

A NEEDS ANALYSIS OF READING MEDIA THAT SUPPORT BEHAVIORAL READING ENGAGEMENT AND SDG 16 VALUES AT TELKOM KINDERGARTEN SINGARAJA

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Diterima: 3/7/2026; Direvisi: 13/7/2026; Diterbitkan: 27/7/2026

ABSTRACT

Pengalaman membaca pada anak usia dini tidak hanya dipengaruhi oleh keberadaan buku cerita, tetapi juga oleh sejauh mana media yang digunakan mampu mendorong keterlibatan aktif selama proses *shared reading*. Kondisi tersebut masih menjadi tantangan di beberapa kelas taman kanak-kanak karena karakteristik media yang tersedia belum sepenuhnya mendukung interaksi, partisipasi, maupun pengenalan nilai-nilai sosial yang relevan dengan *Sustainable Development Goals (SDG) 16*. Atas dasar itu, penelitian ini diarahkan untuk mengidentifikasi kebutuhan guru dan anak terhadap media membaca yang mampu memperkuat *behavioral reading engagement* sekaligus mengintegrasikan nilai-nilai *Peace, Justice, and Strong Institutions* pada konteks pembelajaran di TK Telkom Singaraja. Pendekatan kualitatif deskriptif diterapkan dengan melibatkan satu orang guru dan 20 anak usia 5–6 tahun. Informasi diperoleh melalui observasi kegiatan membaca dan wawancara *semi-structured*, kemudian diorganisasi ke dalam kategori *learning needs* dan *target needs* sebelum dianalisis secara deskriptif. Temuan memperlihatkan bahwa media membaca yang digunakan belum sepenuhnya mendukung interaksi selama *shared reading*, sehingga keterlibatan anak dalam mengikuti kegiatan membaca masih terbatas. Analisis kebutuhan mengarah pada karakteristik media berupa buku berukuran besar, ilustrasi yang menarik, cerita kontekstual dan interaktif, konten bilingual sederhana, serta integrasi nilai-nilai *SDG 16*. Penelitian ini menghasilkan landasan empiris bagi pengembangan media membaca yang menghubungkan penguatan literasi, pembentukan karakter, dan peningkatan *behavioral reading engagement* dalam pembelajaran anak usia dini.

Kata Kunci: *Behavioral Reading Engagement, Analisis Kebutuhan, Media Membaca, Pendidikan Anak Usia Dini, SDG 16*

ABSTRACT

Reading experiences in early childhood are shaped not only by the availability of storybooks but also by the extent to which reading media encourage children's active participation during *shared reading*. This issue remains evident in several kindergarten classrooms, where existing reading materials have yet to fully support interaction, engagement, or the integration of social values aligned with *Sustainable Development Goal (SDG) 16*. In response to this context, the present study aimed to identify teachers' and children's needs for reading media capable of fostering *behavioral reading engagement* while simultaneously incorporating the values of *Peace, Justice, and Strong Institutions* within classroom learning. A descriptive qualitative approach was employed involving one classroom teacher and 20 children aged 5–6 years at Telkom Kindergarten Singaraja. Data were collected through classroom observations and *semi-structured* interviews, then organized into the categories of *learning needs* and *target needs*.

prior to descriptive analysis. The findings revealed that the existing reading media had not adequately facilitated interactive *shared reading*, resulting in limited behavioral engagement among children during literacy activities. The needs analysis identified several essential characteristics of future reading media, including a large-format design, attractive illustrations, contextual and interactive stories, simple bilingual content, and the integration of *SDG 16* values. This study proposes a needs-based framework for developing reading media that integrates *behavioral reading engagement*, bilingual learning, and *SDG 16* values, providing a conceptual foundation for literacy media development in early childhood education.

Keywords: *Behavioral Reading Engagement, Needs Analysis, Reading Media, Early Childhood Education, SDG 16*

INTRODUCTION

Children's encounters with books during the preschool years represent more than an introduction to printed language because these experiences simultaneously shape how they observe, interpret, and communicate with the surrounding world. Within classroom settings, meaningful literacy experiences emerge when children are encouraged to negotiate ideas through conversation, visual exploration, and imagination instead of merely listening to stories delivered by teachers. Under these circumstances, *shared storybook reading* becomes a social activity in which language acquisition develops alongside curiosity, self-confidence, and communicative competence rather than as an isolated literacy exercise (Nurhillal et al., 2025; Zulaeha & Setiasih, 2025). This perspective is further strengthened when storytelling is accompanied by picture books that allow children to associate spoken language with visual cues, creating richer opportunities for constructing meaning within authentic learning situations (Aisyah et al., 2026). Consequently, literacy experiences in early childhood are better understood as dynamic interactions among children, teachers, stories, and visual representations that collectively contribute to cognitive, linguistic, social, and emotional development.

Rather than being determined solely by children's ability to recognize written words, the educational quality of reading activities is closely associated with the extent to which learners become active participants throughout the storytelling process. Observable behaviours such as maintaining attention, asking questions, responding to story events, predicting outcomes, and interacting with peers illustrate the practical manifestation of *behavioral reading engagement*, where understanding develops through reciprocal communication instead of passive reception. Such interactions enable children to interpret narratives collaboratively while sustaining learning motivation over longer periods, thereby enriching both literacy development and classroom communication (Widiati et al., 2023; Zhu et al., 2023). As a result, reading sessions that deliberately provide opportunities for dialogue and collaborative meaning-making create educational experiences that extend well beyond the objective of introducing written language.

A different picture emerged during preliminary observations conducted at Telkom Kindergarten Singaraja, where the instructional resources used for classroom reading appeared less capable of facilitating the kind of interaction expected in contemporary early childhood literacy. The storybooks available for *shared reading* were relatively small, contained limited illustrations, and relied predominantly on written text, making it difficult for all children to access visual information simultaneously while reducing opportunities for spontaneous discussion. Similar instructional challenges have also been identified in studies reporting that reading media designed with larger illustrations, contextual narratives, and interactive features provide more favourable conditions for sustaining children's participation and supporting beginning reading development than conventional storybooks (Yuliana & Westhisi, 2024;

Amelia et al., 2025; Khotimah et al., 2025). Complementary evidence further suggests that literacy environments offering developmentally appropriate and visually engaging reading materials encourage children to participate more willingly in classroom reading while cultivating stronger interest in books over time (Fitriani & Harjanty, 2023; Rusanti et al., 2025). Viewed from this perspective, the characteristics of instructional media become inseparable from the quality of children's literacy experiences because the design of reading resources directly influences how learners engage with stories.

Narrative experiences also create space for children to encounter social values in ways that are considerably more meaningful than direct moral instruction. Instead of introducing concepts such as empathy, fairness, cooperation, and peaceful behaviour through abstract explanations, contextual stories enable these values to be experienced within situations that resemble children's everyday interactions. Such an orientation corresponds with contemporary discussions on integrating the *Sustainable Development Goals* into early childhood education, where sustainability is positioned as an integral dimension of children's daily learning rather than as a separate curricular topic (Chapman & O'Gorman, 2022; Engdahl & Furu, 2022). Within this framework, SDG 16 provides relevant educational content for introducing peace, justice, respect for rules, and collaborative behaviour through age-appropriate narratives (Kowkas et al., 2024). Likewise, studies on picture-book-based learning demonstrate that stories become effective pedagogical vehicles for strengthening character formation because social values are more readily understood when embedded within familiar characters, events, and interactions instead of being presented as isolated behavioural expectations (Istiana & El-Yunusi, 2024).

Although considerable attention has been devoted to improving literacy instruction in recent years, the conversation has increasingly shifted from questioning whether children should read toward examining how reading environments shape children's willingness to participate. Attractive illustrations and larger book formats undoubtedly contribute to children's interest, yet the educational significance of reading media extends further when stories stimulate questioning, prediction, dialogue, and collaborative exploration throughout *shared reading*. Evidence from previous investigations indicates that *Big Book*-based instruction and other visually engaging learning resources promote stronger participation and support beginning literacy more effectively than conventional printed materials because children are invited to interact continuously with both stories and classmates (Yuliana & Westhisi, 2024; Khotimah et al., 2025). Comparable tendencies have also been reported in literacy programs emphasizing interactive instructional approaches, where children's motivation and classroom involvement increase as reading activities become more participatory rather than teacher-dominated (Muhria et al., 2025; Amelia et al., 2025). These developments suggest that instructional media should be evaluated not merely for their visual appeal but for their capacity to sustain meaningful engagement throughout the learning process.

Even so, the expanding body of literature surrounding literacy, instructional media, and sustainability education has largely evolved through parallel rather than intersecting scholarly discussions. Investigations addressing *reading engagement* have predominantly focused on learners in elementary and secondary education, whereas studies conducted within early childhood contexts have generally concentrated on language acquisition or beginning reading skills without examining children's observable engagement during literacy activities (Widiati et al., 2023; Zhu et al., 2023). At the same time, research exploring the implementation of the *Sustainable Development Goals* frequently positions sustainability as a distinct educational agenda, often emphasizing environmental awareness or character education instead of

embedding these dimensions within everyday literacy experiences for young children (Chapman & O'Gorman, 2022; Engdahl & Furu, 2022; Kowkas et al., 2024). Likewise, investigations concerning character formation through picture books have rarely considered how social values and *behavioral reading engagement* might function simultaneously within the same instructional design (Istiana & El-Yunusi, 2024). This fragmentation leaves unanswered questions regarding the characteristics of reading media capable of integrating literacy participation, social values, and classroom interaction into a coherent pedagogical framework suitable for kindergarten education.

Responding to such questions requires a perspective that extends beyond curriculum alignment or aesthetic considerations in media development. Educational resources become genuinely relevant when they emerge from careful examination of children's developmental characteristics, teachers' instructional expectations, and the realities encountered during everyday classroom practice. From this standpoint, *needs analysis* functions as a strategic process that identifies instructional priorities before development begins, thereby reducing the possibility that educational products reflect theoretical assumptions more than authentic classroom demands (Maisarah et al., 2025; Meno et al., 2024). Classroom observations undertaken at Telkom Kindergarten Singaraja reinforced this necessity because the available reading materials had not yet provided sufficient opportunities for active participation, visual accessibility, or meaningful integration of social values within storytelling activities. Accordingly, understanding classroom needs becomes an essential foundation for designing instructional media that respond directly to educational practice rather than relying exclusively on conceptual expectations.

Against this background, the present study investigates both *learning needs* and *target needs* associated with the development of reading media intended to strengthen *behavioral reading engagement* while introducing educational values reflected in SDG 16. Instead of positioning literacy development, bilingual exposure, and character education as independent instructional objectives, the study conceptualizes these dimensions as complementary elements that may coexist within a single literacy resource designed for young learners. Such an orientation represents the principal contribution of the present research because it integrates three educational domains that have commonly been explored separately while grounding the proposed framework in empirical evidence derived from authentic classroom conditions. The anticipated outcomes include the identification of reading media characteristics that correspond with children's developmental stages, teachers' instructional expectations, and broader educational priorities, including contextual storytelling, interactive learning experiences, visually accessible illustrations, and simple bilingual vocabulary (Kurniawati et al., 2026). By offering this integrated perspective, the study seeks to provide a stronger conceptual and empirical basis for the future development of literacy media capable of simultaneously supporting language development, classroom participation, and children's understanding of positive social values in early childhood education.

RESEARCH METHOD

The study was carried out at Telkom Kindergarten Singaraja, where classroom reading activities involving children aged 5–6 years served as the primary setting for exploring the characteristics of reading media needed to promote *behavioral reading engagement* while incorporating the values of *Peace, Justice, and Strong Institutions (SDG 16)*. Data collection was conducted from April to May 2025 after permission had been obtained from the school principal and informed consent had been secured from the participating classroom teacher. One

classroom teacher and twenty children were selected through *purposive sampling* because they were actively involved in routine *shared reading* activities and were considered capable of providing information relevant to the objectives of the study. Rather than examining learning outcomes, the investigation focused on understanding classroom experiences and identifying educational needs that could serve as the basis for developing more appropriate reading media. To achieve this objective, a *descriptive qualitative* approach was employed to capture authentic classroom conditions and participants' perspectives within their natural learning environment.

Information was generated through continuous classroom observations followed by *semi-structured interviews*, allowing evidence obtained from one technique to complement and verify the other. During classroom observations, attention was directed toward the characteristics of the reading media, children's attentiveness, participation, verbal responses to story content, interactions between teachers and children, peer interactions, and the integration of *SDG 16* values throughout the reading activities. The interviews explored teachers' perspectives regarding the strengths and limitations of the existing reading media, expectations for future instructional materials, the inclusion of simple bilingual content, and the integration of values such as fairness, cooperation, peaceful behaviour, and respect for classroom rules. Both instruments were organized around two analytical domains, namely *learning needs* and *target needs*, to ensure consistency between the observation and interview data. The credibility of the findings was strengthened through *method triangulation* by comparing classroom observations with interview results, after which the preliminary interpretations were confirmed with the participating teacher to ensure that the findings accurately reflected classroom practices.

The analytical process was conducted concurrently with data collection so that emerging patterns could be examined continuously throughout the study. Observation notes and interview transcripts were first organized and reviewed repeatedly to identify recurring behaviours, responses, and classroom situations related to the use of reading media. Similar pieces of information were then coded manually and grouped into broader categories representing *learning needs* and *target needs*, enabling relationships among categories to be interpreted systematically. Emphasis was placed on identifying consistent patterns across the different data sources rather than relying on isolated statements from participants. The findings were ultimately presented through descriptive narratives supported by summary tables to provide a comprehensive picture of the characteristics of reading media considered appropriate for strengthening children's *behavioral reading engagement* while integrating the educational values promoted through *SDG 16*.

RESULT AND DISCUSSION

Result

1. Learning Needs

Classroom reading activities were first documented through direct observations to obtain an overview of the learning conditions experienced by children during *shared reading*. Attention was directed not only to the physical characteristics of the reading media but also to children's participation, classroom interaction, and the presence of social values embedded in the stories. These observations generated empirical information describing the learning situation before the development of new instructional media. The complete observation findings are presented in Table 1.

Table 1. Observation Results on Learning Needs

Observed Aspect	Observation Findings
Reading media	Storybooks used during classroom reading activities were relatively small for <i>shared reading</i> .
Illustrations	Books contained limited visual illustrations and were dominated by written text.
Story content	Stories were short but provided limited opportunities for interaction during reading.
Children's attention	Several children gradually lost attention before the reading activity ended.
Children's participation	Only a few children voluntarily answered the teacher's questions or commented on the story.
Teacher–student interaction	Interaction mainly occurred when the teacher asked direct questions to the class.
Student interaction	Limited interaction among students was observed during reading activities.
Integration of <i>SDG 16</i> values	Storybooks did not explicitly present themes related to peace, fairness, empathy, or conflict resolution.

The information summarized in Table 1 represents classroom conditions observed during routine reading activities involving children aged 5–6 years. The recorded evidence encompasses the characteristics of the books, children's responses throughout the reading session, classroom interaction, and the representation of social values within the existing reading materials. Rather than focusing on a single aspect, the observations captured multiple elements that together describe the current learning context. These empirical records subsequently became one source of information for identifying classroom needs related to future reading media.

2. Target Needs

Following the classroom observations, additional information was obtained through *semi-structured interviews* with the classroom teacher to explore expectations regarding future reading media. The interview focused on instructional experiences, preferred media characteristics, and classroom practices considered appropriate for children aged 5–6 years. Responses also included suggestions concerning bilingual exposure and the incorporation of values associated with *Peace, Justice, and Strong Institutions (SDG 16)*. A summary of the interview findings is provided in Table 2.

Table 2. Interview Results on Target Needs

Category	Teacher's Responses
Book size	Reading media should have a larger format to facilitate <i>shared reading</i> .
Illustrations	Illustrations should be colorful, attractive, and clearly visible to all children.
Story content	Stories should reflect children's daily experiences and use simple language.
Interactive elements	Reading materials should encourage children to answer questions, predict story events, and participate actively.

Category	Teacher's Responses
<i>SDG 16</i> values	Stories are expected to introduce sharing, fairness, empathy, peaceful behaviour, cooperation, and respect for rules.
Bilingual content	Reading media should include simple English vocabulary alongside Indonesian text.
Reading activities	Media should support interactive classroom reading rather than teacher-centered storytelling.

The responses presented in Table 2 describe the characteristics expected by the classroom teacher for future reading media used during literacy activities. Expectations extend beyond the visual appearance of the books and also include story organization, classroom interaction, language exposure, and the integration of social values within reading activities. Each category reflects practical considerations derived from everyday teaching experiences rather than hypothetical preferences. Together, these responses provide complementary information regarding instructional needs identified in the research setting.

3. Synthesis of Needs Analysis

Information gathered from classroom observations and teacher interviews was subsequently organized into a single synthesis to facilitate comparison between existing classroom conditions and expectations for future instructional media. Bringing together both sources of evidence made it possible to present the identified needs within one integrated framework without separating classroom experiences from teachers' perspectives. The resulting synthesis highlights the relationship between empirical classroom findings and the characteristics expected in future reading media. This integrated summary is presented in Table 3.

Table 3. Synthesis of Reading Media Needs Analysis

Needs Category	Identified Findings	Reading Media Characteristics Required
Learning Needs	Storybooks were relatively small.	Large-format books suitable for <i>shared reading</i> .
Learning Needs	Illustrations were limited.	Attractive, colorful, and clearly visible illustrations.
Learning Needs	Children's participation during reading was limited.	Interactive activities embedded within the story.
Learning Needs	Student interaction occurred infrequently.	Storylines encouraging discussion and responses.
Target Needs	Teachers expected contextual stories.	Stories related to children's everyday experiences.
Target Needs	Teachers requested integration of <i>SDG 16</i> values.	Stories containing peace, fairness, empathy, cooperation, and respect for rules.
Target Needs	Teachers expected bilingual exposure.	Reading media incorporating simple English vocabulary.

Needs Category	Identified Findings	Reading Media Characteristics Required
Target Needs	Teachers preferred active classroom reading.	Reading materials designed to facilitate interactive <i>shared reading</i> .

The synthesis displayed in Table 3 combines information obtained through both data collection techniques into a unified description of classroom needs related to reading media. Classroom observations contribute evidence concerning existing instructional conditions, whereas interview responses provide complementary information regarding the characteristics expected by the teacher. Presenting both sources within the same framework enables the identified needs to be viewed as interconnected components rather than as separate findings. This synthesis serves as the empirical foundation for the discussion concerning the development of reading media designed to strengthen children's *behavioral reading engagement* while incorporating the values of *Peace, Justice, and Strong Institutions (SDG 16)*.

Discussion

Children's willingness to remain involved throughout classroom reading appears to be influenced less by the availability of books than by the social environment created during the reading event itself. The classroom observations revealed that opportunities for children to respond, negotiate meaning, and contribute their own ideas were relatively limited, suggesting that participation develops through interaction rather than through exposure to stories alone. This interpretation shifts attention from viewing literacy as an individual cognitive achievement toward understanding reading as a socially mediated learning experience in which communication becomes the mechanism through which meaning is gradually constructed. Such a perspective helps explain why storytelling accompanied by reciprocal dialogue has consistently been associated with stronger language growth and greater communicative confidence among young learners, as children continuously refine their understanding through exchanges with teachers and peers instead of functioning solely as passive listeners (Aisyah et al., 2026; Zulaeha & Setiasih, 2025). Consequently, the present findings indicate that *behavioral reading engagement* should be interpreted not merely as children's observable participation but as evidence of a learning environment that successfully transforms storytelling into an interactive literacy experience.

Looking beyond children's responses, the characteristics of the reading materials themselves also reveal how instructional resources shape classroom interaction. The relatively small book format and limited visual representations observed in this study did not simply reduce children's ability to see story illustrations; they also narrowed the shared visual focus that normally encourages collective discussion during *shared reading*. In this context, illustrations function as cognitive and communicative mediators because they provide common reference points that allow children to interpret stories together, ask questions, and formulate predictions while following the narrative. Similar educational functions have been documented in studies reporting that instructional media designed with richer illustrations and larger formats create more favorable conditions for children's comprehension and classroom participation than conventional storybooks (Amelia et al., 2025). Comparable conclusions regarding *Big Book* media likewise emphasize that enlarged visual presentation expands opportunities for collaborative observation while simultaneously strengthening children's confidence and willingness to engage throughout literacy activities (Khotimah et al., 2025). Rather than

considering visual accessibility as a supplementary design feature, the present findings suggest that it represents one of the pedagogical foundations upon which meaningful literacy interaction is built.

An equally important insight emerging from the interviews concerns the way teachers conceptualize literacy activities as spaces where multiple developmental objectives may converge naturally within a single instructional experience. Expectations regarding contextual stories, classroom dialogue, bilingual vocabulary, and the integration of positive social values reflect an instructional orientation that extends well beyond conventional reading instruction. Instead of separating language learning, communication skills, and character education into independent classroom activities, teachers appeared to envision reading media capable of accommodating these educational dimensions simultaneously through meaningful narratives. Such expectations resonate with discussions emphasizing that picture books become considerably more effective when teachers facilitate interaction instead of simply delivering stories, thereby encouraging children to participate actively in conversations surrounding the text (Rusanti et al., 2025). Educational innovations utilizing *digital storytelling* similarly demonstrate that bilingual exposure can be embedded naturally within narrative experiences, enabling children to encounter additional language input without interrupting the continuity of classroom interaction (Kurniawati et al., 2026). Viewed from this perspective, the interview findings illustrate a gradual shift in teachers' expectations from transmitting story content toward designing learning experiences that integrate literacy, communication, and language development within the same pedagogical process.

The broader educational implications of these findings become increasingly evident when children's participation is considered as part of their overall developmental experience rather than solely as an indicator of literacy achievement. Sustained engagement during storytelling appears to emerge when children experience emotional security, meaningful interaction, and sufficient opportunities to explore ideas within classroom activities that acknowledge their developmental characteristics. This interpretation broadens the discussion beyond reading performance by suggesting that classroom participation reflects the quality of the learning ecology surrounding children rather than the effectiveness of instructional media alone. Comparable perspectives have been reported in research demonstrating that *outdoor learning* encourages deeper participation because children are invited to explore authentic situations that stimulate cognitive, linguistic, emotional, and social development simultaneously (Asril et al., 2024). Likewise, *drama-based* learning environments strengthen empathy, confidence, and social interaction by positioning children as active participants in shared experiences instead of passive recipients of information (Armesto Arias et al., 2025). Taken together, these perspectives indicate that reading media should not be designed as isolated instructional tools but as integral components of broader learning environments capable of nurturing holistic child development through authentic participation and meaningful interaction.

When the classroom observations are interpreted together with the teacher interviews, the findings reveal more than a list of desired media characteristics. Instead, they illustrate a close relationship between everyday instructional realities and teachers' pedagogical expectations, indicating that educational resources become effective only when they are grounded in authentic classroom experiences. The emphasis placed by the participating teacher on interaction, contextual storytelling, and children's active participation suggests that instructional media should evolve from a systematic understanding of learners' needs rather than from assumptions regarding curriculum content alone. This interpretation aligns with

studies emphasizing that *needs analysis* provides an essential foundation for educational product development because it connects learners' developmental characteristics with instructional decision-making before media are designed (Meno et al., 2024). A comparable tendency has also been reported in community-based literacy initiatives, where children's reading engagement increases when literacy environments are developed from their actual experiences, interests, and learning contexts instead of relying exclusively on conventional instructional resources (Siboro et al., 2026). Accordingly, the present findings extend this perspective by demonstrating that contextual analysis is not merely a preliminary research activity but a pedagogical strategy that shapes the relevance and usability of future reading media.

Another dimension emerging from the analysis concerns the role of bilingual exposure within literacy activities. Rather than treating a second language as an additional academic target that competes with early literacy development, the participating teacher perceived simple English vocabulary as a natural extension of storytelling that could enrich children's language experiences without disrupting narrative comprehension. Such expectations imply that bilingual learning becomes more meaningful when unfamiliar vocabulary is introduced through illustrations, classroom interaction, and contextual narratives that provide immediate semantic support for young learners. Similar educational orientations have been documented in innovations employing *digital storytelling*, where language acquisition develops through meaningful communication instead of isolated vocabulary drills, allowing children to encounter two languages within authentic learning situations (Kurniawati et al., 2026). From a conceptual perspective, this finding broadens the discussion surrounding bilingual instruction by suggesting that language exposure is most effective when embedded within children's everyday literacy practices rather than delivered through separate instructional sessions. Consequently, bilingual reading media may contribute simultaneously to communication development, literacy engagement, and children's confidence in using simple English expressions during classroom interaction.

Although the present study focused on printed reading media, the findings also invite reflection on broader changes occurring within contemporary learning environments. Teachers' expectations regarding interaction and participation reveal that educational innovation is increasingly evaluated according to its capacity to sustain children's engagement rather than according to the technological sophistication of instructional resources themselves. Whether learning occurs through printed books or digital platforms, meaningful participation remains dependent upon thoughtful pedagogical design that encourages dialogue, exploration, and reciprocal communication throughout the learning process. This interpretation corresponds with evidence synthesized by Martin et al. (2025), demonstrating that educational technology contributes positively to children's learning only when its implementation minimizes unnecessary *digital distractions* and remains closely aligned with instructional objectives. Therefore, the present findings suggest that future reading media development should prioritize pedagogical quality, developmental appropriateness, and opportunities for interaction before considering the technological format through which stories are delivered.

Taken together, the present study contributes a broader conceptual understanding of how reading media may be positioned within early childhood education. The findings indicate that visual accessibility, contextual narratives, *behavioral reading engagement*, bilingual exposure, and the integration of SDG 16 values should not be interpreted as independent design components because each dimension reinforces the others in shaping children's classroom experiences. Unlike previous studies that predominantly examined early literacy, reading

engagement, bilingual learning, or character education as separate educational concerns, the present research demonstrates that these elements can be integrated within a single *needs-analysis* framework for developing reading media in kindergarten settings. This integrated perspective represents the principal contribution of the study because it extends existing discussions beyond improving storybook design toward understanding reading media as pedagogical resources capable of simultaneously supporting language development, social interaction, classroom participation, and value formation. Future research may build upon this framework by developing and experimentally evaluating reading media that embody these integrated characteristics across more diverse educational contexts, thereby generating stronger empirical evidence concerning their influence on children's literacy experiences and long-term *behavioral reading engagement*.

CONCLUSION

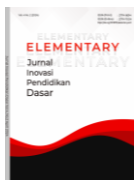
The present study reinforces the perspective that the development of reading media for *early childhood education* should originate from authentic classroom needs rather than from instructional assumptions alone. The identified needs indicate that effective reading media are characterized not only by visually accessible designs and contextual stories but also by opportunities that encourage children's active participation while integrating *behavioral reading engagement*, simple bilingual exposure, and the values of *Peace, Justice, and Strong Institutions (SDG 16)* within the same learning experience. This integrated perspective extends current discussions on literacy learning by positioning reading media as a pedagogical resource that simultaneously supports language development, social interaction, and character formation instead of treating these dimensions as separate educational objectives. Accordingly, the study contributes an evidence-based framework that may guide the design of reading media capable of responding more effectively to the developmental characteristics of young learners and the instructional realities encountered in kindergarten classrooms.

The implications of these findings extend beyond the development of instructional materials by offering practical guidance for teachers, curriculum developers, and educational media designers seeking to create more meaningful *shared reading* experiences. Designing reading media from a systematic *needs analysis* enables literacy activities to become more responsive to children's classroom participation while creating opportunities to introduce positive social values in contexts that are familiar and engaging for young learners. Although the framework proposed in this study was generated from a single kindergarten setting, it provides a foundation that can be adapted and refined across different educational contexts. Future investigations are therefore encouraged to develop and experimentally evaluate bilingual *Big Book* media integrating *SDG 16* values in broader *early childhood education* settings to examine their effectiveness in strengthening *behavioral reading engagement*, early literacy development, and children's understanding of positive social values.

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