

Review

Reading and writing methods: A challenge in the educational process

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Abstract: The objective of this research was to analyze several reading and writing methods used in educational settings, evaluating their pedagogical approaches and their effectiveness in the process of learning to read and write in school-age children. A systematic review was carried out in the open databases Dialnet and ScieELO, using different inclusion and exclusion criteria, which resulted in 164 documents, applying the PRISMA protocol, 20 were selected. A narrative synthesis analysis was carried out on the following dimensions: reading and writing methods, applied strategies, similarities with other methods and impact on the development of literacy. It is concluded that the combined application of the methods of synthetic and analytical approaches to reading and writing paves the way to attend to the diversity of learning styles, facilitates the strengthening of specific linguistic skills, and strengthens reading comprehension and writing competence.

Keywords: reading; writing; methods; pedagogy; education

1. Introduction

There is a wide range of methods for teaching reading and writing in the educational environment, due to the inherent complexity in the process of acquiring reading and writing in students, which respond to their cognitive (González López, 2020), linguistic and psychological (Montealegre and Forero, 2006), developmental stages, as well as to their individual differences, learning rhythms, cultural diversity and educational needs (Troya et al., 2017), it has been generating uncertainty about which methodology is the best.

Educational research and advances in the understanding of neuroscience in learning have contributed to the creation and adaptation of different methods of teaching reading and writing, in which specific strategies have been established in which they relate between the letter and its sounds, the sentence and the word, the decoding of texts, their fluency and reading comprehension.

In addition, it should be mentioned that the demands of society and the integration of technology in education have generated new methods, which take advantage of digital resources to improve literacy and reading competence of students; in this sense Neva (2021) mentions that this interaction allows from two approaches the creation of literacy methods that facilitate learning in face-to-face and virtual environments.

These approaches shown in **Figure 1**, from their nature of teaching and learning are grouped according to Ferreiro and Teberosky (1979) in Synthetic, Analytical and Mixed, this classification has become a fundamental frame of reference to understand and analyze the strategies applied in literacy and has significantly influenced literacy pedagogy.

The Synthetic Approach is distinguished by its teaching strategy which starts from the simplest elements to reach complex linguistic units endowed with meaning, encompassing traditional methods such as alphabetic, phonic and syllabic; to contemporary methods such as Montessori and Glifing. According to López & Álvarez (1991) they offer a wide and diverse spectrum used in literacy and language acquisition; these alphabetic, phonetic and syllabic processes let students “to be able to decipher, to reach the sound form of words from the units below them.” (p. 122).

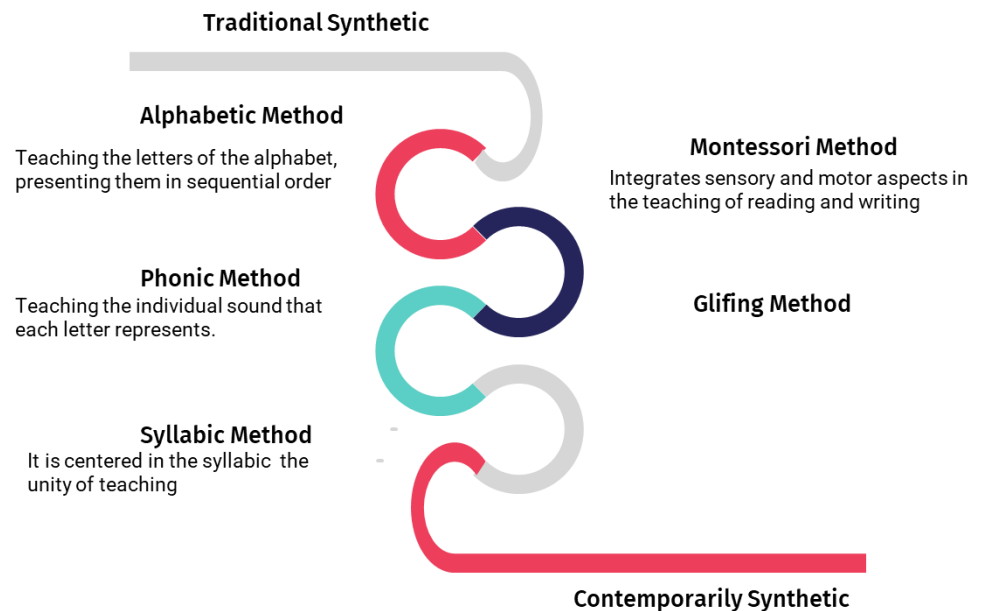


Figure 1. Synthetic approach to reading and writing.

From the Traditional Synthetic, the Alphabetic Method focuses on instructing and familiarizing students with the letters of the alphabet, teaching the shape, name and sound associated with each one, uses visual resources and mechanical activities to facilitate their association (Araya, 2019). In contrast, the Phonic Method teaches reading using the sounds of the letters, associating them with their pronunciations, which allows combining sounds to build words and sentences, thus establishing a fundamental basis for decoding (Fernández-Ojanguren et al., 2003). Finally, the Syllabic Method relies on phonetic segmentation, that is, it focuses on teaching reading through syllables, conducting students to identify and combine syllables to form words (González López, 2020).

Contemporary Synthetic Methods combine traditional elements with modern and technological approaches, as is the case of the Montessori Method, which according to Troya et al. (2017) is based on sensoriality and practical interaction, using didactic materials to learn letters and sounds, encouraging student self-exploration. On the other

hand, Glifing is an innovative method with a systematic and playful approach to improve reading skills, using interactive exercises and educational games.

The Analytical Approach starts from meaningful text units, such as words or sentences, to break them down into their basic elements; it focuses on understanding globally before analyzing individual parts. Sousa (2014) includes to this approach the Global Method, which teaches complete texts for students to recognize and understand them without breaking down words into letters and sounds, promoting a natural assimilation of reading before understanding its most basic parts. The Phonological Route is also considered Mena-Andrade (2020) because it is based on the comprehension of phonemes to relate sounds and letters, breaking down words into phonological units, facilitating reading and writing by understanding and combining these elements to interpret the written text.

Finally, the Blended Approach seeks to amalgamate the best of the synthetic and analytic approaches to provide students with a holistic understanding of reading and writing, adapting to their individual needs. Clay (1985) is one of the researchers who proposed including elements of the analytic and synthetic approaches through a balanced approach, highlighting the importance of text comprehension and the use of meaningful contexts for learning to read. This approach merges the strengths of different literacy methods to achieve a comprehensive and adaptive comprehension, such as Comprehensive Phonological, Constructivist Phonetic and Alphabetic, Phonetic Alphabetic and Syllabic, Synthetic Analytic, Conscious Reflective Phonological, among others, which combine strategies for a complete and progressive teaching.

Therefore, knowing the effectiveness of existing reading and writing methods becomes a necessity, since no definitive consensus has been reached on which method is the most effective. With this background, the objective of this research was to analyze the various literacy methods used in educational settings, evaluating their pedagogical approaches and their effectiveness in the process of learning to read and write in school-age children.

The questions that guided the research are two: What is the diversity of literacy methods used in educational settings for school-aged children? and What are the similarities between literacy methods used in educational settings, and their impact on the development of reading and writing skills?

2. Materials and methods

The research was based on a systematic review (Marmo et al., 2022) under the PRISMA protocol (Page et al., 2021) in order to collect relevant information on literacy methods used in educational settings for school-age children. A documentary search was carried out in open databases Dialnet and ScieELO during the month of December 2023, using as a strategy the keywords combined as children's literacy methods, children's literacy learning, children's language skills development and children's reading comprehension. Likewise, a search was conducted in institutional web pages and digital books according to the topics of interest of this study.

The document selection process was carried out following the inclusion and exclusion criteria, as shown in **Table 1**.

Table 1. Eligibility criteria.

Field	Inclusion Criteria	Exclusion Criteria
Geographical origin	Studies conducted in Ecuador, Mexico, Brazil, Uruguay, Colombia and Peru	Studies carried out in other countries not selected.
Years	Studies conducted between 2000 and 2023	Studies conducted before 2000.
Language	Studies available in Spanish and Portuguese.	Studies in languages other than those selected.
Type of information	Theoretical, scientific and empirical literature.	Non-scientific information or information that does not belong to the academic discourse.
Population	Children from 3 to 8 years of age	Population that does not fall within the age range of the study.

Note: Criteria considered for the selection of documents.

The preliminary findings of the search in each database and resource consulted, considering the previously established inclusion and exclusion criteria, are presented in **Table 2**. These criteria made it possible to filter and select relevant information according to geographic scope, time period, language and type of information required for the study.

Table 2. Findings from the databases.

Database	Keywords	Findings
SciELO	Children’s reading and writing methods	<i>n</i> = 2
	Children’s literacy learning	<i>n</i> = 10
	Children’s language skills development	<i>n</i> = 15
	Children’s reading comprehension	<i>n</i> = 8
	Children’s reading and writing methods	<i>n</i> = 15
Dialnet	Children’s reading and writing learning	<i>n</i> = 34
	Development of children’s language skills	<i>n</i> = 16
	Reading comprehension for children	<i>n</i> = 25
Institutional websites	Topics of interest	<i>n</i> = 9
Digital books	Topics of interest	<i>n</i> = 30
Total		<i>n</i> = 164

These 164 documents were conceived as a starting point for the rigorous extraction and evaluation of information within the PRISMA protocol as shown in **Figure 2**, which guaranteed the relevance and quality of the systematic review, ensuring the validity and reliability of the process.

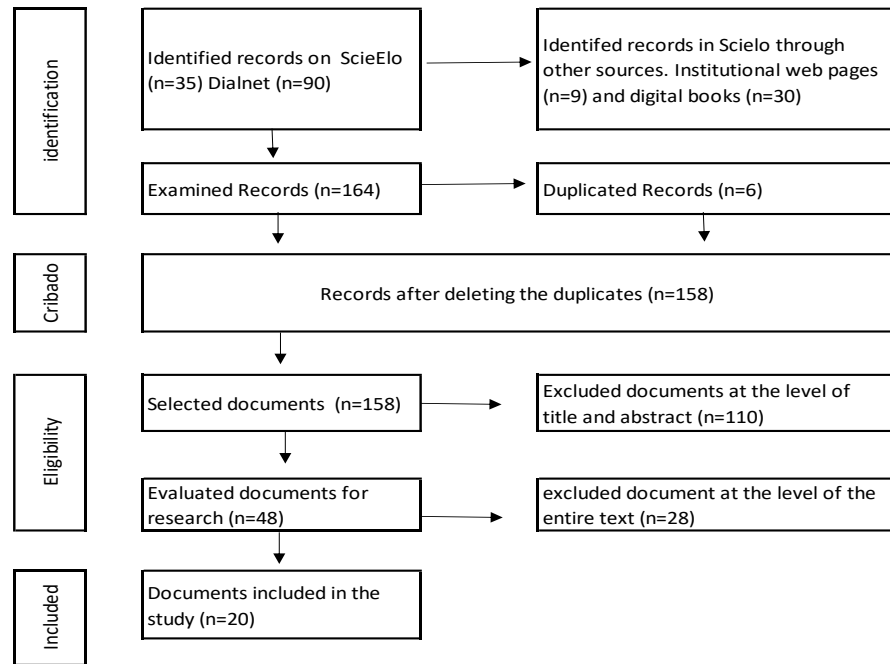


Figure 2. PRISMA Protocol.

The analysis addressed the two research questions using the Narrative Synthesis technique (Yepes, 2010), which made it possible to identify patterns and trends by extracting and synthesizing the findings of the systematic review described in **Table 3**.

Table 3. Systematic review findings.

Bibliographic Data	Reading and writing methods	Applied to Strategies	Similarities with other Methods	Impact on reading writing development	Conclusions
De Mello Francatto and Porta (2017)	The study highlights five pedagogical approaches used to teach literacy: global, mixed constructivist-alphabetic, mixed constructivist-phonological, mixed constructivist-phonemic and phonemic.	The phonemic method focuses on the association between phonemes and letters; global methods work with whole words or phrases. The combination of approaches, such as traditional alphabetic teaching with constructivist strategies, is also discussed.	Comparisons are made between the pedagogical proposals, identifying their differences and similarities in relation to the level of literacy and writing achieved by the students. It is shown that the phonemic proposal had the highest literacy level, while the global strategy (constructivist/phonological) presented the lowest level.	A statistical analysis is carried out to evaluate the effect of each pedagogical proposal on the level of literacy and writing achieved by the students. It is concluded that strategies that promote phonemic awareness resulted in a higher level of literacy, while more global strategies and less focused on phonemes and phonology obtained lower results.	<p>In teaching literacy, strategies focused on phonemic awareness were used, proving to be the most effective for the development of literacy in first-year students.</p> <p>Five different pedagogical approaches were identified for teaching literacy: global, mixed constructivist-alphabetic, mixed constructivist-phonological, mixed constructivist-phonemic and phonemic.</p> <ul style="list-style-type: none"> • The results show that the phonemic approach, which focuses on manipulating and exercising the phonemes of words, led to a higher level of literacy compared to the other pedagogical approaches. • Global teaching and some blended approaches were not as effective for literacy development, showing a lower level of literacy. • - The importance of promoting phonemic awareness through specific didactic strategies, such as working with letter sounds, games and activities involving the manipulation of phonemes in words, is highlighted.
González López (2020)	The study proposes the FAS method; a mixture of the phonetic, alphabetic and syllabic model of Mariela González López.	The type of strategies that were implemented were interactive, playful, and discovery strategies, because based on strategic play they learn words or specific themes.	For reading and writing, it is essential that pre-academic and linguistic skills be learned before entering the first year of basic education.	These strategies have had a positive impact on the development of key literacy skills in students. They have favored the development of thinking skills, observation, identification, writing, reading, oral and written communication, as well as socialization and increased vocabulary.	<p>It is concluded that reading literacy is closely related to the development of thinking skills, informational, linguistic and motor skills in students.</p> <p>It is also recognized that time is a critical variable in the development of literacy, and the importance of planning to achieve teaching and learning objectives, especially in the reading and writing process, is emphasized.</p>

Table 3. (Continued).

Bibliographic Data	Reading and writing methods	Applied to Strategies	Similarities with other Methods	Impact on reading writing development	Conclusions
Torres Vilatuña (2022)	The study presents the comparison and application of methods such as Syllabic and Global for teaching reading and writing.	The strategy used was the application of complementary didactic techniques and the adoption of different learning levels.	The pedagogical methods used in the process of teaching reading and writing have similarities with traditional approaches. The syllabic method emphasizes syllabic separation and the association of sounds with letters, which is similar to phonetic methods. In contrast, the global method, although it has a more holistic approach, seems to be less effective in terms of engaging students' interest and performance in the reading and writing methods.	The syllabic method had a more effective impact on the development of literacy, especially due to its ability to capture students' attention and accelerate the learning process. It is mentioned that, despite its traditionality and repetition, this method shows faster and more effective results compared to the global method. Observation suggests that students respond better to the syllabic method in terms of their enthusiasm and performance during activities related to reading and writing.	It is concluded that, in the use of the syllabic and global methods as didactic strategies in the process of learning to read and write, the bibliographic evidence recognizes the use of the syllabic method as the most favorable as an introductory technique in the process of learning to read and write in children, familiarizing them with the letters and their phonetics, to consecutively increase their difficulty stage It was determined that the method most used by teachers is the syllabic method, the phonetic method as the second most used in their practices, while the global method is the least used.
Esquivel (2019)	Teaching methods varied from global to phonetic approaches, each with particular results and approaches in the development of reading and writing.	Strategies such as dictation, copying, orthographic and grammatical explanations, reading aloud, among others, were widely used.	Patterns and differences were observed in phonological development, reading and writing errors, and text comprehension, according to the method used.	The methods and strategies influence the development of lexical and phonological skills, comprehension and structuring of texts.	It is evident that some research highlighted the predominance of the use of the syllabic, alphabetic and syntactic method in reading; writing is not approached from the analysis of the methods used by teachers in teaching and learning.

Table 3. (Continued).

Bibliographic Data	Reading and writing methods	Applied to Strategies	Similarities with other Methods	Impact on reading writing development	Conclusions
Torrado Duarte et al. (2018)	The study compared two methods of teaching literacy: the reflective and conscious phonological analysis method (G1) and the analytic-synthetic method (G2)	<p>Reflective and Conscious Phonological Analysis Method (G1): It seeks the gradual internalization of the phoneme-grapheme relationship and the conscious symbolic representation of oral language. It considers the process of internalization of mental actions in stages.</p> <p>Analytic-Synthetic Method (G2): It begins with the analysis of the written word, breaking it down into syllables and sounds. It presents the sounds in combination with the vowels, without considering various types of phoneme-grapheme relationships in Spanish.</p>	Differences are highlighted in the performance of both groups in literacy tasks. The results obtained agree with previous research about the effectiveness of pedagogical methods that consider phoneme-grapheme analysis for the acquisition of reading and writing.	<p>Significant differences were identified between the groups in the incidence of errors in reading and writing tasks. G1 (Reflexive and Conscious Phonological Analysis Method) evidenced a lower number of errors compared to G2 (Analytic-Synthetic Method) in aspects such as omission of letters, addition of letters, spelling errors, comprehension of meaning and sense of texts. It is concluded that the reflective and conscious phonological analysis method (G1) had a positive impact on the development of literacy compared to the analytical-synthetic method (G2), showing a lower number of errors and greater comprehension of texts. The study emphasizes the importance of considering the phoneme-grapheme relationship and phonological awareness in teaching reading and writing to improve students performance in these skills.</p>	Notable differences in literacy skills were evidenced between groups taught with different methods. The phonological and conscious analysis approach (G1) showed a lower incidence of errors in reading, copying, dictation, and free writing compared to the analytic-synthetic method (G2). These findings support the effectiveness of considering the phoneme-grapheme relationship in acquiring literacy in students, impacting meaning comprehension and reading fluency. The phonological awareness promoted in G1 seems to positively influence the segmentation of oral language into written language, contributing to students' comprehension and written production.

Table 3. (Continued).

Bibliographic Data	Reading and writing methods	Applied to Strategies	Similarities with other Methods	Impact on reading writing development	Conclusions
Monteiro and Martins (2020)	The study analyzes the development of literacy in children through different conceptual levels of writing: pre-syllabic, syllabic, syllabic-alphabetic and alphabetic. Specific strategies used by children at each level to recognize and read words are observed, as well as common difficulties and patterns in the comprehension of the reading and writing process.	Arbitrary word substitution is observed in the first pre-syllabic level, identifying the meaning of words based on isolated letters or part of the word. At the initial syllabic level it is oriented to the segmentation of words orally into syllables. Deviant coding is observed at the alphabetic level where words with syllabic patterns are decoded.	The progression of alphabetic knowledge and the stages of development of reading and writing are related.	The study suggests that the evolution of the understanding of the alphabetic principle and the consolidation of the syllabic structure promote advances in reading strategies and the formation of the orthographic lexicon. In addition, it highlights the importance of pedagogical intervention to help children comprehend complex syllable patterns	Understanding of the alphabetic principle leads to advances in word reading, particularly in patterned words. <ul style="list-style-type: none"> • Arbitrary word substitution strategies occur at early levels and are abandoned at more advanced conceptual levels. • Knowledge of syllable patterns follow a developmental sequence similar to oral language acquisition. • Confrontation with complex syllabic patterns can modify the visual analysis system and lead to a broader perception of the complexity of the phonological structures of the language.
Marí Sanmillán et al. (2019)	The study compares two main methods: the phonological-synthetic method and the global method.	Phonological-Synthetic Method: enhances early skills such as phonological awareness, alphabetic knowledge, and speed of naming items such as numbers, letters, and colors. Global Method: Promotes reading fluency, accuracy and comprehension. As children progress in their learning, this method seems to favor rapid whole-word recognition strategies and facilitate reading comprehension.	It is evident that each method has a differentiated impact on various skills throughout the developmental stages. The results suggest an evolution in the relevance of certain skills, such as phonological awareness and naming speed, which show a better performance in children who follow the phonological-synthetic method at early ages. On the other hand, the global method seems to enhance fluency, accuracy and comprehension at more advanced stages.	A transition in reading strategies is observed as children advance in their learning; these methods have a differentiated impact on the development of reading skills and reading strategies at different educational stages. The phonological-synthetic method seems to be more effective in the early stages, while the global method demonstrates its effectiveness in later stages, enhancing reading fluency and comprehension.	The results show that the initial reading instruction methods, especially the phonological-synthetic method, have an impact on the early development of skills such as phonological awareness, vocabulary and alphabetic knowledge. However, when the rules of grapheme-phoneme conversion are mastered, the influence of these methods diminishes. The synthetic method stands out in early stages, while the global method is shown to be more effective at later ages by promoting reading speed and comprehension. The evolution of reading implies changes in strategies, and it is crucial to consider the choice of methods according to the stages of reading development for more effective learning.

Table 3. (Continued).

Bibliographic Data	Reading and writing methods	Applied to Strategies	Similarities with other Methods	Impact on reading writing development	Conclusions
Quijano et al. (2020)	An Invariant method is applied for the Teaching of Reading in underachieving children	It focuses on strengthening the initial prerequisites for reading, such as phonological awareness, symbolic function and flexible use of oral language. In addition, an intervention focused on phonemic and phonological awareness is applied to improve reading skills.	The results are consistent with the existing literature on the effectiveness of interventions that focus on phonemic and phonological awareness to improve reading ability. It is also mentioned that phonological awareness is fundamental to acquire reading skills..	An improvement in the reading processes of children with low performance is evidenced. The intervention reduces the occurrence of errors in the reading process, which positively influences its consolidation.	The intervention focused on phonemic and phonological awareness was effective in strengthening the initial prerequisites for reading. Although only the first stage of the method was applied, fewer reading errors were observed, implying greater reading accuracy. The application of a specific method showed positive results in the improvement of reading in children with low reading performance.
Sánchez Blanco (2008)	The study raised the importance of approaching the process of teaching and learning to read and write from a critical perspective.	The process of acquiring reading and writing should be based on discovery, on the discussion of social events, on the approach to humanities and social awareness.	The critical perspective of teaching and learning to read and write complements the contributions of psychological constructivism: analytical method (starting from elements smaller than the word), synthetic method (starting from the word), because it allows carrying out a process contextualized in the real needs of the students.	The teaching-learning process takes place within the framework of the direct relationship between text and context. From a critical perspective, the first approaches to the written language code should be based on the problematization of the meanings and contexts that students experience in their immediate environment.	<ul style="list-style-type: none"> • The acquisition of reading and writing should transcend the technification of synthetic or analytical methods towards a grounding and problematization of the relationship between text and context, of the diverse meanings of the environment and its possible social implication.

Table 3. (Continued).

Bibliographic Data	Reading and writing methods	Applied to Strategies	Similarities with other Methods	Impact on reading writing development	Conclusions
Villanueva and Fornieles (2015)	The study carried out a comparative exercise on the learning of writing, between constructivism and the synthetic-syllabic method	The study carried out a comparative exercise on the learning of writing, between constructivism and the synthetic-syllabic method - Constructivism proposes that the student should achieve an autonomous handling of the written language, through a trial-error process and a direct and permanent relationship with the meanings, texts and strategies found in the context where the activity is developed. The synthetic-syllabic method proposes a systematic, memorized and reiterated process of learning to write, through which, based on error, the student perfects writing, without necessarily involving creativity and significance.	The study was carried out with two groups of students in the second cycle of Early Childhood Education. The first group worked under the constructivist perspective and the second group worked under the synthetic syllabic method of learning to write. From this context, the hypothesis was that the group that worked under the constructivist perspective would achieve a higher level of learning and mastery of the writing system and written language compared to the group that worked with the synthetic-syllabic method.	Through constructivism, group interaction is promoted around the cooperative construction of knowledge, based on the concerns and needs of each student about the writing system, as well as on guided problem solving. By means of the synthetic-syllabic method, the deciphering of words is promoted from the memorization and repetition of the letters that compose them, which implies a review routine during a period of time. In this sense, no work is done on interpretation, analysis or creation, since it is necessary to follow a pre-established pattern (spelling-sound relationship) in order to achieve adequate writing.	<ul style="list-style-type: none"> • Using constructivism to develop the writing acquisition process turned out into better results for the group of students who applied it, because it conducted them to appropriate the writing system in a better way.

Table 3. (Continued).

Bibliographic Data	Reading and writing methods	Applied to Strategies	Similarities with other Methods	Impact on reading writing development	Conclusions
Quiñonez and Correa (2023)	The study addressed the development of phonological awareness in the reading and writing acquisition process.	Phonological awareness is enriched by the various methods and strategies of literacy acquisition as didactic resources that made possible the development of the decoding process, in a progressive manner, until reaching a pre-writing and writing level.	- Within the framework of the relationship between the development of phonological awareness and the teaching and learning of reading and writing, previous studies indicate that students achieve the development of more complex metalinguistic skills with the support of permanent interaction with adults. - The development of phonological awareness, according to other studies, is favored with the application of literacy acquisition methodologies such as: the phonetic, syllabic, global and hybrid methods.	Developing phonological awareness pushes students to acquire lexical awareness, harmonic sensitivity, phonemic awareness and syllabic awareness.	<ul style="list-style-type: none"> • The development of phonological awareness enhances the acquisition of literacy, regardless of the teaching method or strategy used by the teacher.
Yagual-Cedeño and Jara-Escobar (2023)	The study used the Montessori Abc, emphasizing the use of this resource as the central axis of the research, through playful and recreational activities.	The strategies are based on playful recreational activities as a didactic tool. Use of Technological Resources: Online surveys using Google Forms were used to obtain information from parents as part of the data collection.	N/A	Improvement in letter and sound recognition skills, highlighting that most students were able to easily recognize sounds and letters taught with the mobile alphabet, indicating progress in phonological and visual awareness.	The autonomy acquired in terms of the use of the material and responsibility is highlighted, Children were able to work with the letters taught, creating, recognizing and assembling words of up to 3 syllables. The students were able to identify other letters related to their environment, i.e., letters that were not taught during class hours, but are part of their names, surnames, among others. The phonology and spelling of the letters taught were fully recognized

Table 3. (Continued).

Bibliographic Data	Reading and writing methods	Applied to Strategies	Similarities with other Methods	Impact on reading writing development	Conclusions
Fernández-Ojanguren et al. (2003)	The study analyzes a phonetic methodology specifically based on the MIL method (Computerized Reading Method).	The methodology proposes that the teacher read a written text and gradually segment it until reaching the minimum unit (word) from which the teaching of the semantic category (letter) begins. In other words: teachers can start with the global method and quickly move on to the synthetic method.	It was presented how the global method replaced the synthetic method and later returned to the synthetic method. Among the reasons presented was that the global (analytical) method requires students to know a large number of words.	The research agrees that the global method is more attractive than the phonological method; however, the synthetic method turns out to be somewhat more effective. In consideration of this, the study proposes as an alternative for reading and writing the phonetic method as part of the synthetic method, specifically the MIL method.	The results indicated that the MIL method is statistically effective for reading. However, few letter substitution errors were recorded, typically associated with pronunciation or attention, compared to substitution mistakes produced with other methods.
Arnaiz-Sánchez et al. (2002)	This research analyzes the relationship between phonological awareness and the reading and writing process. In this process, work is done with the manipulation of sound segments until the phoneme is reached.	This methodology is based on establishing a relationship between the phoneme (sound) and the grapheme (letter).		Through the application of the test of metalinguistic skills (THM), syllabic segmentation, syllabic suppression, rhyme detection, syllabic additions, the ability to isolate phonemes, the ability to join phonemes and finally the child's ability to count phonemes were evaluated.	<ul style="list-style-type: none"> The results indicated that syllable segmentation had the best results, while the lowest outcomes were associated with the ability to count phonemes.
Asegurado (2016)	The research addresses the emergent literacy paradigm and its relationship to reading.	The paradigm contemplates elements inside and outside the reading process. Among the exogenous elements are presented the family context, narrative knowledge, Language and vocabulary. Endogenous factors are related to spelling skills, letter knowledge, phonological and syntactic knowledge.	This paradigm contrasts with the traditional idea of neuropsychological maturity, in which reading is considered to begin with explicit instruction.	Research reveals that phonological ability tends to be better in favorable social and family contexts, so it is worth considering its systematic presence in teaching programs with students from disadvantaged contexts.	<ul style="list-style-type: none"> The authors recommend the intervention of the educational authority so that the implementation of the curriculum (real curriculum) is effective

Table 3. (Continued).

Bibliographic Data	Reading and writing methods	Applied to Strategies	Similarities with other Methods	Impact on reading writing development	Conclusions
Vieiro-Iglesias et al. (2015)	The research analyzes the use of phonemes, syllables and morphemes used in orthographic lexical access.	For the study, the ELCE test was considered (exploration of speech and language in Spanish at the level of verbal comprehension and elocution)	This methodology is related to phonological awareness as the use of phonemes since they facilitate the conversion from spoken to written language.	The correlational analysis concluded that the sub-lexical units are skills prior to accessing literacy. In addition, it was found that there is a direct relationship of linguistic segmentation for correct phonological lexical representation.	<ul style="list-style-type: none"> • Among the findings are mainly unveiled students' ability to segment words. Likewise, difficulties in identifying pseudowords were resulting from omitting a letter in the word. Difficulties were also found in segmenting words in the presence of diphthongs.
Ministerio de Educación (2016)	The text proposes a "mixed approach" also called interactive, holistic or balanced for initial literacy.	The blended approach takes several elements of the communicative approach such as immersion in written language, and many of the strategies proposed for teaching reading and for text production, but it differs in the initial literacy stage by recognizing the need to systematically approach the learning of the alphabetic code.	In this proposal, it differentiates the teaching of the alphabetic code from the teaching of reading and writing. When teachers are teaching the phoneme-grapheme relationship, they are not teaching reading or writing, they are teaching the alphabetic code that makes explicit the relationship between phonemes and graphemes. This means that, in the second year, as the new curricular proposal states, a teacher, in addition to teaching the alphabetic code, must teach and reinforce reading, writing and oral communication.	N/A	The proposal for teaching the alphabetic code in the second year of General Basic Education is distinguished by its focus on meaning. Contrary to mechanical learning, it encourages reflection on language, criticizing previous methods that separate letters from the individual's linguistic competence. This proposal starts from orality, aware that the subject already possesses prior knowledge. By promoting writing before reading, it facilitates the understanding of the alphabetic code, encouraging students to discover how letters are communication tools. This approach, based on the phonological route to writing, allows understanding the phoneme-grapheme relationship in Spanish, thus facilitating its learning.

Table 3. (Continued).

Bibliographic Data	Reading and writing methods	Applied to Strategies	Similarities with other Methods	Impact on reading writing development	Conclusions
Laboratorio Latinoamericano de Evaluación de la Calidad de la Educación (LLECE), (2022)	The assessment of the test applied in the ERCE 2019 was developed with a “functional communicative approach to language” (UNESCO, 2022, p. 7).	The mixed approach takes several elements of the communicative approach such as immersion in written language, and many of the strategies proposed for teaching reading and for text production, but it differs in the initial literacy stage by recognizing the need to systematically approach the learning of the alphabetic code. The instrument applied to 4th grade students considered three domains: discursive, textual and legibility conventions; each domain was made up of several indicators with a rating scale determined by four categories (UNESCO, 2022).		In the discursive domain, more than 50% of the students evaluated were placed below category 3; in the textual domain, more than 60% of the children evaluated were placed above the second category; in the legibility conventions domain, the initial spelling and punctuation indicator was considered. Regarding the initial spelling, phoneme-grapheme association, less than 20 are in the fourth category, that is, a low percentage relates the phoneme-grapheme independently of the spelling, but “in the writing of the letter, 26.6% of the students are in category 1, which implies that the texts produced present more than seven errors of phoneme-grapheme association in the words used. In the writing of the dance presentation, 16.8% of the students are in this category” (UNESCO, 2022, p. 26). In punctuation, more than 60% are in the fourth category.	The results of the ERCE 2019 assessment indicate that students still fail to consolidate literacy processes.
(Instituto Nacional de Evaluación Educativa (2022)					According to the Fourth Regional Comparative and Explanatory Study (ERCE) “the results in Reading and Mathematics of 4th grade of EGB have improved with respect to the previous assessment (compared to TERCE)” (Ineval, 2022, p. 45). However, the findings indicate that “the main shortcoming in the education of girls and boys in Ecuador is in Reading” (Ineval, 2022, p. 89).
USAID (2018)	NA	NA	NA	NA	According to the report of the United States Agency for International Development (2018) the approach to reading is “a complex competency that requires the simultaneous implementation of five skills (phonological awareness, phonics, vocabulary, fluency, and comprehension)” (p. 19)

3. Results and discussion

3.1. Analysis 1

What is the diversity of literacy methods used in educational settings for school-age children?

3.1.1. Dimension reading writing methods

The exploration carried out has reflected that a diversity of methods of the literacy-writing approaches is being applied. In the Synthetic Approach, the phonemic method of De Mello Francatto and Porta (2017), the syllabic method proposed by Torres Vilatuña (2022), the phonetic approach mentioned by Esquivel (2019), and the research on the Montessori Alphabet by Yagual-Cedeño & Jara-Escobar (2023) stand out. In contrast, the Analytical Approach highlights the Global Method proposed by De Mello Francatto & Porta (2017), Torres Vilatuña (2022), Esquivel (2019) and Marí Sanmillán et al. (2019).

Regarding the Mixed Approach, the phonetic-type methodology, known as Method based on Information Technology applied to Reading (MIL) presented by Fernández-Ojanguren et al. (2003). Likewise, De Mello Francatto & Porta (2017) propose methods such as the constructivist-alphabetic, constructivist-phonological and constructivist-phonemic combination in their mixed approach. González López (2020) introduces the FAS method, which merges the phonetic, alphabetic and syllabic model. On the other hand, Torrado Duarte et al. (2018) compare the analytic-synthetic method with the reflective and conscious phonological analysis method. In addition, Marí Sanmillán et al. (2019) research about the phonological-synthetic method, while Villanueva & Fornieles (2015) address the synthetic-syllabic method. Finally, the Ministerio de Educación (2016) proposes a “mixed approach”, also known as interactive, holistic or balanced. These methods represent different mixed approaches that combine aspects of diverse methodologies, seeking to provide comprehensive and adaptive teaching in the literacy process.

This study reveals a wide variety of approaches that reflect a growing trend towards the combination of methodologies. It also highlights the importance given to phonological awareness and detailed comparisons between different approaches, delineating the dichotomy between global and synthetic approaches. These findings reinforce the idea that the combination of strategies and the recognition of phonological awareness are fundamental in the process of acquiring reading and writing skills.

3.1.2. Applied Strategies Dimension

The studies reveal the application of specific strategies in different literacy methods. Among these, the Synthetic Approach with its Phoneme-Grapheme Association, which focuses on the direct relationship between sounds (phonemes) and letters (graphemes), focusing on the decoding of words from their phonetic structure; they are based on the use of interactive, playful and discovery techniques to facilitate learning through strategic games. In this same line, complementary didactic techniques such as dictation, copying, orthographic and grammatical explanations, and reading aloud were used. Complementing the strategies of this approach, recreational

activities were applied as a didactic tool for the teaching-learning process, and the use of technological resources: providing an additional way to obtain feedback from parents.

The Analytical Approach strategies are based on traditional alphabetic teaching combined with constructivist strategies, combining methods that work with whole words or phrases along with strategies that promote learning through interaction and active construction of knowledge by students. Finally, the Mixed Approach strategies align to the integration of multiple pedagogical approaches, taking elements from different methods in order to balance the teaching of both phoneme-grapheme relationships and global word comprehension.

3.2. Analysis 2

What are the similarities between literacy methods employed in educational settings, and their impact on the development of reading and writing skills?

This analysis provided an understanding of the similarities between these approaches and their influence on the development of reading and writing skills in students, making it possible to identify convergent points and common aspects that influence the acquisition of fundamental skills in reading and writing. In this sense, the following dimensions are examined.

3.2.1. Dimension Similarities with other Methods

Convergent points and differences between the approaches used are revealed, evaluating their development of reading and writing skills, highlighting that the Phonetic Method is positioned with the highest level of literacy compared to the global approach. It highlights the importance that pre-academic and linguistic skills should be acquired before the entry of basic or primary education.

There are similarities between the traditional and contemporary methods, because the syllabic and phonetic methods share strategies focused on syllable segmentation and the sound-letter relationship. On the other hand, the global method, despite its holistic approach, seems less effective in attracting students' interest and performance in literacy.

Patterns in phonological development, reading and writing errors, and text comprehension were also examined, identifying differences depending on the method used. It is highlighted that each method has a differentiated impact on specific skills across developmental stages, suggesting an evolution in the relevance of certain skills depending on the approach used.

These results coincide with the existing literature on the effectiveness of interventions that focus on phonemic and phonological awareness to improve reading skills. Also, it is evident that each method has a differentiated impact on various skills across developmental stages, with the global method promoting fluency, accuracy, and comprehension at more advanced stages, while the phonological-synthetic method enhances specific skills at earlier ages.

This analysis also reveals how teaching methods have varied over time, showing shifts from the global to the synthetic method and vice versa; contrasting with the traditional notion of maturity and the explicit beginning of reading instruction. Finally, the relationship between methodology and phonological awareness is highlighted,

focusing on the relationship between phonemes and graphemes as part of the alphabetic code.

3.2.2. Impact Dimension on Reading Writing Development

This analysis details the impact of different approaches on the development of literacy skills, highlighting that strategies that promote phonemic awareness resulted in a higher level of literacy, while those more global showed lower results, due to the positive influence of these strategies on the development of thinking, observation, writing, reading, oral communication and socialization.

The syllabic method stands out for its effectiveness in literacy development, attracting students' attention and accelerating their learning. It is effective in comparison with the global method, showing faster and more effective results, due to its significant differences in the incidence of errors in reading and writing tasks, indicating that the reflective and conscious phonological analysis method had a positive impact on the development of literacy compared to the analytical-synthetic method.

Phonological awareness and the phoneme-grapheme relationship in the teaching of reading and writing improve students' performance, leading to the acquisition of lexical, phonetic and syllabic awareness. Along the same lines, the phonological-synthetic method is more effective in early stages, while the global method is more effective in later stages, favoring reading fluency and comprehension.

Studies also reveal that metalinguistic skills are paramount before access to reading and writing. Furthermore, it points out that phonological skills are better in favorable social and family environments, suggesting considering their systematic integration in educational programs for disadvantaged contexts. Linguistic segmentation and sub-lexical units are skills prior to access to literacy.

In short, the effectiveness of the methodologies depends on the stages for learning to read and write. Synthetic methodological variants are effective in early stages as they facilitate writing quickly, while global or analytical methodologies are more effective for later stages promoting reading fluency. However, including reflective and conscious processes in synthetic methodologies results in greater effectiveness, as well as the inclusion of phonological elements in analytical methodologies.

4. Conclusion

The application of different approaches and their methods are essential to address the individual needs of students in literacy. It can be assured that a single approach does not fit; on the contrary, the combination of methods provides a wide range of strategies to adapt to different learning styles. Considering the diversity of the classroom, educational processes focused on literacy learning should be based on the use of attractive and comprehensible language units, such as those proposed by variants of the global method, and move quickly to the use of synthetic methodologies, which emphasize the strengthening of phonological skills and work with simpler language units.

Literacy results are also influenced by external factors, such as teacher training, pedagogical resources, social environment and family support; that is, the quality of teacher training and the context in which education takes place play a crucial role in

the success of pedagogical methods. Therefore, strategies, decent training, didactic materials and curricular proposals should be in tune with the methodologies proposed for literacy learning.

Literacy education programs should include comprehensive strategies that not only focus on alphabetic knowledge, but also promote reading comprehension, text production, intrinsic motivation and interpretation skills, aspects that make up a comprehensive education. In this sense, the use of analytical methodologies that promote the development of reading comprehension and synthetic methodologies focused on strengthening writing are highlighted.

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