concepts offers distinctive novelty. By employing the ADDIE-based Research and Development (R&D) approach, this research not only produces a product but also tests its feasibility, practicality, and effectiveness.

Methodologically, the research emphasizes expert validation, limited trials, and practitioner assessments to ensure that the play tool truly meets children's needs. This also addresses criticisms toward previous studies that often overlooked the involvement of literacy experts and educational practitioners in the validation process. Therefore, this study has dual significance: theoretically enhancing understanding of reading literacy development through educational play tools, and practically providing a real solution for improving instructional quality in PAUD, particularly at Integrated Islamic Kindergarten (TKIT An-Nahl). The presence of the Scripta Educational Play Tool is expected to bridge the needs of children, teachers, and educational institutions in delivering interactive, enjoyable, and meaningful literacy learning.

METHODS

Research Design

This study employed a Research and Development (R&D) approach using the ADDIE model (Analysis, Design, Development, Implementation, Evaluation) as the primary framework. The R&D approach was selected because it enables the development of an innovative product while simultaneously examining its effectiveness within real instructional settings. The ADDIE model was used to structure the research process systematically, beginning with needs analysis, followed by media design, prototype development and expert validation, limited classroom implementation, and both formative and summative evaluations. Research data were collected through

observations, interviews, validation sheets, teacher questionnaires, and children's literacy tests. Qualitative data were analyzed descriptively, whereas quantitative data obtained from expert validation scores and teacher responses were used to assess the feasibility and effectiveness of the media.

Research Procedure

The research procedure followed the ADDIE model, with a primary focus up to the Development stage. The analysis phase involved identifying literacy needs through curriculum review, initial assessments of children's literacy abilities, classroom observations, and an examination of existing media. The design phase consisted of constructing the Scripta framework, which included determining the content (letters, images, and vocabulary), visual design, and activity flow. The development phase involved creating a prototype of the media consisting of 26 alphabet cards, conducting validation by material experts, media experts, and practitioners, and revising the product based on their feedback. The implementation phase consisted of a limited trial with children in Group B to examine usability and learner responses. The evaluation phase included formative evaluation during expert validation and pilot testing, followed by summative evaluation based on comparisons of children's literacy outcomes before and after using Scripta.

Research Setting and Time

The study was conducted at Integrated Islamic Kindergarten (TKIT) An Nahl, located at Jl. Raya Chandra Baru No. 49, Jati Rahayu, Pondok Melati, Bekasi. This school is an integrated Islamic early childhood education institution situated in an urban area with a diverse student background. The research activities were carried out from April to August 2025, covering preparation, media development, expert validation, limited trials, product revision, and classroom implementation. The selection of the research site was based on several considerations: alignment of the curriculum with play-based and thematic approaches, availability of target learners aged 5–6 years, strong school support and teacher involvement, adequate learning facilities, and the researcher's linkage with the institution.

Characteristics of Research Subjects

The research subjects consisted of children aged 5–6 years (Group B) at TKIT An Nahl. This age group was selected because it represents a critical period in early literacy development, during which children begin recognizing letters, phonemes, and basic vocabulary. The learners came from diverse socioeconomic, linguistic, and literacy experience backgrounds, allowing for a comprehensive understanding of the media's application. In addition to children, teachers were also involved as practitioners during both the validation process and classroom implementation. Their role as facilitators and evaluators was essential to ensure that Scripta was not only effective for children but also practical for daily instructional use.

Data Analysis

Quantitative data from expert validation were analyzed using descriptive statistics, including mean scores and Aiken's V index. Student learning outcomes from pre-test and post-test measures were compared descriptively to identify improvements in literacy skills. Meanwhile, qualitative data from observations were analyzed thematically to illustrate children's engagement and responses during the use of the media.

RESULTS AND DISCUSSION

Model Development

Needs Analysis Results

The needs analysis was conducted to obtain an accurate picture of early reading literacy conditions among young children at the Integrated Islamic Kindergarten (TKIT An-Nahl), while also determining the direction for developing the Scripta Educational Play Tool (APE Scripta). This stage served as the foundation for designing a product relevant to learners, teachers, and curriculum requirements.

Classroom observations, teacher interviews, and curriculum document reviews show that the reading literacy abilities of children aged 5–6 remain varied. Most children can recognize several letters, but are not yet consistent in identifying initial letter sounds, connecting letters with words, or understanding the function of written text. This reflects a gap between current achievements and the literacy development indicators in the *Standar Tingkat Pencapaian Perkembangan Anak* (STPPA) under the Merdeka Curriculum for Early Childhood Education.

Teachers emphasized that learning media are still limited to textbooks, student worksheets, and simple flashcards. These media lack visual appeal and interactivity, causing children to quickly become bored and lose focus. This highlights the need for media that are enjoyable, easily integrated into thematic learning, and supportive of play-based learning approaches. Beyond pedagogical aspects, the needs analysis also identified the importance of integrating Islamic values. Vocabulary included in the media must be contextual and infused with religious meaning, such as “Qur'an” for the letter Q or “Mosque” for the letter M. This integration aligns with the identity of the Integrated Islamic Kindergarten and functions as an instrument for early character formation. A summary of the needs analysis is presented in Table 1.

Table 1. Needs Analysis of Literacy Media at Integrated Islamic Kindergarten (TKIT An-Nahl)

Aspect of Analysis	Findings in the Field	Implications for Media Development
Children's Literacy Condition	Knows several letters; difficulty identifying initial sounds, connecting letters with words, distinguishing vowels and	Media must emphasize phonetic approaches to strengthen phonological awareness

	consonants	
Media Used	Textbooks, worksheets, simple flashcards; visually less appealing and non-interactive	Media must be attractive, colorful, and interactive
Learning Context	Play-based and integrated thematic learning	Media must align with play-based learning
Islamic Values	Teachers expect Islamic vocabulary	Media must integrate Islamic vocabulary
Children's Characteristics	Aged 5–6, a critical stage of early literacy	Media must be child-friendly, easy to handle, and aligned with cognitive and social development

These findings confirm the relevance of developing Scripta as a contextual, enjoyable, and Islamic literacy media tool.

Model Draft 1

Model Draft 1 is the initial design of Scripta developed based on the needs analysis. This draft serves as a simple prototype before expert and practitioner validation. The product is not merely an ordinary flashcard set, but a medium designed to support phonological awareness, letter recognition, and vocabulary expansion through a play-based learning approach. Draft 1 consists of illustrated flashcards in A6 size, practical for classroom use. Each card displays uppercase and lowercase letters, concrete illustrations, and simple words corresponding to each letter. The visual design uses bright colors, child-friendly illustrations, and clear typography. Islamic vocabulary is included, such as “Mosque” (M) and “Qur’an” (Q). The product specifications are shown in Table 2.

Table 2. Specifications of Draft 1 — Scripta Educational Play Tool

Aspect	Draft 1 Description
Form	Illustrated A6 flashcards, total 26 cards (A–Z)
Content	Uppercase & lowercase letters, concrete images, simple words
Visual Design	Bright colors, child-friendly illustrations, large and clear typography
Phonetic Approach	Introduction to initial letter sounds
Material	Laminated art carton/duplex, child-safe and durable
Contextualization	Islamic vocabulary and local culture
Guide	Simple instructions for teachers and parents

The simple user guide helps teachers and parents optimize the media in learning. However, Draft 1 still has limitations: some vocabulary is less contextual, word variations are limited, and the learning guide remains basic. Therefore, Draft 1 serves as the foundation for further revisions melalui expert validation.

Model Draft 2

Model Draft 2 is an improved version of Draft 1, based on feedback from material experts, media experts, and early childhood practitioners. Overall, Scripta was declared feasible to use, but several aspects required improvement: 1) Vocabulary: abstract words were replaced with concrete, child-friendly words; 2) Visual design: color harmony and clearer illustrations to avoid visual distractions; 3) Learning activities: additional interactive games such as matching cards, literacy snakes-and-ladders, and a simple literacy monopoly game. These improvements strengthen vocabulary, visual quality, and Islamic values in alignment with the identity of the Integrated Islamic Kindergarten (TKIT An-Nahl). Draft 2 materials are more systematic to support early literacy indicators.

Table 3. Composition of Scripta Draft 2 Materials

Aspect	Description
Early Reading Literacy Concepts	Basic early literacy foundations and stimulation
Letter & Phonetic Materials	Concrete images; words from children's daily experiences
Flashcard Design	Attractive visuals, harmonious colors, simple and child-friendly
Educational Games	Literacy snakes-and-ladders & simple monopoly
Islamic Vocabulary	Relevant to the identity of Integrated Islamic Kindergarten (TKIT An-Nahl)

Draft 2 also includes learning activities as shown in Table 4.

Table 4. Activities Included in Scripta Draft 2

No.	Learning Objective	Activity	Method
1	Recognizing letters and sounds	Flashcard games (letters & images)	Play-Based Learning
2	Enhancing vocabulary	Simple word monopoly game	Problem-Solving
3	Improving social interaction	Group literacy snakes-and-ladders game	Social Interaction
4	Associating images & words	Matching image cards with words	Adaptive Learning
5	Encouraging reading interest	Reading short illustrated stories	Literacy Engagement

With these revisions, Draft 2 becomes more comprehensive. The product includes alphabet cards, a learning module, and diverse activities. Practical guidance ensures that Scripta can be integrated into thematic play-based learning.



Figure 1. Scripta Product

Empirical Practicality Test

Based on the empirical practicality test, it can be concluded that the Scripta Educational Play Tool (APE Scripta) is highly practical for teachers to use in early reading literacy instruction. The play-based components of the media helped children become more focused and enthusiastic, particularly because the vocabulary used was familiar to their daily lives and infused with Islamic values in alignment with the identity of the Integrated Islamic Kindergarten (TKIT An-Nahl).

Regarding the time allocation aspect (84%), teachers assessed that the media could be used effectively within the allotted instructional time. The activities were not too lengthy, preventing children from becoming easily bored, yet remained adequately challenging to sustain their attention. Several teachers suggested allowing additional flexibility in adjusting session duration—for instance, shortening the activities for children who become bored quickly or extending them for children who are highly enthusiastic.

For the media attractiveness aspect (82%), although still categorized as “Practical,” the score was relatively lower compared to other aspects. Teachers acknowledged that the media design was sufficiently appealing with appropriate

illustrations, but recommended adding more variety with livelier colors and additional types of activities to prevent monotony. Some teachers also suggested that the media should not focus solely on alphabet cards and should be expanded into more advanced gameplay options as children's developmental needs progress.

Overall, the empirical practicality test demonstrates that APE Scripta is easy to understand, meets instructional needs, and significantly assists teachers in literacy instruction. Minor improvements such as enhancing activity variations and refining visual design serve as valuable suggestions for future development.

Media Effectiveness Test

The effectiveness of the media was examined through a limited implementation involving 12 children from Group B at the Integrated Islamic Kindergarten (TKIT An-Nahl). This trial aimed to determine the extent to which APE Scripta could improve early reading literacy skills, particularly letter recognition, initial sound awareness, and mastery of simple vocabulary. Literacy assessments were conducted in two stages: a pretest (before using the media) and a posttest (after using the media).

Pretest Results

The pretest was conducted to map the children's initial literacy abilities. The results show that most of the children were still in the **low category**.

Table 4. Pretest Literacy Results

Respondent	Pretest Score	Category
A	40	Low
B	41	Low
C	44	Low
D	46	Medium
E	42	Low
F	52	Medium
G	42	Low
H	21	Low
I	40	Low
J	41	Low
K	38	Low
L	36	Low

Source: Author, 2025

From the 12 children, 10 children (83.3%) were in the low category, 2 children (16.7%) in the medium category, and none in the high or very high categories. The lowest score was achieved by respondent H (21), while the highest score prior to intervention was 52 achieved by respondent F.

These findings show that children's early reading literacy abilities were still very limited, necessitating a learning media that is visually engaging and developmentally appropriate.

Posttest Results

After instructional sessions using APE Scripta, a posttest was conducted to measure children's progress.

Table 5. Posttest Literacy Results

Respondent	Posttest Score	Category
A	80	Very High
B	67	High
C	76	Very High
D	84	Very High
E	62	High
F	72	High
G	75	High
H	63	High
I	84	Very High
J	72	High
K	71	High
L	63	High
<i>Source: Author, 2025</i>		

The posttest results show significant improvements for all children. 5 children (41.7%) achieved the Very High category (76–84). 7 children (58.3%) achieved the High category (61–75). No children remained in the Low or Medium categories.

Pretest–Posttest Comparison

A comparison between pretest and posttest scores shows notable improvements: 1) Respondent H improved from 21 (Low) to 63 (High), a 42-point increase; 2) Respondent F improved from 52 (Medium) to 72 (High), a 20-point increase; 3) Respondents A (40 → 80) and I (40 → 84) showed drastic improvements into the Very High category. Before intervention, most children were in the Low category. After intervention, **100%** of the children reached High or Very High categories.

Effectiveness Conclusion

The pretest–posttest results demonstrate that APE Scripta: 1) Enhances children's ability to recognize letters and sounds through a phonetic approach; 2) Expands vocabulary mastery, especially Islamic vocabulary relevant to the school's identity; 3) Increases children's reading interest and behavioral engagement through flashcards, snakes-and-ladders literacy games, and simple literacy monopoly; 4)

Produces positive effects across all learners without leaving any child in the lower categories. Thus, Scripta educational toys is effective in improving early reading literacy and aligns well with the instructional needs at the Integrated Islamic Kindergarten (TKIT An-Nahl).

Discussion

This discussion explains how the findings of the development of the Scripta Educational Play Tool can be interpreted within the framework of early childhood literacy theory and previous empirical studies. Rather than merely describing data, this section interprets the results through theoretical lenses including phonetic theory, play-based learning theory, and the concept of teacher mediation (Salum et al., 2024). Thus, the discussion provides a comprehensive answer to the research questions concerning the development process, theoretical feasibility, empirical feasibility, and effectiveness of the resulting model.

The development process followed the ADDIE framework, beginning with needs analysis and continuing through to the formation of the final model. The needs analysis revealed a significant gap between children's literacy conditions and developmental standards, establishing theoretical relevance for product development. The initial design (Draft 1) focused on alphabet flashcards and was refined through expert and practitioner feedback (Saleha et al., 2022). This reflects Borg and Gall's development research principle of iterative refinement as a mechanism for product improvement.

Expert validation results for Draft 2 yielded an average score of 81.5 percent, categorized as feasible. This rating indicates that the media aligns with early childhood literacy principles, particularly introducing letters and vocabulary through enjoyable activities. Several comments such as the need for more concrete vocabulary, more child-suitable font sizes, and more harmonious color selection are consistent with cognitive multimedia learning theory, which emphasizes readability and cognitive load management.

Material experts highlighted that vocabulary should be closely tied to children's real-world experiences for comprehension to occur. This recommendation aligns with early childhood language development theory, which asserts that children aged five to six still engage in concrete thinking (Gee, 2012; Kurniawati et al., 2024). Therefore, revising vocabulary is not merely a technical improvement but a theoretical necessity supporting appropriate literacy development.

Media experts evaluated the visual appearance as reasonably appealing but expressed concerns about excessive color contrast. This finding supports instructional design theory, which emphasizes balanced visual composition as a key factor in effective educational media. Harmonizing colors and refining illustrations help children focus on essential content, aligning with cognitive load theory's suggestion to minimize visual distractions.

Early childhood practitioners suggested adding more activity variations to prevent boredom and to provide broader learning opportunities. Nago et al., (Nago et al., 2025) This aligns with play-based learning theory, which emphasizes the importance of diverse experiences. Added activities such as image–word matching, snakes-and-ladders, and literacy monopoly reflect how the media accommodates diverse learning experiences to improve literacy skills.

The practicality test involving five teachers produced an average score of 85.8 percent, categorized as very practical. This finding indicates that teachers the primary users could easily understand the media guide, implement the activities, and adjust instructional time. Theoretically, this reinforces Vygotsky’s scaffolding concept, wherein teachers act as facilitators mediating children’s interaction with instructional materials (Al Shloul et al., 2024; Nurtaniawati, 2019). Clear guidance enhances teachers’ capacity to provide appropriate support within children’s zones of proximal development (ZPD).

Teachers also noted the need for adjustments to better suit classroom dynamics. They suggested flexible instructional timing to prevent children from feeling rushed. This aligns with early childhood learning theory, which emphasizes flexible learning rhythms appropriate to children’s limited attention spans. Hence, practicality is not only a technical matter but intrinsically linked to developmental characteristics.

The effectiveness data based on pretest and posttest comparisons show significant improvements. Before intervention, most children were classified as Low, while after using the media all children reached High to Very High categories. This finding reinforces the phonics-based literacy model, which highlights the importance of connecting sounds and letters as foundational literacy skills. Enhanced scores demonstrate that phonics-based play activities effectively accelerate early literacy mastery (Maulani et al., 2025; Putra & Ahmadi, 2021)..

Large score increases among children with lower initial abilities suggest that the media effectively supports learners with literacy gaps. This aligns with previous research indicating that children with lower abilities benefit most from interactive, play-based interventions. Thus, APE Scripta is not only effective for average learners but also shows potential as an inclusive intervention for children with literacy difficulties.

Consistent with earlier studies, these findings highlight the importance of play-based media in enhancing children’s reading motivation. Vygotsky, (1978) Research by Justice and colleagues, for example, found that integrating play with literacy significantly improves children’s engagement and learning outcomes. This research extends previous evidence by showing that play-based media not only increase motivation but also produce measurable literacy gains, particularly when embedded within local cultural and religious contexts.

Additionally, the study found that children were highly engaged and enthusiastic during activities. This can be explained through learning motivation theory, which suggests that enjoyable experiences enhance intrinsic motivation (Hanifa & Hidayah,

2025). In this case, APE Scripta functions as both a cognitive tool and an affective instrument that fosters positive attitudes toward reading an essential prerequisite for long-term literacy development.

Despite these promising findings, certain limitations must be acknowledged. The small sample size only 12 children from one institution limits the generalizability of the results. Furthermore, the practicality test involved teachers from the same institution, posing potential rating bias (Masykuroh & Wahyuni, 2023; Nago et al., 2025). These limitations highlight the need for research replication in diverse settings to validate consistency across contexts.

The pedagogical implications of this study are significant. Teachers can adopt this media as an enjoyable and effective alternative for literacy instruction, while schools can integrate it into structured literacy programs. With minimal training and basic infrastructure, the media can be implemented sustainably in classrooms (Hasanah & Deiniatur, 2019; Ramadhan, 2023). Theoretically, this supports the notion that successful early literacy development relies not only on instructional methods but also on supportive learning ecosystems.

The contribution of this study lies in integrating phonetic concepts, interactive play elements, and Islamic cultural context into one comprehensive media package. Previous studies typically emphasized only one of these aspects such as flashcards alone or interactive games without cultural relevance. Thus, APE Scripta offers a holistic approach relevant to local needs while grounding its design in cognitive, affective, social, and cultural dimensions of early literacy development.

CONCLUSION

The development and implementation of the Scripta Educational Play Tool at the Integrated Islamic Kindergarten (TKIT An-Nahl) demonstrate that this media is a feasible, practical, and pedagogically effective resource for strengthening early reading literacy. The findings reveal that Scripta successfully enhances children's recognition of letters and sounds, enriches vocabulary, and increases enthusiasm for reading through visually appealing and play-based activities grounded in Islamic values. Its acceptance by teachers shows that the media not only supports classroom literacy practices but also offers a flexible and engaging tool aligned with children's developmental needs. These results imply that integrating interactive, culturally relevant learning tools can substantially improve literacy foundations in early childhood settings. Future work may focus on expanding the use of Scripta in more diverse educational contexts and refining its content for broader inclusivity and long-term instructional sustainability.

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