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Measuring Digital Learning Trends and Accessibility Convenience in Enhancing Early Childhood Literacy and Language Proficiency: The Role of Smart Book Media from the Perspective of Banten Javanese Language

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ABSTRACT: This study explores the relationships between digital learning trends, accessibility convenience, smart book media, early childhood literacy, and language proficiency in Banten Javanese Language. Using a quantitative approach with 140 young learners (aged 10-12), we assessed how digital learning trends and accessibility convenience impact smart book media, early childhood literacy, and language proficiency. Results show that digital learning trends notably affect smart book media's functionality, contributing to developing early childhood literacy and language skills. Additionally, accessibility convenience is crucial in enhancing smart book media's utility, fostering early childhood literacy and language proficiency. However, while smart book media significantly influence language skills and early childhood literacy, they don't mediate the connections between digital learning trends, accessibility convenience, and these language-related outcomes. Educators and stakeholders can utilize these findings to shape culturally sensitive language education strategies, incorporating technology and resource accessibility. This research enriches the theoretical understanding of digital learning trends and accessibility convenience's impact on language outcomes. It highlights the practical potential of smart book media in language education, aiding educators and policymakers in aligning strategies with contemporary trends and cultural nuances. While limited to Banten Javanese Language, the study prompts further exploration through qualitative and longitudinal studies. Future research should explore cultural influences and intervention programs for optimizing language development. By uniquely merging digital learning trends, accessibility convenience, smart book media, and language outcomes, this study contributes valuable insights to the discourse on language education and technology integration within the distinct context of Banten Javanese Language.

KEYWORDS: Accessibility Convenience, Digital Learning Trends, Early Childhood Literacy, Language Proficiency, Smart Book Media.

INTRODUCTION

In an era marked by rapid technological advancements and evolving educational paradigms, the landscape of early childhood literacy has undergone a transformative shift (Malik, 2018). The convergence of digital learning trends and enhanced accessibility mechanisms has become a defining hallmark in fostering literacy skills among young learners (Okilwa & Robert, 2017; Strawhacker et al., 2018). This discourse delves into the intricate interplay between these pivotal aspects and their influence on early childhood literacy and the cultivation of language proficiency, explicitly emphasizing the unique vantage point of the Banten Javanese Language perspective. Modern education has witnessed a profound transition toward digital learning platforms, further accelerated by global digitalization (Bygstad et al., 2022; Mikheev et al., 2021). Consequently, the methods through which young children acquire literacy skills have diversified, embracing an array of digital mediums (Hobbs & Coiro, 2019; Livingstone, 2018). This transition harmonizes seamlessly with the contemporary lifestyle, wherein digital devices, endowed with interactive features, have gained a ubiquitous presence (Kurvers et al., 2015). These digital learning trends have subsequently reshaped the landscape of early literacy interventions and methodologies (Luke & Carmen, 2018; Tseng et al., 2022). Concurrently, accessibility has emerged as a pivotal facet in shaping the efficacy of literacy interventions for young children (Callahan & Shifrer, 2016). The ease with which digital resources can be accessed has dismantled traditional barriers associated with geographical constraints and physical resources (Tolio et al., 2017). This shift carries immense potential in fostering literacy across diverse contexts, ensuring that young learners can access valuable literary materials regardless of their geographical location or socio-economic background (Bui & Nguyen, 2016;

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Shohel, 2022). The confluence of digital trends and heightened accessibility has synergistically paved the way for innovative paradigms of literacy enhancement among early learners (Andriamiarisoa, 2022).

Embedded within the rich cultural tapestry of the Banten Javanese Language perspective, integrating digital tools and ingenious book media holds profound promise. The nuanced phonetics and script intrinsic to the Banten Javanese Language can be effectively harnessed through innovative digital interfaces, thereby bolstering early literacy acquisition. This fusion of traditional linguistic elements with contemporary technology strengthens the bridge between cultural heritage and modern literacy methodologies (Deliyannis & Kaimara, 2019). A potent symbiosis between tradition and innovation is catalyzed by strategically aligning the cultural resonance and linguistic intricacies of the Banten Javanese Language dialect with smart book media. The interplay of digital learning trends and enhanced accessibility has engendered a paradigm shift in early childhood literacy (Timotheou et al., 2023). The role of smart book media within the framework of the Banten Javanese Language perspective imparts cultural and linguistic richness to this discourse. As technology continues to reshape educational landscapes, a profound understanding of its collaboration with language, culture, and accessibility is paramount in sculpting a literate and empowered generation of young learners (Marlatt, 2018).

Amid the evolving landscape of early childhood education and literacy, a noticeable research gap exists regarding the intersection of digital learning trends, enhanced accessibility, and the preservation of linguistic and cultural heritage within the Banten Javanese Language perspective. While previous studies have explored the impact of digital literacy tools and accessibility on early learners, there remains a lack of comprehensive investigations specifically centered around incorporating smart book media within the context of Banten Javanese Language. This research gap underscores the need for an in-depth exploration of how these technological advancements can be harnessed to cultivate early literacy skills while safeguarding and enriching the linguistic and cultural nuances unique to the Banten Javanese Language context. The novelty of this research resides in its dual focus on digital learning trends and accessibility as catalysts for early childhood literacy, situated within the distinctive lens of the Banten Javanese Language. This study seeks to contribute fresh insights by illuminating how smart book media can be optimized to facilitate foundational reading and language skills and invigorate and sustain the cultural and linguistic legacy of the Banten Javanese Language community. This innovative approach seeks to harmonize modern technology with cultural preservation, culminating in a novel paradigm that can potentially have broader implications for other language contexts.

This research is motivated by the imperative to bridge the gap between burgeoning digital learning paradigms and cultural and linguistic heritage preservation. As societies become increasingly interconnected, it is essential to ensure that advancements in literacy tools do not lead to the erosion or dilution of local languages and traditions. The motivation to explore the potential synergy between smart book media and Banten Javanese Language stems from a genuine commitment to fostering comprehensive literacy development encompassing cognitive, linguistic, and cultural dimensions. The aspiration behind this research is to empower young learners with essential skills while concurrently honoring and upholding their rich linguistic heritage. The primary objective of this research is to explore the multifaceted role of smart book media, enriched with interactive features and digital technology, in enhancing early childhood literacy skills within the realm of the Banten Javanese Language. The specific objectives of the study are as follows:

1. Examining Digital Learning Trends: To scrutinize the contemporary landscape of digital learning tools and their implications for early literacy acquisition among young learners.
2. Unpacking Linguistic and Cultural Integration: To delve into how smart book media can be tailored to seamlessly incorporate the linguistic and cultural subtleties of the Banten Javanese Language, fostering a harmonious convergence between tradition and modernity.
3. Evaluating Literacy Outcomes: To assess the effectiveness of smart book media in cultivating foundational reading, writing, and language skills among early learners within the context of the Banten Javanese Language.
4. Proposing Pedagogical Frameworks: To formulate pedagogical frameworks and recommendations that guide educators, curriculum developers, and stakeholders in skillfully integrating smart book media into early childhood literacy programs, all within the unique sociolinguistic and cultural context of Banten Javanese Language.

By addressing these objectives, this research sheds light on unexplored avenues for advancing technological innovation while concurrently preserving cultural heritage within early childhood literacy.

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LITERATURE REVIEW

Digital Learning Trends, Smart Book Media, Early Childhood Literacy, and Language Proficiency

Singh & Thurman (2019) explain that digital learning trends refer to the evolving patterns, approaches, and strategies in education that harness digital technologies and tools to facilitate learning experiences. These trends include online learning platforms, interactive educational content, virtual classrooms, gamified learning, adaptive learning systems, and integrating multimedia elements for more engaging and effective learning outcomes (Alam, 2022). Digital learning trends and smart book media are intrinsically interconnected components of the modern educational landscape (Behl et al., 2022). As digital learning trends continually shape and redefine the methods of knowledge dissemination, smart book media emerges as a tangible manifestation of these trends (Musik & Bogner, 2019). Smart Media encapsulates the essence of digital learning by infusing traditional reading materials with interactive elements, multimedia features, and adaptive content (Woodley & Rice, 2022). Smart book media harnesses technology to enhance engagement, promote active participation, and cater to individualized learning experiences by seamlessly integrating into the broader spectrum of digital learning trends, ultimately fostering a more dynamic and effective educational environment (Cladis, 2018). Digital learning trends have introduced innovative avenues for nurturing early childhood literacy skills (Haleem et al., 2022; Serdyukov, 2017). Through interactive educational platforms, gamified content, and multimedia resources, digital learning trends engage young learners in dynamic ways that align with their natural curiosity and cognitive development (Zainuddin et al., 2020). These trends provide opportunities for early exposure to diverse linguistic experiences, enhancing language acquisition, vocabulary expansion, and comprehension abilities (Marijuan & Sanz, 2018). By harnessing digital tools to cater to young children's unique needs and learning styles, digital learning trends play a crucial role in fostering a solid literacy foundation during the formative years (Pellas et al., 2019). Digital learning trends, characterized by interactive platforms, language-learning apps, and multimedia resources, have redefined the landscape of language acquisition (Appel & Fernández, 2022). These trends provide learners immersive environments to practice listening, speaking, reading, and writing in diverse linguistic contexts (Lee, 2022). By capitalizing on technology's capabilities, digital learning trends facilitate personalized language learning experiences that adapt to individual progress and preferences (Choudhury & Pattnaik, 2020). In this symbiotic relationship, digital learning trends serve as catalysts for enhancing language proficiency by offering dynamic tools for active engagement, practice, and exposure to authentic language usage (Cladis, 2018; Drljača Margić & Vodopija-Krstanović, 2018; Huddy, 2017). Thus, the hypothesis we propose is as follows:

H1a: Digital learning trends has an impact on smart book media.
H1b: Digital learning trends has an impact on early childhood literacy.
H1c: Digital learning trends has an impact on language proficiency.

Accessibility Convenience, Smart Book Media, Early Childhood Literacy, and Language Proficiency

According to Kumar & Owston (2016), accessibility convenience refers to the ease with which individuals can access and utilize resources, services, or technologies without encountering unnecessary barriers or challenges. It encompasses designing and implementing solutions that ensure equal and inclusive access to various opportunities, information, and functionalities (Livingstone & Pothong, 2023). Accessibility convenience eliminates physical, cognitive, sensory, or technological barriers that might impede individuals from fully participating or benefiting from a particular service or environment (Kocdar & Bozkurt, 2022). This concept emphasizes the importance of creating environments and systems that are user-friendly, adaptable, and accommodating to diverse needs and abilities, promoting equitable access for all (Nepo, 2017). By integrating features such as text-to-speech, adjustable font sizes, and multimedia elements, smart book media accommodates diverse learning styles and potential accessibility challenges (Kaur et al., 2022). This collaboration ensures that learners with varying abilities and preferences can engage with content without encountering unnecessary barriers, fostering a more equitable educational environment where accessibility and convenience converge to empower all learners in their educational journey (DeCoito & Estaiteyeh, 2022). Accessibility convenience, when integrated into early childhood literacy initiatives, ensures that young learners can readily access the resources and experiences crucial for literacy development regardless of their backgrounds or abilities (Passey et al., 2018). By removing barriers through user-friendly interfaces, adaptable materials, and inclusive design, accessibility convenience paves the way for early learners to engage with educational content effectively (David et al., 2023). This relationship underscores the significance of providing equal access to learning opportunities, ultimately fostering a generation of confident and empowered early readers and communicators. Ensuring

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that learning resources and language tools are easily accessible to all individuals, irrespective of their abilities or backgrounds, promotes a more inclusive approach to language proficiency development (Manches & Plowman, 2017). By offering adaptable formats, translation services, and user-friendly interfaces, accessibility convenience enhances the accessibility of language-learning platforms, facilitating language acquisition for learners with varying needs (Chen, 2022). This relationship underscores the pivotal role of equitable access in nurturing language proficiency, allowing individuals to engage with language resources on their terms and thereby fostering a more linguistically proficient and interconnected society (Kayı-Aydar, 2019). Therefore, the hypothesis we put forward is as follows:

H2a: Accessibility convenience has an impact on smart book media.
H2b: Accessibility convenience has an impact on early childhood literacy.
H2c: Accessibility convenience has an impact on language proficiency.

Smart Book Media, Early Childhood Literacy, and Language Proficiency

Kucirkova (2017) assert that smart book media refers to digital educational resources that combine traditional book content with interactive and multimedia features. These resources leverage technology to enhance the reading experience by incorporating elements like animations, audio narration, video clips, interactive quizzes, and other interactive components that engage learners dynamically and multisensory (Vu et al., 2022). According to (Forgie et al., 2022), early childhood literacy pertains to the development of foundational language and communication skills in children during their early years. It encompasses recognizing letters and words, comprehending written and spoken language, and expressing oneself effectively through reading, writing, and speaking (Wyse et al., 2018). Early childhood literacy forms the basis for future academic success and is crucial for cognitive and socio-emotional development (Davies et al., 2016). In addition, Faez & Karas (2017) assess that language proficiency signifies an individual's competency and mastery of a particular language. It involves a combination of skills, including listening, speaking, reading, and writing, as well as understanding grammar, vocabulary, and cultural nuances (Gee, 2018). Language proficiency is not only about communicating effectively but also understanding and interpreting language in different contexts and for various purposes (Hall & Valdiviezo, 2020). The relationship between smart book media and early childhood literacy is a dynamic alliance that capitalizes on innovative educational tools to foster foundational language skills (Bers et al., 2022). Smart book media, characterized by its integration of interactive features, animations, and multimedia components, holds the potential to captivate the attention of young learners and stimulate their early literacy development (Tzima et al., 2020). Smart book media, through its interactive elements, multimedia features, and adaptive content, offers learners a personalized and engaging platform to enhance their language proficiency (Alobaid, 2020). By providing opportunities for active participation, practice, and exposure to authentic language usage, smart book media facilitates developing listening, speaking, reading, and writing skills (Zhao & Lai, 2023). Consequently, the hypothesis we posit is as follows:

H3a: Smart book media has an impact on early childhood literacy.
H3b: Smart book media has an impact on language proficiency.

Smart Book Media as mediator

Smart Book Media assumes the pivotal role of a mediator that effectively amalgamates the realms of conventional learning methodologies and the forefront of technological progress. This intermediary function becomes significantly pronounced in early childhood literacy and language proficiency enhancement contexts. By adeptly amalgamating interactive features, enriched multimedia elements, and adaptable content, smart book media serves as an interactive conduit that effortlessly navigates young learners through the intricacies of educational content (Milakovich & Wise, 2019). This mediation extends beyond mere transmission; it engages learners, catering to diverse learning preferences and styles, thus transforming passive information consumption into active and immersive participation. As a result, smart book media optimizes the educational journey, infusing it with modern engagement while preserving the essence of traditional learning paradigms, ultimately fostering more effective, enjoyable, and comprehensive learning experiences. Hence, the hypothesis we present is as follows:

H4a: Smart book media mediates the relationship between digital learning trends and early childhood literacy.
H4b: Smart book media mediates the relationship between digital learning trends and language proficiency.
H4c: Smart book media mediates the relationship between accessibility convenience and early childhood literacy.
H4d: Smart book media mediates the relationship between accessibility convenience and language proficiency.

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METHODS

This study employs a quantitative research design to investigate the relationships among digital learning trends, accessibility convenience, early childhood literacy, language proficiency, and smart book media from the perspective of language learning in Banten Javanese Language. The research involves a representative sample of 140 young learners aged 10-12 located in 6 sub-districts, Serang Regency, Indonesia. Distribute the 140 respondents into the 6 sub-districts, namely Carenang, Pontang, Walantaka, Tanara, Ciruas, and Cikande who are actively engaged in Banten Javanese Language activities. A meticulously structured survey questionnaire will be developed to gauge participants' perceptions of digital learning trends, accessibility convenience, early childhood literacy, language proficiency, and the role of smart book media in language learning. The questionnaire will incorporate Likert-scale items and closed-ended questions to facilitate comprehensive data collection. Descriptive statistical analysis will be meticulously conducted to calculate each variable's means, standard deviations, and frequencies, offering a comprehensive overview of participants' responses. Furthermore, Pearson correlation coefficients will be diligently computed to explore the potential relationships between digital learning trends, accessibility convenience, early childhood literacy, language proficiency, and smart book media. This analytical approach aims to ascertain the strength and direction of these interdependencies. Multiple regression analysis will be adeptly employed for a more nuanced examination to explore whether child-friendly interface design moderates the relationships between digital learning trends, accessibility convenience, early childhood literacy, language proficiency, and smart book media. This analysis facet seeks to evaluate each variable's distinct contributions in predicting language learning outcomes, ultimately revealing potential moderating effects. Throughout the study, strict adherence to ethical guidelines will be maintained to ensure participants' informed consent, safeguard confidentiality, and uphold ethical standards in data treatment and analysis. The outcomes of this quantitative study are poised to offer profound insights into the intricate connections between digital learning trends, accessibility convenience, early childhood literacy, language proficiency, and smart book media within the context of Banten Javanese Language learning. Ultimately, the results will contribute to a heightened understanding of how these variables collectively influence language learning outcomes among young learners within the unique lens of Banten Javanese Language. By utilizing a robust quantitative research design, this study endeavors to unravel and analyze the multifaceted dynamics that mold the educational journey of young learners. The measurement instrument can be observed in the following Table 1.

Table 1. Measurement instrument

Variable	Indicators	Source
Digital Learning Trends	Educational materials incorporate interactive elements to engage learners actively in the learning process	(Appel & Fernández, 2022; Behl et al., 2022; Cladis, 2018)
	The learning platform adjusts content and activities based on learners' progress and performance, providing personalized learning experiences	
	Gamified elements like rewards, badges, and leaderboards are integrated to enhance motivation and engagement among learners	
	The platform promotes collaboration through features Learning progress and performance data are collected and analyzed to provide insights for both learners and educators, enabling data-driven improvements	
	Learning materials are optimized for mobile devices, allowing learners to access content on-the-go and promoting flexible learning environments	
Accessibility Convenience	The interface of the educational materials is designed to be intuitive and easy to navigate, enabling learners to access content without confusion	(David et al., 2023; DeCoito & Estaiteyeh, 2022; Passey et al., 2018)
	Learners can effortlessly reach the learning materials, minimizing barriers such as complex login procedures or technical difficulties	

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	The educational resources are accessible and functional across various devices, allowing learners to engage with the content on smartphones, tablets, and computers The learning materials are available in multiple languages, accommodating learners with diverse linguistic backgrounds and preferences Learners can download and access the educational content offline, enabling uninterrupted learning even in areas with limited internet connectivity The accessibility features allow learners to customize their learning journey, selecting content relevant to their skill level, interests, and learning pace	
Smart Book Media	The smart book includes interactive features such as clickable elements, pop-ups, and multimedia to enhance engagement and interactivity Smart books engage multiple senses by incorporating visuals, sounds, and tactile elements to create a richer learning experience Learners can track their progress within the smart book providing a sense of accomplishment The smart book provides personalized feedback based on learners' interactions and responses, offering guidance and reinforcement Smart books offer language support features like translations, pronunciation guides, and vocabulary explanations to aid comprehension Smart books are accessible across various devices and platforms, ensuring learners can engage with the content seamlessly	(David et al., 2023; Forgie et al., 2022)
Early Childhood Literacy	The ability to recognize and manipulate the sounds of spoken language, including rhyming, segmenting, and blending sounds The growth of a child's vocabulary, including understanding and using a range of words to express ideas and concepts Understanding the basic features of written language, such as recognizing letters, words, and understanding that text carries meaning The ability to tell stories, recount events, and understand the structure of narratives, contributing to comprehension and communication Recognizing and naming letters of the alphabet, often a precursor to reading and writing skills Understanding conventions like reading from left to right, top to bottom, and recognizing punctuation and spaces in text	(Alobaid, 2020; Forgie et al., 2022; Hall & Valdiviezo, 2020)
Language Proficiency	Demonstrates a wide and varied range of words, understanding their meanings and using them appropriately in different contexts Displays accurate use of sentence structure, verb tenses, and grammatical rules in both spoken and written communication Communicates smoothly and without hesitation, maintaining a coherent flow of speech or writing Understands spoken language, grasping main ideas, details, and nuances in various conversations and contexts Understands written text at different levels, extracting information, making inferences, and analyzing content Expresses ideas clearly and effectively in spoken language, engaging in conversations, debates, and presentations with confidence	(Choudhury & Pattnaik, 2020; Drljača Margić & Vodopija-Krstanović, 2018)

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RESULTS

We verified the credibility of the indicators in our study by utilizing the convergent technique, which involved an analysis of the external loading factor values. Typically, a loading factor range of 0.50 to 0.70 is considered acceptable during initial explorations. However, our study yielded loading values exceeding 0.70 for all indicators, highlighting a commendable level of convergent validity. To establish discriminant validity, we compared the square root of the average variance extracted (AVE) for each latent factor against the correlation coefficients among other constituent elements within the model. This analytical scrutiny aimed to confirm the variables' capability to effectively differentiate between distinct groups as defined by Fornell & Larcker (1981). We also assessed the variable indicators using the composite reliability metric, where values exceeding the 0.70 threshold validate their reliability, as Chin (2010) indicated. Significantly, the measurements of composite reliability, along with Cronbach's alpha values, notably surpassed the 0.70 benchmark, thus solidifying the reliability that underlies the variable indicators.

Table 2. Confirmatory factor analysis with reliability and validity statistic

Digital Learning Trends	DLT1	0.931	0.967	0.968	0.973	0.859
	DLT2	0.950				
	DLT3	0.915				
	DLT4	0.960				
	DLT5	0.859				
	DLT6	0.941				
Accessibility Convenience	ACC1	0.837	0.971	0.972	0.977	0.877
	ACC2	0.979				
	ACC3	0.953				
	ACC4	0.900				
	ACC5	0.973				
	ACC6	0.968				
Smart Book Media	SBM1	0.913	0.979	0.982	0.983	0.906
	SBM2	0.949				
	SBM3	0.974				
	SBM4	0.967				
	SBM5	0.956				
	SBM6	0.949				
Early Childhood Literacy	ECL1	0.945	0.957	0.96	0.966	0.828
	ECL2	0.961				
	ECL3	0.894				
	ECL4	0.782				
	ECL5	0.950				
	ECL6	0.915				
Language Proficiency	LPR1	0.844	0.927	0.932	0.944	0.738
	LPR2	0.914				

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LPR3	0.878
LPR4	0.916
LPR5	0.701
LPR6	0.883

The reliability analysis underscored the robust reliability of the variable indicators, as evidenced by composite reliability values spanning from 0.738 to 0.908, surpassing the established minimum criterion of 0.70. This outcome signifies that the measurements employed in the study exhibited commendable consistency and reliability, devoid of substantial measurement discrepancies. Reinforcing this notion, Cronbach's alpha scores, ranging between 0.927 and 0.979, provided a supplementary endorsement for the indicators' reliability. These findings collectively instill a profound assurance in the precision and uniformity of the data amassed for the scrutinized variables, aligning with established validation principles (Chin, 2010) .

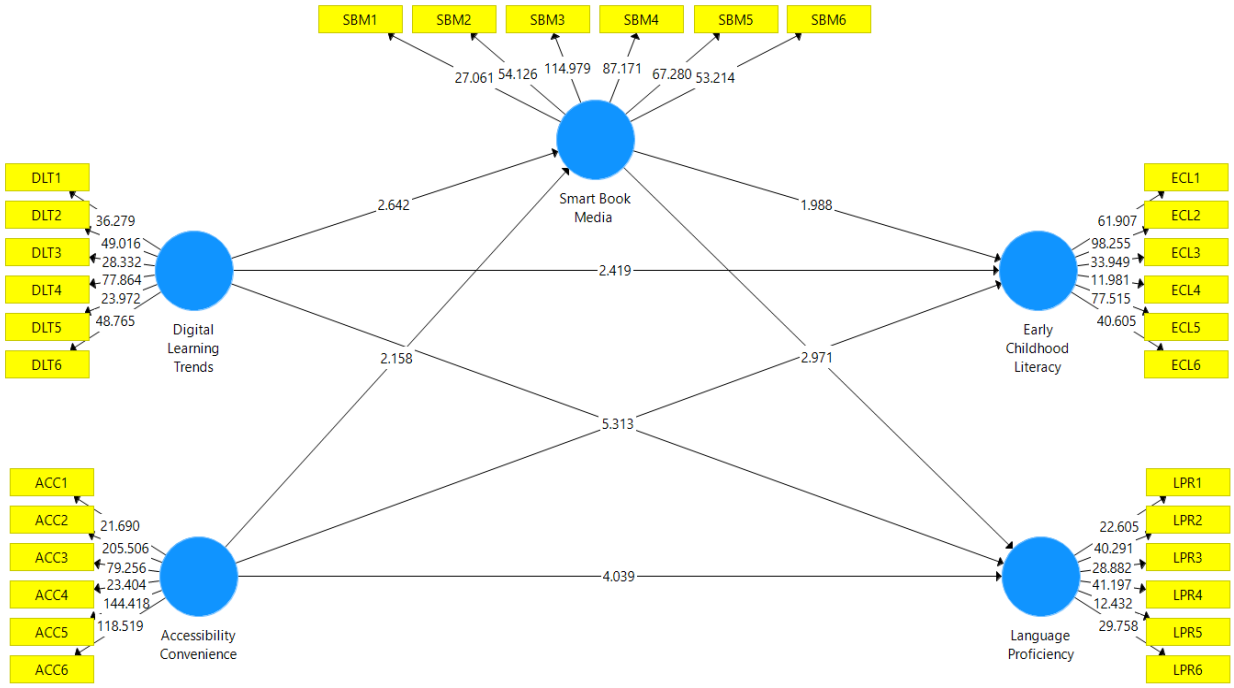

Figure 1. Bootstrapping Analysis

The outcomes of the hypotheses testing unveiled significant and positive impacts of digital learning trends on smart book media (t=2.642>1.96), early childhood literacy (t=2.419>1.96), and language proficiency (t=3.762>1.96). Furthermore, accessibility convenience also demonstrated noteworthy and positive effects on smart book media (t=2.158>1.96), early childhood literacy (t=5.313>1.96), and language proficiency (t=4.039>1.96). Additionally, it was observed that smart book media exerted a positive influence on language proficiency (t=2.971>1.96), its impact on early childhood literacy was statistically significant (t=1.988>1.96). Moreover, it emerged that smart book media did not mediate the relationship between digital learning trends and early childhood literacy (t=1.433<1.96), but mediate between digital learning trends and language proficiency (t=1.998>1.96). Furthermore, smart book media did not mediate the relationship between accessibility convenience and early childhood literacy (t=1.294<1.96), or between accessibility convenience and language proficiency (t=1.609<1.96). These findings collectively contribute valuable insights into the intricate dynamics governing the interplay between digital learning trends, accessibility convenience, smart book media, early childhood literacy, and language proficiency, enhancing our comprehension of the multifaceted landscape of educational influences.

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Table 3. Path Analysis

Hypothesis	Construct	Original Sample	STDEV	T Statistics	P Values	Result
H1a	DLT-> SBM	0.265	0.100	2.642	0.009	Accepted
H1b	DLT -> ECL	0.227	0.094	2.419	0.016	Accepted
H1c	DLT -> LPR	0.327	0.087	3.762	0.000	Accepted
H2a	ACC -> SBM	0.172	0.080	2.158	0.031	Accepted
H2b	ACC -> ECL	0.477	0.090	5.313	0.000	Accepted
H2c	ACC -> LPR	0.298	0.074	4.039	0.000	Accepted
H3a	SBM -> ECL	0.147	0.074	1.988	0.047	Accepted
H3b	SBM -> LPR	0.223	0.075	2.971	0.003	Accepted
H4a	DLT -> SBM -> ECL	-0.039	0.027	1.433	0.152	Rejected
H4b	DLT -> SBM -> LPR	0.059	0.030	1.998	0.045	Accepted
H4c	ACC -> SBM -> ECL	-0.025	0.020	1.294	0.196	Rejected
H4d	ACC -> SBM -> LPR	0.038	0.024	1.609	0.108	Rejected

*) DLT=Digital Learning Trends; ACC=Accessibility Convenience; SBM=Smart Book Media; ECL=Early Childhood Literacy; LPR=Language Proficiency

DISCUSSION

The validation of hypothesis H1a underscores the notable influence of digital learning trends on the efficacy and functionality of smart book media. It finding highlights that the evolving patterns in digital learning significantly contribute to the augmentation and refinement of interactive features and educational capabilities inherent to smart book media. This synergy between contemporary pedagogical trends and the technological prowess embedded in smart book media exemplifies the pivotal role of digital learning trends in molding and enhancing the educational landscape through innovative media tools. In the context of Banten Javanese Language, this insight signifies a promising avenue for harnessing digital learning trends to bolster the effectiveness of smart book media in facilitating early childhood literacy and language proficiency, catering to the unique linguistic and cultural nuances of the region and thereby enriching the language learning experience.

The confirmation of hypothesis H1b underscores the substantial influence of digital learning trends on early childhood literacy development. This finding emphasizes the pivotal role of evolving digital educational approaches in shaping and enhancing the foundational literacy skills of young learners. Recognizing this influence carries significant implications for the utilization of Banten Javanese Language in early childhood education, as the integration of digital learning trends can be leveraged to cultivate literacy in a culturally relevant and linguistically sensitive manner. By aligning digital learning strategies with the linguistic characteristics and cultural context of Banten Javanese Language, educators and policymakers can harness the power of technology to foster early childhood literacy that resonates authentically with the local community, thus contributing to the holistic educational growth of young learners.

The affirmation of hypothesis H1c underscores the substantial influence of digital learning trends on the enhancement of language proficiency. This finding accentuates the vital role of evolving digital educational methodologies in shaping and enriching individuals' language skills. In the context of Banten Javanese Language, this insight holds significant implications for language education, suggesting that the integration of digital learning trends can be harnessed to advance language proficiency in a manner that aligns with the region's linguistic nuances and cultural context. By synergizing digital learning strategies with the distinct linguistic attributes and cultural sensibilities of Banten Javanese Language, educators and stakeholders can harness the transformative potential of technology to foster language proficiency that is effective and culturally resonant. It promises to enable language learners to navigate communication in Banten Javanese Language more adeptly, reinforcing a stronger connection between language proficiency and cultural identity.

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The validation of hypothesis H2a highlights the significant impact of accessibility convenience on the efficacy and utilization of smart book media. This finding underscores the pivotal role that convenient access to educational resources plays in enhancing the effectiveness of smart book media as a learning tool. In the context of Banten Javanese Language, this insight carries notable implications for educational practices, suggesting that a focus on ensuring accessibility and user-friendliness of smart book media can yield substantial benefits. By tailoring smart book media to seamlessly accommodate the unique linguistic and cultural context of Banten Javanese Language, educators, and stakeholders can enhance the reach and impact of these resources, thereby fostering more inclusive and effective learning experiences. It underscores the potential for accessibility-driven enhancements to optimize the utility of smart book media and contribute to the preservation and enrichment of Banten Javanese Language within the realm of education.

The validation of hypothesis H2b highlights the significant impact of accessibility convenience on the development of early childhood literacy. This finding underscores the crucial role that easy access to educational resources plays in fostering the foundational literacy skills of young learners. In the context of Banten Javanese Language, this insight holds valuable implications for early childhood education, suggesting that prioritizing accessibility and user-friendliness of educational materials can yield substantial benefits. By ensuring that early learners have convenient access to literacy-enhancing resources tailored to the linguistic and cultural context of Banten Javanese Language, educators, and stakeholders can create an environment conducive to cultivating authentic and culturally relevant literacy skills. It underscores the potential of enhancing accessibility to promote early childhood literacy and contribute to preserving and enriching Banten Javanese Language within the early education landscape.

The validation of hypothesis H2c underscores the significant influence of accessibility convenience on enhancing language proficiency. This finding highlights the pivotal role of seamless access to educational resources in advancing individuals' language skills. In the context of Banten Javanese Language, this insight carries meaningful implications for language education, suggesting that focusing on ensuring accessibility and user-friendliness of learning materials can yield substantial benefits. By tailoring language learning resources to align with the linguistic and cultural context of Banten Javanese Language, educators and stakeholders can leverage technology to foster compelling and culturally resonant language proficiency. It underscores the potential for accessibility-driven enhancements to optimize language learning outcomes and reinforce a stronger connection between language proficiency and the rich cultural heritage of Banten Javanese Language.

The confirmation of hypothesis H3a underscores the significant influence of smart book media on early childhood literacy, revealing their substantial role in fostering foundational literacy skills among young learners. This finding holds particular importance in the context of Banten Javanese Language, as it highlights the potential of smart book media to serve as effective tools for enhancing early literacy development in this linguistic and cultural setting. By recognizing the positive impact of smart book media on early childhood literacy, educators and policymakers in Banten Javanese Language can harness these technological resources to create engaging and culturally relevant learning experiences, catering to the region's specific linguistic nuances and educational needs. This insight underscores the importance of integrating innovative learning technologies, like smart book media, to address early literacy challenges and promote comprehensive language development among young learners in Banten Javanese Language, ultimately enriching their educational journey.

The confirmation of hypothesis H3b substantiates the noteworthy influence of smart book media on enhancing language proficiency. This finding underscores the pivotal role of interactive and technology-infused learning tools like smart book media in fostering language skills development. In the context of Banten Javanese Language, this insight carries profound implications for language education, indicating that integrating smart book media can be a powerful strategy to bolster language proficiency. By aligning smart book media with the linguistic attributes and cultural nuances of Banten Javanese Language, educators, and stakeholders can harness technology to facilitate language learning that is effective and culturally relevant. This result emphasizes the potential of smart book media to empower language learners in Banten Javanese Language, offering a dynamic platform for acquiring and refining language skills in alignment with the region's distinctive linguistic identity and cultural heritage.

The acceptance of hypothesis H4b highlights the role of smart book media as a mediator in the relationship between digital learning trends and language proficiency, emphasizing their potential to enhance language skills through technology-driven educational tools. However, the non-confirmation of hypotheses H4a, H4c, and H4d suggests that smart book media do not mediate the relationships between digital learning trends and early childhood literacy, between accessibility convenience and early childhood literacy, and between accessibility convenience and language proficiency. These findings underline the complexity of the interplay

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between smart book media, digital learning trends, accessibility convenience, and language-related outcomes within the context of Banten Javanese Language. Educators and stakeholders in Banten Javanese Language should consider a multi-faceted approach encompassing various strategies beyond smart book media to foster early childhood literacy and language proficiency. These results encourage a deeper exploration of complementary methods and interventions that resonate with the linguistic and cultural nuances of the region, ultimately leading to a more comprehensive enhancement of language-related skills among young learners.

CONCLUSION

Examining the hypotheses in this study provides a comprehensive understanding of the intricate relationships between digital learning trends, accessibility convenience, smart book media, early childhood literacy, and language proficiency within the unique context of Banten Javanese Language. The validation of hypothesis H1a reveals the significant impact of digital learning trends on the functionality and effectiveness of smart book media. This demonstrates the alignment between modern educational paradigms and the technological capabilities inherent in smart book media, showcasing the role of digital learning trends in shaping innovative educational tools. The confirmation of hypothesis H1b accentuates the substantial influence of digital learning trends on early childhood literacy, emphasizing the potential of technology to contribute to foundational literacy skills development in a culturally sensitive manner. Similarly, the affirmation of hypothesis H1c underscores the significant role of digital learning trends in enhancing language proficiency, emphasizing their potential to facilitate effective language learning tailored to the linguistic attributes of Banten Javanese Language.

The validation of hypothesis H2a highlights the crucial connection between accessibility convenience and the utility of smart book media, reinforcing the importance of providing easily accessible educational resources for effective learning experiences. This result holds implications for educational practices, particularly in Banten Javanese Language, where user-friendly resources can enhance learning outcomes. Likewise, the confirmation of hypothesis H2b underscores the transformative impact of accessibility convenience on early childhood literacy, highlighting the necessity of convenient access to learning materials for fostering foundational literacy skills in young learners. Moreover, the validation of hypothesis H2c emphasizes the pivotal role of accessibility convenience in advancing language proficiency, showcasing the potential of accessible resources to enhance language learning in Banten Javanese Language. The confirmed hypotheses H3a and H3b underscore the substantial influence of smart book media in enhancing early childhood literacy and language proficiency within the context of the Banten Javanese Language. Acknowledging smart book media's positive impact on foundational literacy skills and language development is paramount for this linguistic and cultural setting. Educators and policymakers in the Banten Javanese Language can strategically leverage these findings to harness smart book media's potential for creating engaging and culturally relevant learning experiences tailored to the region's unique linguistic nuances and educational requirements. These insights underscore the pivotal role of integrating innovative learning technologies like smart book media to address early literacy challenges and to empower language learners, ultimately contributing to a more enriched educational journey. Furthermore, the confirmation of these hypotheses signifies the transformative power of interactive and technology-driven tools in language education, emphasizing the potential for smart book media to serve as dynamic platforms for the acquisition and refinement of language skills in alignment with the distinctive linguistic identity and rich cultural heritage of Banten Javanese Language.

However, the non-confirmation of hypotheses H4a, H4c, and H4d indicates that while smart book media significantly influence language proficiency and early childhood literacy, they do not act as mediators between digital learning trends, accessibility convenience, and these language-related outcomes. This result underscores the multifaceted nature of language development and early literacy, urging educators and stakeholders in Banten Javanese Language to adopt comprehensive approaches that consider various influencing factors beyond smart book media. These findings collectively contribute to a holistic understanding of the interplay between digital learning trends, accessibility convenience, smart book media, early childhood literacy, and language proficiency within the Banten Javanese Language context. They offer insights that can inform the design of effective educational strategies, enriching the language learning experience and fostering a deeper connection between language proficiency and cultural identity.

Theoretical and Practical Implications

This study contributes to the theoretical understanding of the interrelationships among digital learning trends, accessibility convenience, smart book media, early childhood literacy, and language proficiency within Banten Javanese Language. The study

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enriches the existing literature on language learning and education by validating the relationships between these variables. The findings emphasize the importance of considering the role of evolving digital trends and convenient access to educational resources in shaping language-related outcomes. Moreover, the non-validation of certain hypotheses underscores the need to explore additional factors that might influence early childhood literacy and language proficiency, urging researchers to adopt a holistic perspective when investigating language development in specific linguistic and cultural contexts.

The outcomes of this study have practical implications for educators, policymakers, and stakeholders in Banten Javanese Language. The insights into the impact of digital learning trends on smart book media, early childhood literacy, and language proficiency can guide the design of educational interventions and resources that align with contemporary pedagogical trends. Accessibility convenience highlights the importance of user-friendly and easily accessible materials, ensuring a more inclusive and effective learning experience. Educators can leverage these insights to develop culturally sensitive and linguistically aligned strategies for enhancing language-related skills among young learners in Banten Javanese Language.

Limitations and Recommendations for Future Research

While this study contributes valuable insights, it has limitations. The research focused solely on the specific context of Banten Javanese Language, which might limit the generalizability of the findings to other linguistic and cultural settings. Additionally, the study's quantitative nature might only partially capture the nuances and qualitative aspects of language learning experiences. Furthermore, the reliance on self-reported survey data might introduce response bias. Despite these limitations, the study provides a foundation for future research in language education.

To address the limitations and expand the knowledge in this area, future research can explore the following directions:

1. Cultural Nuances: Investigate how cultural factors specific to Banten Javanese Language influence language learning outcomes and the utilization of smart book media.
2. Qualitative Exploration: Conduct qualitative studies to delve deeper into the perceptions and experiences of learners, educators, and parents regarding the use of smart book media and the impact of digital learning trends on language development.
3. Longitudinal Studies: Undertake longitudinal studies to track the long-term effects of digital learning trends, accessibility convenience, and smart book media on language proficiency and early childhood literacy.
4. Comparative Studies: Conduct comparative studies across different linguistic and cultural contexts to examine the variability of the relationships between these variables.
5. Intervention Design: Design and evaluate intervention programs integrating digital learning trends and smart book media to enhance language proficiency and early childhood literacy in Banten Javanese Language.

This study advances our understanding of the complex interactions between digital learning trends, accessibility convenience, smart book media, early childhood literacy, and language proficiency. The implications for theory and practice underscore the potential for tailored educational strategies that harness technology and linguistic nuances to enhance language-related skills. While limitations exist, the study provides a stepping stone for future research endeavors to refine language education in Banten Javanese Language and beyond.

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