



Literature Review : Syllabic Method and the Role of Orthography in Early Childhood Literacy Development

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ABSTRACT

Purpose – This study aims to analyze the role of orthography in early childhood literacy development by emphasizing the importance of syllable-based learning in languages with transparent orthography, such as Indonesian. Understanding how orthographic structure influences phonological awareness is crucial for designing effective literacy instruction during early childhood.

Design/methods/approach – This research employed a Systematic Literature Review (SLR) approach following the PRISMA protocol. A total of 29 articles published between 2019 and 2024 were selected based on strict inclusion and exclusion criteria to ensure methodological rigor and research quality. The review focused on identifying the relationships between orthographic transparency, phonological awareness, and early literacy acquisition.

Findings – The findings indicate that phonological awareness, beginning with syllable recognition before phoneme-level understanding, serves as a key predictor of early literacy success in transparent orthographic systems. The review identified three main themes: (1) literacy acquisition in transparent orthographies, (2) the introduction of syllables as an initial stage of phonological awareness, and (3) predictors of early literacy development. These results highlight that a syllable-based approach can accelerate reading and writing acquisition in early learners.

Research implications/Limitations – This study is limited to a systematic review design and does not include experimental validation. Future research is recommended to conduct empirical studies that measure the effectiveness of syllable-based literacy instruction for preschool-aged children in Indonesia and other transparent orthographic contexts.

Originality/value – This study provides a comprehensive synthesis of recent research on the relationship between orthography and early literacy development. It offers valuable insights for educators and curriculum designers by underscoring the importance of aligning literacy instruction methods with linguistic characteristics, particularly through a syllable-based learning approach in early childhood education.

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INTRODUCTION

Early childhood education is a crucial foundation for a child's overall growth and development. One of its key components is the development of language and early literacy through the introduction of reading activities. In recent years, researchers and policymakers have increasingly recognized the importance of early literacy as a predictor of later academic success, with long-term social and economic implications for both families and communities (Ford et al., 2018; Stuckey & Albritton, 2020, as cited in Cadime et al., 2025)

This is in accordance with research by Majorano et al. (2021), that mastery of basic literacy skills in preschool is related to a more successful process in acquiring reading and writing in elementary school. Children who have mastered basic skills (or early literacy) at the beginning of elementary school tend to learn to read and write faster, so they are better prepared to achieve academic success (Catts et al., 1999; NICHD Early Child Care Research Network, 2005; National Early Literacy Panel, 2008; Kendeou et al., 2009; D. K. Dickinson et al., 2010).

However, the 2021 Progress in International Reading Literacy Study (PIRLS) showed that the reading literacy skills of fourth-grade students in Indonesia were still below the international average, with a score of 544, indicating low text comprehension and functional language use in elementary school-aged children (International Association for the Evaluation of Educational Achievement (IEA), 2021). These findings align with the Indonesian Literacy Emergency report compiled by the Working Committee for Literacy and Library Personnel Improvement (Panja PLTP) of Commission X of the Indonesian House of Representatives (DPR RI), which stated that Indonesia is facing a "literacy emergency" due to a weak foundation for early childhood reading skills (Faqih, 2023). This low achievement indicates that children's early literacy skills, which should be the foundation for successful reading and writing at subsequent levels, have not been optimally developed. However, strengthening early literacy through appropriate learning methods can be achieved by understanding the role of orthography in early childhood literacy.

In addition, research conducted by Altani et al. (2020) also found that early childhood still has difficulty reading the alphabet and words, and the majority of children show low initial reading skills. Observations by Mohamad (2014) quoted in Rostan et al. (2020), stated that there are still many preschool children who are still unable to read words fluently, have difficulty reading, and are lagging behind in reading skills due to their inability to read at all.

This gap occurs due to a lack of understanding of the use of appropriate methods in improving children's literacy, including understanding the orthographic structure of the language used by children. Understanding the relevant orthographic structure will lead to the use of appropriate methods in literacy education, so that it can improve children's literacy development.

This study aims to summarize various studies in literacy acquisition that have been identified in previous studies to show the role of orthography in early childhood literacy acquisition. With this review, it is hoped that it can synthesize the findings of previous studies to understand the role of orthography in the development of early childhood literacy.

According to Cadime et al. (2025) in recent years, experts and policymakers have increasingly recognized the importance of early literacy for children's educational success, which has long-term social and economic impacts on families and communities

(Ford et al., 2018; Stuckey & Albritton, 2020). Emergent literacy refers to the knowledge, skills, and attitudes that children acquire before they begin formal literacy learning, which can predict their later reading and writing abilities (Kennedy & McLoughlin, 2023; Rohde, 2015b; Teale, 1986).

In addition, research by Majorano et al. (2021) foundational literacy skills in preschool are associated with more successful reading and writing acquisition in elementary school. Children who have mastered foundational (or early literacy) skills by the beginning of elementary school tend to learn to read and write more quickly, and are thus better prepared for academic success (Catts et al., 1999; NICHD Early Child Care Research Network, 2005; National Early Literacy Panel, 2008; Kendeou et al., 2009; D. K. Dickinson et al., 2010)

Thus, the urgency of literacy skills in children is not just an issue that arises from the ego of parents, but more than that. The delay in children in acquiring literacy skills has a much worse impact than what is currently feared. So it is necessary to have an in-depth analysis of early childhood literacy education, which is adjusted to the characteristics and theories of children's language development.

According to Schull (2023), literacy experts use a stage model to describe children's literacy development. One of the literacy models is Uta Frith's reading acquisition theory. In Frith's theory, children acquire literacy by going through certain stages that are developmental and related to age and experience. Frith includes three stages of reading acquisition in her model.

The first stage is the logographic stage, which is characterized by instant recognition of symbols, images, or words. Children demonstrate emerging logographic understanding when they read familiar logos such as the Target logo or McDonald's golden arches. The second stage, the alphabetic stage, children begin to use letter symbols to represent the sounds they hear in individual words. Children in this stage demonstrate an emerging understanding of the relationship between sounds and symbols, such as writing /kt/ for cat. Children may hear the initial and final sounds of the word cat, but the internal vowel sounds are not yet recognized. These early approximations indicate that they can hear sounds and describe them, but not always completely or correctly. The third stage, the orthographic stage, involves the internalization of spelling patterns and children begin to recognize and reproduce words with increasing automaticity.

Regarding literacy acquisition, OCEPE (Orientações Curriculares para a Educação Pré-Escolar) strongly emphasizes a holistic approach by highlighting the importance of promoting oral language and recognizing the value of play activities in children's natural environments as an effective way to support emerging positive literacy skills and attitudes. However, the guidelines do not completely dismiss the technician's perspective, as they still emphasize the need to develop code-related skills. Therefore, preschool teachers have a critical role in selecting and implementing practices that support children's early language and literacy development (Lynch, 2017 ; Piasta et al., 2020). Therefore, it is necessary for every preschool teacher to understand the application of theories and methods that cannot be generalized to all children with different orthographic structures.

In Rathcke et al. (2024), it is explained that the development of phonological awareness closely follows the acquisition of literacy (Anthony & Francis, 2005; Carroll et al., 2003; Ziegler & Goswami, 2005). Preschoolers tend to be able to identify larger linguistic units before smaller units, progressing from the word level to the syllable level, then to the onset/rime level, and finally to the phoneme awareness level (Anthony &

Francis, 2005; Carrillo, 1994; Carroll et al., 2003; Ho & Bryant, 1997; Ziegler & Goswami, 2005).

In addition, the research of Majorano et al. (2021), provides new evidence on how the relationship between early literacy skills and literacy acquisition varies across languages with more or less transparent orthographic systems, thus contributing to the knowledge needed to design tests that can be applied across countries and contexts. The results of the study show that children shows that mastery a language with a more transparent orthography and who participate in preschool activities designed to improve literacy skills have higher early literacy scores. In addition, later reading and writing skills are predicted by early competencies, although there are differences across countries.

Anthony et al. (2003) found that children acquired word-level skills before syllable-level skills, syllable-level skills before onset-rime skills, and onset-rime skills before phoneme-level skills. In another study Anthony & Lonigan, (2004) compared four longitudinal studies examining the development of PA skills in young children: Lonigan et al. (1998), Muter et al. (1997), and Wagner et al. (1997). These comparisons showed that, both within and across studies, younger children were more sensitive to larger linguistic units but less sensitive to smaller linguistic units, whereas older children showed sensitivity to both types of linguistic units.

Based on the study, it shows that the acquisition of early literacy in children with the use of language with a transparent orthographic structure leads to the use of the syllable method in the learning process. This is in accordance with research conducted by Majorano et al. (2024), that preschool children with cochlear implants (C1) or hearing impairments showed an increase in early literacy skills after completing a computer-based program based on the syllable method which aims to support early literacy skills.

According to Wilsenach (2019), phonological awareness (PA) in children is influenced by the phonological structure (especially syllable structure) and orthographic transparency of the language they use to learn to read. PA skills develop faster in children who speak languages with simple syllable structures, such as Italian, Spanish, Finnish, Turkish, Japanese, and Chinese, compared to children who speak languages with complex syllable structures, such as English, German, Dutch, and French (Alcock et al., 2010; Goswami, 2010). Likewise, Indonesia has a transparent orthographic structure, so that phonological awareness develops faster, especially in understanding syllables.

The findings of Wilsenach (2019) study have several important implications for early literacy teaching, particularly in the context of a language with a simple syllable structure and transparent orthography such as Northern Sotho. The first is a stepwise approach, given that children are better at identifying syllables, teaching can begin with activities that focus on syllables before moving on to phonemes. This can help build a strong foundation before introducing more complex concepts.

Second, focus on Phoneme Awareness, because phoneme awareness has been shown to be more accurate in predicting reading achievement, it is important to teach phoneme-grapheme correspondence explicitly. Third, phonemic activities, using activities that involve identifying, deleting, and substituting phonemes can help children develop their phonemic awareness.

Based on several analyses, to provide stimulation for children's literacy acquisition, it begins with the stage of syllable identification, phoneme awareness, and phonemic activity. With these stages, literacy acquisition pays more attention to aspects of children's language development systematically by introducing syllables earlier.

Therefore, syllable recognition is the beginning of phonological awareness for speakers of languages with transparent orthography.

According to Cadime et al. (2025), literacy skills are developed at home and in preschool before children can read and are continuously improved through formal education (National Early Literacy Panel, 2008). Among these skills are oral language, metalinguistic skills, and code-related skills (Pavelko et al., 2018; Whitehurst & Lonigan, 2001). The development of oral language including vocabulary as well as aspects of morphology and syntax is very important for literacy learning, because it provides a foundation for children to parse and understand written language (Lane & Wright, 2007).

Metalinguistic skills include the ability to reflect on spoken language (Melogno et al., 2022). One of the most widely studied aspects of this skill is phonological awareness (PA) which involves the ability to recognize sound structures in spoken language, as well as analyze and manipulate sound segments in a different literacy perspective, namely the technician's perspective which emphasizes a skills-based approach, and the component perspective with a focus on conventional reading and writing skills. This approach is bottom-up, meaning that skills are taught separately and often in a certain order.

According to the Bottom-Up reading process theory (Amadi, 2019; Kamil & Pearson, 1979), reading acquisition is a linear process that starts from the most basic and straightforward linguistic skills and develops sequentially and hierarchically to more complex skills (Chen et al., 2022). For English language learning, decoding letters into recognizable words is the first and essential step for complex comprehension (Bedewy, 2020; Hoover & Gough, 1990). Successful decoding requires awareness of the sound structure of spoken words (Ehri, 2022; Melby-Lervåg et al., 2012). Being sensitive to sounds requires phonemic awareness.

According to Majorano et al. (2021), early literacy acquisition requires the development of the ability to distinguish, encode, and manipulate sound structures in language, namely phonological awareness (Bar-Kochva & Nevo, 2019; Daffern, 2018; U. C. Goswami, 2014b; Lervåg et al., 2009; Pennington et al., 2001; Melby-Lervåg et al., 2012); the ability to store information in phonological memory (Gray et al., 2019); the ability to manipulate and combine meaningful language units such as morpho-syntax (Snowling et al., 2003); the ability to access and produce words quickly as measured by the automatic naming task or RAN (Araújo et al., 2015), for meta-analysis in the study of Kirby et al. (2010), and for a review see the study of Norton & Wolf (2012); the ability to produce language and express ideas (Cain & Oakhill, 2011; Quinn et al., 2015; Sénéchal et al., 2006); and the ability to coordinate visual and motor processes or visual-motor coordination (Dinehart, 2015; Zemlock et al., 2018). Based on this analysis, there are several indicators that can be adapted according to the culture and context that develops in each country.

Cadime et al. (2025), research shows that phonological awareness (PA) is one of the strongest predictors of reading achievement (Lerner & Lonigan, 2016; Sigmundsson et al., 2017). Given that written language represents spoken language, mastery of code-related skills, such as print knowledge, letter recognition, and name writing ability, can also predict literacy development (Cruz et al., 2023; Puranik & Lonigan, 2012).

These domains do not develop separately in the preschool years; integration is essential for literacy development (Kim & Petscher, 2011). Specifically, children need to understand the relationship between spoken and written language, which includes mapping spoken language to print and recognizing physical, contextual, and structural differences between written and spoken language. Some children may be able to recognize letters but not understand the relationship between written and spoken language (Cruz et al., 2023).

Literacy development is strongly influenced by opportunities to interact with spoken and written language (Dowling et al., 2020; Rohde, 2015), which are largely provided by adults (family and educators) in the child's environment (Sheridan & Gjems, 2017; Viana et al., 2019). Since not all children have access to a supportive home environment, schools have an important role in establishing systematic practices to improve their literacy skills (Rohde, 2015a). Research shows that one of the main predictors of new literacy development is the quality of early education (Lee-Hammond & McConney, 2017; Niklas & Tayler, 2018). Educational quality involves several variables that Tietze et al. (2010), group into three categories: structure, including group size and adult training; educational orientation, including teacher beliefs and values; and process, involving interactions between children.

In this case, it can be concluded that schools have an important role in building systematic practices to improve literacy skills, so educators need to understand the orthographic structure used by children or speakers in order to obtain the right method to improve children's literacy skills.

METHODS

A systematic literature approach was chosen because it allows researchers and publishers to assess the strengths and weaknesses of a stimulus in a transparent and easily replicable manner (Liberati et al., 2009). Systematic reviews serve to explore a field of knowledge, identify information that is already known, and reveal gaps in specific research (Lachat et al., 2015). The literature presented in this report was conducted according to the procedures described in the following table:

Table 1. Key Information Description

Description	Results
Timespan	2019-2024
Sources (Journals, Books, etc)	30
Documents	30
Author's Keywords	105
Authors	94
Authors of single-authored docs	4
Single-authored docs	4
Article	29

Table 2. Inclusion and Exclusion Criteria

Criteria Type	Inclusion	Exclusion
Publication	2019-2024	Before 2019
Quality Assurance	Studies published in Not published in peer-reviewed journals	
Language	English text	Non-English text
Topics	Literacy for transparent orthography	Literacy for complex orthographies
Geographic location	Worldwide Studies	
Context	Early Childhood	Children over eight years old, secondary schools, higher

education institutions

Table 3. Types of Literature and Databases

Types of Literature	Search in online database
Peer-reviewed journal articles	Literature search through the Publish Or Persih application with the Google Scholar database, and other searches through the Springer database and Scince Direct

Table 4. Search Terms

“reading skill” or “literacy” or “syllabic” or “reading method” or “ortografi” or “phonology” or “early childhood” or “preschool”
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This review includes studies that examine transparent orthography and syllabic methods to improve literacy skills in early childhood. The main information that led to the compilation of the data is described in (Table 1). The review was conducted by formulating inclusion and exclusion criteria that allowed the selection of relevant studies, described in (Table 2). Three electronic databases were used as sources of information (Table 3). A search string was created to find keywords related to early childhood literature (Table 4). The results of the screening process are shown in Figure 1.

The review excluded studies that focused on the use of complex orthographic structures. This study was excluded because the complex orographic structure does not match the research in examining the theory of children's reading acquisition with the language used (Indonesian), namely the transparent orthographic structure. In addition, non-English language research was also excluded, with the aim of obtaining reliable and quality references. For this purpose, research conducted during 2019–2024 was examined to understand the role of orthography in the development of early childhood literacy. The reason for limiting the review to literature published between 2019 and 2024 was because the scope of the review was related to time constraints and the need to explore the latest research.

The inclusion/exclusion criteria aspects are illustrated in Table 2. The inclusion criteria required content relevant to the research question, studies identified through keyword searches, national and international literature, studies available in English, peer-reviewed journal articles, studies published during 2019-2025 and participants from early childhood education settings. All methodological approaches were considered for this study. Research focusing on the exclusion criteria requires areas of expertise beyond the scope of this study.

The search strategy involved an initial search using the Publish Or Perish application with the Google Scholar database followed by a systematic search of the Springer and ScinceDirect databases as outlined in Table 3. The reporting item chosen for the Systematic Review and Meta-Analysis was PRISMA (Liberati et al., 2009). The PRISMA protocol was designed to ensure quality and rigor in reporting academic literature (Newman, M. & Gough, 2020).

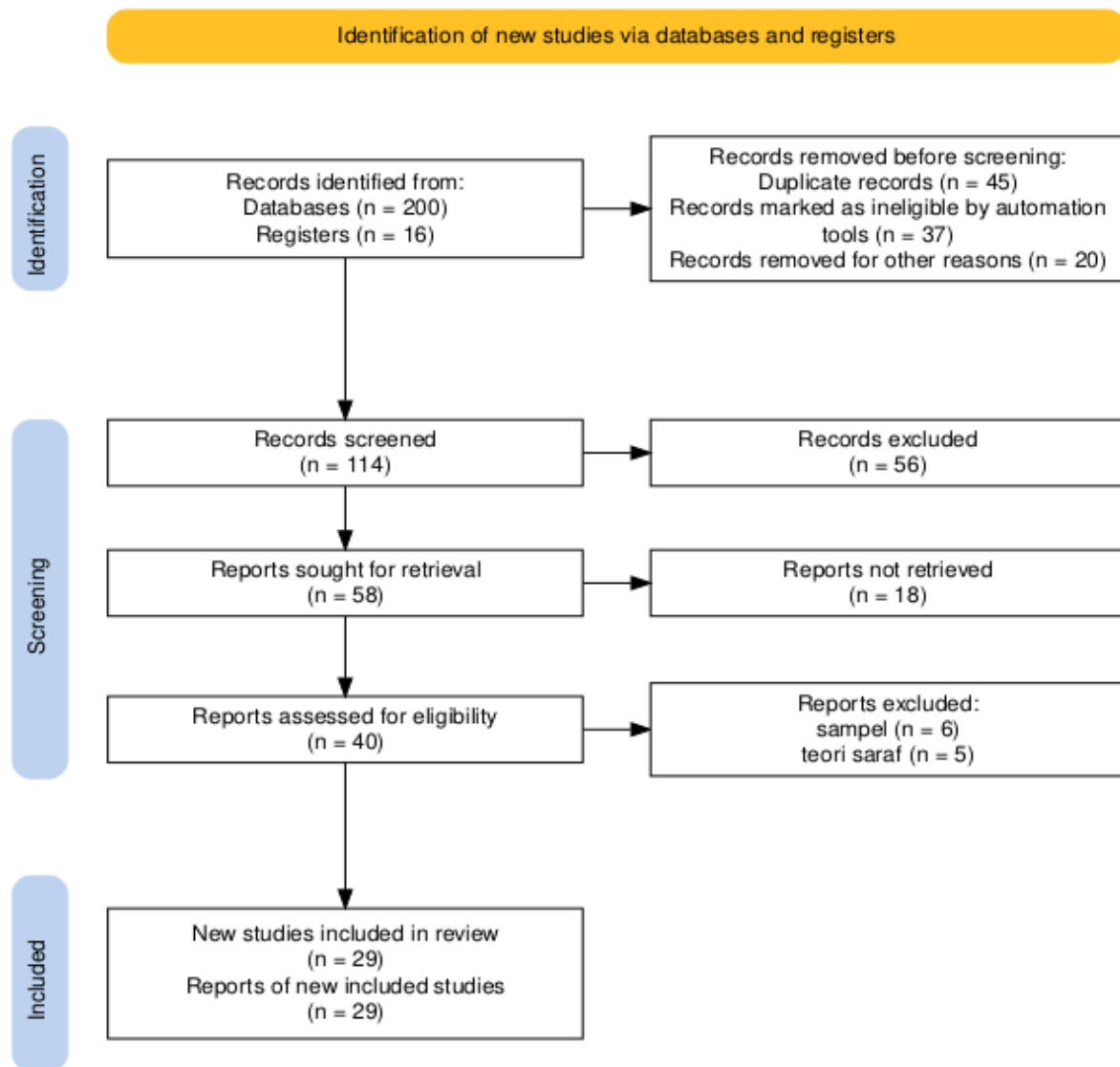


Figure 1. Filtering Process (Prism Diagram)

The search strategy for all databases combined keywords and synonyms related to the research question plus Boolean operators.

Three independent reviewers manually screened the abstracts of the 216 results obtained through the initial search. After abstract screening and exclusion of studies that did not meet the eligibility criteria, each remaining study was read in depth to evaluate indicators related to phonological awareness or literacy processing with transparent orthography. At this stage, articles were excluded if the full text could not be obtained, or if it was evident that the publication did not fully meet the eligibility criteria. In addition, studies excluded during the screening phase were those that did not meet the inclusion criteria. Handbooks, and commentaries were excluded because they did not present new empirical data. Conference proceedings were also excluded if they did not provide the full text of the article. All studies that could not be ascertained whether they met all criteria from their abstracts were moved to the in-depth reading phase, which then resulted in the exclusion of several studies.

Details of each study were recorded in an Excel spreadsheet, which included information such as: authors, country, year of publication, title, sample size, methods,

findings. Two types of data analysis were used to organize and synthesize relevant findings. First, a descriptive analysis was conducted, where the following data were recorded: references, study focus, keywords, and context. Second, a thematic analysis was conducted to group the data into codes and categories. Content was systematically extracted and coded according to the review question (Clarke & Braun, 2017). This process involved searching for literature related to the review topic or findings that might be of significance.

This review has several limitations, including that it identifies languages with a transparent orthography in a general way without excluding discussions of developmental reading disorders or dyslexia. In addition, the systematic review approach taken only included references represented by the search filters, and could have allowed manual selection to include more references not represented by the search filters.

RESULTS AND DISCUSSION

Result

The criteria for considering studies for this review reduced the initial source of 216 journal articles to 29 papers that underwent full-text analysis. In total, 29 papers were included in the final review. Of these, 1 was a qualitative study, 13 were systematic reviews, and 15 is a quantitative study consisting of 6 quantitative linear regressions and 9 quantitative experiments.

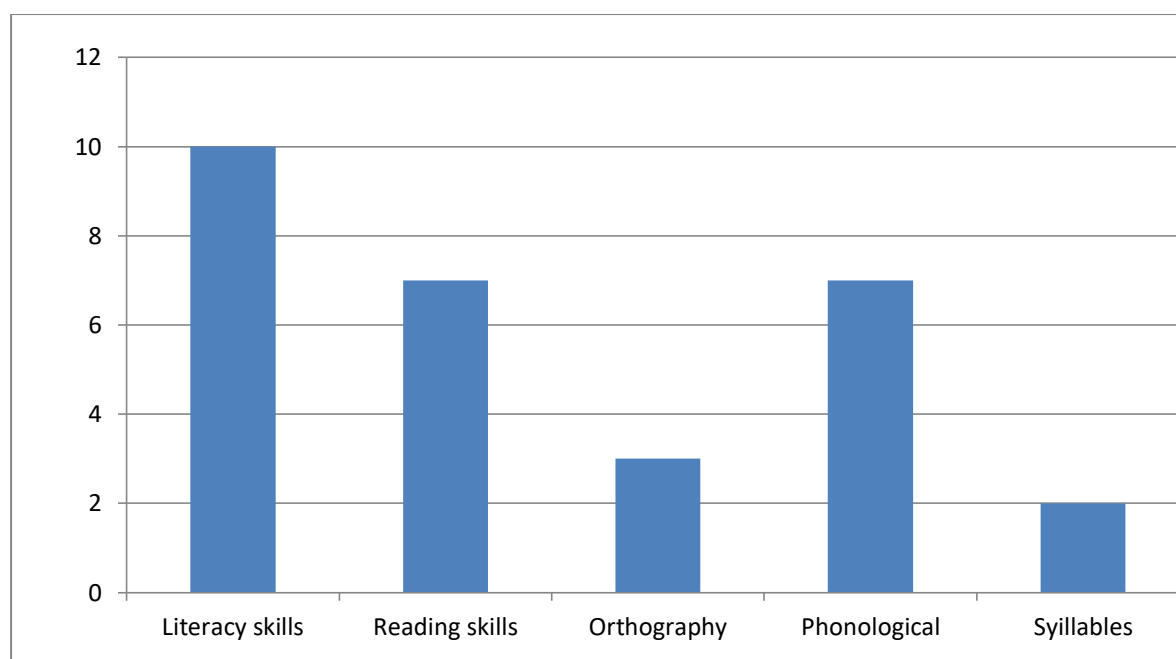


Figure 2. Terminology Used in 29 Research Articles

Of the 29 papers reviewed, 26 focused on samples of normal or non-disordered children and 3 used samples of children with disorders. Overall, the study interpreted results from 2853 children, of whom 2672 were children without reading disorders, 172 children with reading disorders or dyslexia and 9 children with hearing impairment.

Table 5. Geographical Location of Research

Country	Amount article	Country	Amount article

Brazil	2	Italy	6
US	6	Serbia	1
Spanish	1	Portugal	1
Canada	1	German	1
Malaysia	1	Sweden	1
Finland	2	Norway	1
Dutch	1	China	2
Japan	1	Zambia	1

In table 5, the geographical location of the research reviewed from various countries that use transparent orthographic language structures can be seen. However, the review from England is only for comparison in the review, because the use of language with a complex orthographic structure cannot represent the review being studied.

A total of 13 different languages were explored in this study, with English (n=5), German (n=2), Brazilian (n=2), Spanish (n=1), Canadian (n=1), Malaysian (n=1), Serbian (n=1), Portuguese (n=1), Finnish (n=3), Dutch (n=2), Chinese (n=3), Japanese (n=1), and Italian (n=6). In general, the languages most frequently analyzed were those with transparent orthographic structures, with the aim of providing insight into Title relevant to the research, namely to explore reading methods that are appropriate for Indonesian, namely a language with transparent orthography speakers.

Based on a review of various literature, the results of the review were obtained, namely: the acquisition of early literacy in transparent orthography, early stage syllable recognition from phonological awareness, and predictors of early literacy. The first finding is the acquisition of early literacy in transparent orthography. The data is compiled based on research findings that explain the acquisition of early literacy in children. Based on the review of the literature that has been studied, the findings are that early literacy can be obtained by identifying the orthographic structure of the language, whether it is a transparent or non-transparent (complex) orthographic structure. So that by understanding the orthographic structure used, the right method can be obtained in the process of learning to read.

For users of languages with transparent orthographic structures such as Indonesian, in acquiring literacy skills it is more appropriate to use the syllable method. Majorano et al. (2021) research provides new evidence on how the relationship between early literacy skills and literacy acquisition varies across languages with more or less transparent orthographic systems, thus contributing to the knowledge needed to design tests that can be applied across countries and contexts. The results showed that children who speak languages with more transparent orthographic systems and participate in preschool activities designed to improve literacy skills have higher early literacy scores.

Literacy skills are shaped by each speaker's linguistic and orthographic experiences. For speakers with transparent orthography, syllable patterns are more appropriate for early literacy acquisition. Preschoolers tend to be able to identify larger

linguistic units before smaller ones, progressing from the word level to the syllable level, then to the onset/rime level, and finally to the phoneme awareness level (Anthony & Lonigan, 2004; Carrillo, 1994; Carroll et al., 2003; Ho & Bryant, 1997; Ziegler & Goswami, 2005 in (Rathcke et al., 2024).

The second finding is the introduction of early syllables from phonological awareness. Regarding literacy acquisition, OCEPE (Orientações Curriculares para a Educação Pré-Escolar) strongly emphasizes a holistic approach by highlighting the importance of promoting oral language and recognizing the value of play activities in children's natural environments as an effective way to support emerging literacy skills and positive attitudes. However, this guideline does not completely disregard the technician's perspective, as it still emphasizes the need to develop code-related skills. Therefore, preschool teachers have an important role in selecting and implementing practices that support children's early language and literacy development (Lynch, 2017; Piasta et al., 2020). So it is necessary for every preschool teacher to understand the application of relevant theories and methods. By understanding the orthographic structure used, it can lead to the use of appropriate methods in children's literacy learning.

Several studies have shown that oral language skills (i.e., vocabulary), print concepts, and phonological awareness in preschool can predict reading and reading comprehension skills from first to fourth grade (Albritton et al., 2018; Storch & Whitehurst, 2002). A study by Albritton et al. (2018), involving 34 children assessed at the end of kindergarten and first grade through hierarchical multiple regression analysis, found that reading skills were primarily predicted by phonological awareness measured in kindergarten, then by phonological memory skills measured at the end of first grade.

Another study by Storch & Whitehurst (2002), examined factors related to oral language and coding skills for reading in a longitudinal study of 626 children from preschool to fourth grade. Structural equation modeling showed that in early elementary school, reading skills is largely influenced by the print knowledge and phonological awareness that children acquire in kindergarten, whereas in later elementary school, reading accuracy and comprehension are seen as two separate skills influenced by a variety of different skills.

Because spoken language is multidimensional, researchers emphasize the importance of evaluating various language skills (Hendricks et al., 2019; Fuchs & Fuchs, 2008, such as phonological awareness and vocabulary (Ecalte et al., 2020; Schluter et al., 2020; Castro & Barrera, 2019). Vocabulary is considered a key factor in emerging literacy research (Ecalte et al., 2020; Fuchs & Fuchs, 2008). Dickinson et al., (2003) stated that vocabulary reflects a child's effective use of language. Therefore, vocabulary is an early stage in the development of phonological awareness for children who speak languages with transparent orthographic structures.

The third finding is the predictor of early literacy. There are several predictors that can influence early literacy skills, namely the quality of early education starting from school and the home environment, the curriculum in schools, namely the suitability of the method with the language used, and the natural process in children's interactions. Research shows that one of the main predictors for the development of new literacy is the quality of early education (Lee-Hammond & McConney, 2017; Niklas & Tayler, 2018). The quality of education involves several variables that according to Tietze et al. (2010) can be grouped into three categories: structure, including group size and adult training; educational orientation, including teacher beliefs and values; and process, which involves

interactions between children. In this case, preschool teachers play a major role in improving children's literacy skills.

Therefore, preschool teachers should understand the use of appropriate methods in early childhood literacy learning, by paying attention to the characteristics and theories of early childhood literacy acquisition.

Discussion

The discussion section refers to the reviewed literature related to research by Schachter et al. (2023), that emergent literacy consists of behaviors, knowledge, and attitudes that develop before conventional reading and writing (International Literacy Association, n.d.). The current concept of literacy has evolved over time, starting from the original work of Clay (1966), who recognized that the early behaviors and knowledge demonstrated by young children related to literacy include specific skills that form the basis for more formal reading skills (Tracey & Morrow, 2017; Whitehurst & Lonigan, 1998). These early literacy skills help children understand the relationship between language and print, and how to construct meaning from text (Piasta, 2014), while engaging in literacy as a social and academic process (Kendeou et al. 2009; Schleppegrell, 2012).

Within this developmental literacy framework, early literacy domains typically include alphabet knowledge, phonological awareness, emerging writing, print and book knowledge, and oral language (Herrera et al., 2021; Hjetland et al., 2019; Sénéchal et al., 2001). To support children's early literacy development, early childhood education (EC) teachers are encouraged to focus on skills within these domains (e.g., rhyming in phonological awareness).

Differences of opinion arise in the literacy framework according to Herrera et al. (2021), Hjetland et al. (2019), and Sénéchal et al. (2001) in Schachter et al. (2023) the early domain includes alphabet knowledge. In contrast to the opinions of Anthony & Francis (2005), Carrillo (1994), Carroll et al. (2003), Ho & Bryant (1997), Ziegler & Goswami (2005) in Rathcke et al. (2024), who argue that preschoolers tend to be able to identify larger linguistic units before smaller units, developing from the word level to the syllable level, then to the onset/rime level, and finally to the phoneme awareness level.

This difference occurs because of research conducted by the Schachter et al. (2023) was conducted in the United States (USA), with the language used being English. According to Wilsenach (2019) English, German, Dutch, and French speak languages with complex syllable structures. So that alphabet knowledge becomes the initial domain in acquiring literacy. This study aims to provide an overview of literacy acquisition in children with transparent orthography, which is more appropriate using the syllable method, through a summary and synthesis of previous findings. However, to gain a deeper understanding of the application and effectiveness of the syllable method on children's literacy skills, further research is needed.

CONCLUSION

Based on a systematic review of the literature (SLR) conducted on 29 papers involving more than 2800 children, the main findings of this study indicate that early literacy acquisition is strongly influenced by the orthographic structure of the language used. For languages with transparent orthographic structures, such as Indonesian, a syllable-based approach has been shown to be more effective in supporting early childhood literacy development. Syllables and phonological awareness play an important role in the early stages of literacy acquisition, with children identifying larger linguistic

units (such as syllables) before smaller units (such as phonemes). Therefore, teaching methods that utilize syllables are highly recommended for children learning languages with transparent orthographic structures. In addition, the quality of early education, both at school and at home, is also an important predictor of children's literacy development. Preschool teachers have a key role in directing literacy learning with methods that are appropriate to the orthographic structure of the child's language. Teachers' understanding of the characteristics of the language used by children will help in choosing the right teaching method.

The study also showed that vocabulary, phonological awareness, and oral language skills in preschool are the main predictors that influence children's reading and reading comprehension skills. Thus, early literacy is not only influenced by the methods used, but also by the social interactions and linguistic experiences that children receive from an early age. Overall, this study confirms that a holistic approach that pays attention to children's orthographic structure and linguistic experiences is key to supporting early childhood literacy development, especially in countries with languages that have transparent orthographic structures such as Indonesia. This study discusses more languages with transparent orthographic structures, and less research on languages with complex orthographies is needed. Therefore, further research is needed involving samples of children with complex orthographic languages to gain a more comprehensive understanding of the role of orthography in children's early literacy.

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