

Literacy and Alphabetization: understandings and educational implications

Eliane de Jesus Araujo¹
Jorge Manoel Adão¹
João Gabriel Modesto¹

¹Universidade Estadual de Goiás (UEG), Luziânia/GO – Brazil

ABSTRACT – Literacy and Alphabetization: understandings and educational implications. This article presents a Systematic Literature Review aiming to reflect on the concepts and understandings of alphabetization and literacy. The research involved consulting two databases: the Periodicals Portal of the Coordination for the Improvement of Higher Education Personnel and the Scientific Electronic Library Online, with inclusion criteria ensuring clarity in presenting the concepts and understandings found in the analyzed articles. The results highlight the need for a deeper reflection on teacher education processes to promote a more consistent understanding of literacy and alphabetization concepts.

Keywords: Alphabetization. Literacy. Systematic Review. Teaching.

RESUMO – Letramento e Alfabetização: entendimentos e implicações educacionais. Este artigo apresenta uma Revisão Sistemática de Literatura com o objetivo de refletir sobre os conceitos e entendimentos da alfabetização e do letramento. A pesquisa envolveu a consulta de duas bases de dados: o Portal de Periódicos da Coordenação de Aperfeiçoamento de Pessoal de Nível Superior e a *Scientific Electronic Library Online*, com critérios de inclusão que garantiram clareza na apresentação dos conceitos e entendimentos encontrados nos artigos analisados. Os resultados destacam a necessidade de uma reflexão mais aprofundada sobre os processos de formação de professores para promover uma compreensão mais consistente dos conceitos de letramento e alfabetização.

Palavras-chave: Alfabetização. Letramento. Revisão Sistemática. Ensino.

Introduction

This article is a Systematic Literature Review (SLR) with the primary objective of reflecting on the concepts and understandings of alphabetization and literacy based on studies and research. It seeks to answer the following research problem: what are the concepts and understandings of alphabetization and literacy present in the studies found in the investigated databases? Additionally, there are two specific objectives to be highlighted: (a) to categorize the eligible studies by database and present a synthesis of the studies, and (b) to investigate how these conceptions are applied in the practice of alphabetization and the teaching of reading and writing.

The systematic review adopted in this study is a method that allows for a rigorous and systematic approach to the available literature on the topic to be addressed, providing a critical and comprehensive analysis; consequently, it will contribute to the study of the concepts and understandings of alphabetization and literacy. This approach is particularly based on Petticrew and Roberts (2006) and Costa and Zoltowski (2014).

The ability to read and write not only grants access to knowledge and information but also plays a crucial role in cognitive, social, and emotional development. Through alphabetization, children acquire the necessary tools to understand the world around them, express their ideas, and communicate effectively. But why do we assert that it is important to read and write?

We recognize and base our understanding on the contributions of various renowned scholars. For example, Paulo Freire emphasizes the crucial importance of reading and writing in social transformation. Rubem Alves highlights that reading serves as a window to the world, while writing manifests as personal and creative expression. Furthermore, Clarice Lispector addresses writing as a tool for internal exploration and self-discovery. These perspectives have driven the pursuit of a deeper and more expansive understanding of these concepts over the years.

However, the foundation of knowledge in reading and writing is deeply rooted in the core of education. Researchers Ferreiro and Teberosky have had a significant impact in the field of alphabetization, directly contributing to the enrichment of the previously discussed perspectives by questioning and challenging the traditional approaches to teaching reading and writing that had been used for centuries.

Since the 1980s, Ferreiro and Teberosky have expanded their understanding of alphabetization based on their studies on the psychogenesis of written language. The researchers provided a deeper understanding of the methods by which children acquire reading and writing skills, considering cognitive processes and language development (Ferreiro; Teberosky, 1986).

Studies on the psychogenesis of written language have shown that children construct their own hypotheses and theories based on

the writing system, not limited to merely reproducing letters and words. Ferreiro and Teberosky (1979) draw the attention of scholars and teachers' working with students in the process of alphabetization to the fact that knowledge of the alphabetic writing system is not merely transmitted by the school environment or the teacher. It emerges from a process of transformation that the learner themselves carries out based on their prior knowledge of the writing system.

The transformation process involves integrating new information that the learner encounters, which does not fit into their pre-existing knowledge. A diversified and comprehensive understanding of the alphabetic writing system is achieved through this interaction between prior knowledge and new information.

Paulo Freire, the Patron of Brazilian Education, highlights alphabetization as a liberating process, as it is more than simply decoding words and letters; alphabetization is a tool for awareness and social transformation. Freire (1996) emphasizes the importance of alphabetization that allows individuals to read the world before reading words, to understand their realities, and to engage in the pursuit of change.

Magda Soares has contributed to the understandings of literacy. She emphasizes that literacy goes beyond the basic skills of reading and writing, as it encompasses the ways in which language is used in different social contexts. Alphabetization is seen as a cultural and sociocultural practice that underpins the active and critical participation of individuals in society (Soares, 1998).

These authors and their contributions reinforce the value of literacy and alphabetization in education. Alphabetization is how individuals acquire the basic skills of writing and reading, allowing them to access information, communicate, and fully participate in society. Literacy goes beyond basic alphabetization skills, it is extended here to the social uses of reading and writing in different areas of life, such as civic engagement, knowledge development, and interaction with different cultural practices.

By developing reading and writing skills for social understanding in a critical way, individuals will be able to differentiate and interpret texts, express their thoughts clearly, coherently, and critically, analyze information, argue, and make decisions autonomously. These competencies are essential for the formation of autonomous citizens who can actively participate in society and contribute to its transformation, whether personal or social.

Kleiman (2007) addresses the concepts of alphabetization and literacy, highlighting the importance of differentiating them. She mentions that alphabetizing is one of society's literacy practices carried out by the school institution. The author also points out that literacy goes beyond the process of acquiring the fundamentals of the written language code, encompassing all social practices involving the use of writing. She further emphasizes the importance of the school as an agency for literacy, stating that it is in this context that spaces

should be created to experiment with forms of participation in literate social practices. For the author, literacy should be the structuring goal of educational work at every cycle, not just in the early years of contact with written language.

To conduct the search for relevant works on the topic, two databases were selected: the Portal de Periódicos da Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES) and the Scientific Electronic Library Online (SciELO). This methodological choice is supported by the high relevance and breadth of these databases in the field of education.

The two platforms are widely used by the national academic community, providing access to a vast array of works. These databases offer a rich selection of scientific publications, covering various areas of knowledge and indicating the topics covered in each article. This characteristic is essential for identifying the works most pertinent to the scope of the research, providing more effective direction in the search for information.

Methodological Approach

The Systematic Literature Review (SLR) as a methodology to achieve the objectives of this research considered eight steps to ensure the quality of the work, which are: 1. Delimitation of the research question; 2. Choosing data sources; 3. Selecting search keywords; 4. Searching and storing results; 5. Selection of articles, conducted through the title, abstract, and, if necessary, the full text, according to pre-established inclusion and exclusion criteria; 6. Extraction of data from the selected articles; 7. Evaluation of the articles; 8. Synthesis and interpretation of data from the studies that contributed to the SLR, following the guidelines of Petticrew and Roberts (2006) and Costa and Zoltowski (2014).

For the search of the analyzed works, descriptors were used in two ways: (a) 'alphabetization AND concept AND writing AND reading'; and (b) 'literacy AND concept AND writing AND reading'. The descriptors were used equally in both databases: CAPES and SciELO, aiming to expand a relevant number for the construction of the SLR, and a temporal cut from 2009 to May 2023 was chosen.

Continuing the search process, four filters were applied along with the descriptors in the CAPES and SciELO databases: peer-reviewed journals, open access, article-type literature, and Portuguese language. The searches conducted between april and may 2023 resulted in a total of 78 initial works, represented in Table 1.

Table 1 – Articles according to descriptors / search strings by database

Database	'literacy AND concept AND writing AND reading'	'literacy education AND concept AND writing AND reading'	Total Works
CAPES	20	42	62
SciELO	6	10	16

Source: Authors (2023).

To conduct the proposed investigation, the study encompassed various stages of analysis, which involved examining the 78 publications to first identify and classify duplicate and subsequently eligible productions, as specified in Table 2.

Table 2 – Classification of duplicated and eligible articles by database

Database	Duplicates	Eligible
CAPES	19	43
SciELO	04	12

Source: The authors (2023).

Table 2 presents the classification of duplicated and eligible articles by database. Specific criteria were adopted to identify and exclude duplicated articles to ensure the integrity of the analysis. The criteria used to identify and exclude duplicated articles from the analysis were: title, author, and year of publication. These criteria were applied to remove any duplications that could compromise the results of the SLR. This approach allowed for a more precise selection of eligible articles for analysis, ensuring the exclusion of duplicates and avoiding the repetition of information in the systematic review.

After identifying the 55 eligible articles for analysis, they were read through their titles and abstracts. Each work was examined according to the pre-established criteria detailed in Chart 1:

Chart 1 – Inclusion and exclusion criteria for articles

Inclusion	Exclusion
a) Articles addressing the themes: of literacy, alphabetization, writing, and reading (focusing on the concepts and understandings of any of the terms mentioned in the search); b) Articles in Portuguese.	a) Duplicate articles; b) Articles discussing various types of literacy and literacy concepts but not related to the processes of learning to write and read; c) Articles addressing literacy or alphabetization or reading and writing but not discussing the concepts and understandings of the themes; d) Articles prior to 2009; e) Articles in English; f) Systematic Review articles or Literature Reviews; g) Articles lacking clear information about the objectives of the work.

Source: The authors (2023).

The criteria for inclusion are justified as follows:

(a) Inclusion of articles addressing the themes of alphabetization, literacy, writing, and reading (focusing on the concepts and understandings of these terms). This inclusion is relevant for understanding the key concepts and understandings related to literacy and alphabetization, enabling a thorough analysis of these areas.

(b) The selection of articles in Portuguese is justified by the need to access works developed in the national context and ensure a comprehensive understanding of the content. According to Morais (2012, p. 46) states, when analyzing the learning of alphabetic writing, it is essential to "try to unravel this 'sphinx' that is alphabetic writing and understand its learning, always with the perspective of making alphabetization teaching more efficient." This aims to improve reading practices in alphabetization and writing in the early years of alphabetization in elementary education.

The criteria for inclusion are justified as follows:

(a) Inclusion of articles addressing the themes of alphabetization, literacy, writing, and reading, focusing on the concepts and understandings of these terms. This is relevant for understanding the key concepts and understandings related to alphabetization and literacy, enabling a thorough analysis of these areas.

(b) Selection of articles in Portuguese to access works developed in the national context and ensure a comprehensive understanding of the content. This is important for analyzing the learning of alphabetic writing with a perspective of more efficient alphabetization teaching in the early years of elementary education.

The justifications for the exclusion criteria are:

(a) Exclusion of duplicate articles to avoid redundant information and ensure the integrity of the analysis with unique and relevant data;

(b) Exclusion of articles that address various types of alphabetization and literacy but do not directly relate to the processes of learning to write and read. This is important to focus on studies directly linked to alphabetization and literacy in the context of writing and reading;

(c) Exclusion of articles that discuss alphabetization, literacy, reading, and writing but do not address the concepts and understandings of these themes. This is done to ensure that the selected articles present a clear and in-depth approach to the concepts and understandings related to alphabetization and literacy;

(d) Consideration of only articles published from 2009 onwards to ensure a temporal cut of the analyzed studies and reflect theoretical and methodological advances in this area;

(e) Exclusion of articles on literacy in English to direct the analysis to studies related to the processes of reading and writing in Portuguese;

(f) Exclusion of systematic review articles and/or literature reviews, as the current systematic review seeks to identify and analyze original studies addressing the concepts and understandings of alphabetization and literacy. Previous reviews have already synthesized existing evidence;

(g) Exclusion of articles lacking clear information on the objectives of the work, as the absence of objectives compromises understanding the study's purpose and expected results.

Seven (7) eligible studies were found, respecting the inclusion and exclusion rules, as presented in Table 3.

Table 3 – Number of eligible and fully excluded works by database

Database	Fully Excluded	Eligible/Categorized
CAPES	39	04
SciELO	09	03
Total	48	07

Source: The authors (2023).

Research results: categorization of studies

The eligible studies were categorized according to predefined criteria, including year of publication, descriptors, type of research, theme, and objectives. Information was obtained from the abstracts of the studies; however, in some cases, it was necessary to refer to the conclusions or the full text to obtain additional details.

Table 4 shows the distribution of productions by year of publication and database. Based on these data, it can be inferred that a total of seven articles were selected, with four from the CAPES database and three from the SciELO database. This information indicates that CAPES presents a higher number of productions related to the theme compared to SciELO. This difference may be related to the characteristics of the databases, such as thematic coverage, the number of indexed journals, and the coverage period of each. It is important to note that in specific years, CAPES published articles while SciELO did not, and vice versa, according to the predefined criteria for this study.

Table 4 – Eligible articles by year of publication and database

Database	2013	2014	2015	2017	2018	2020	Total
CAPES	---	---	1	1	1	1	4
SciELO	2	1	---	---	---	---	3

Source: The authors (2023).

Table 5 shows the results of the descriptor survey by database, classified by article title. The categorization based on the descriptors present in the titles demonstrates the direct connection between the study's theme and is highly relevant for maintaining the consistency and clarity of the research.

Table 5 – Number of works distributed by descriptor and database

Database	Alphabetization	Alphabetization literacy	Literacy	Total
CAPES	---	3	1	4
SciELO	1	1	1	3
Total	1	4	2	7

Source: The authors (2023).

Table 5 presents the number of descriptors based on titles that appeared in the studies, classified by database. The composite descriptor 'literacy and alphabetization' was the most addressed in the academic literature, with four studies across both databases. These terms are fundamental to understanding the processes of reading, writing, and text interpretation. This information aligns with the objectives and issues of the systematic review.

The following Chart (2 and 3) classify the studies into two main categories:

- Chart 2 (Category 1) - *Concepts and understandings of alphabetization and literacy*: composed of four articles, this category focuses on the concept of literacy and alphabetization practices. The studies address different perspectives and aspects related to literacy, including its relationship with alphabetization, its discursive and social dimensions, and conceptual issues about scientific literacy and alphabetization. They analyze alphabetization practices in educational contexts, identify challenges faced by teachers', and seek to deepen the understanding of these themes.
- Chart 3 (Category 2) - *Representations of literacy in the school context*: composed of three studies, this category explores teachers' understanding and knowledge about literacy, as well as their representations and conceptions on the subject. The studies also highlight the relevance of literacy in the school environment.

These two categories encompass the most relevant themes addressed in the analyzed studies. This information summarizes the main research results, highlighting the most explored descriptors and the primary thematic categories identified in the following charts.

Chart 2 – Categorization by theme / author / year / objective by database

CATEGORY 1 – <i>Concepts and understandings of alphabetization and literacy</i>			
Database	Article / Title	Author(s)	Objective
CAPES	A1 - The concept of literacy and alphabetization practices.	CORREA, Marcelo Macedo <i>et al.</i> (2018).	Understand the concept of literacy and its relationship with the meaning of alphabetization, analyzing literacy practices in educational contexts. Also investigates the influence of literacy on the alphabetization process and identifies challenges faced by teachers' in promoting effective alphabetization.
SciELO	A2 - The concept of literacy in question: a discursive perspective on alphabetization.	GOULART, Cecília. (2014).	Investigate the political-pedagogical connections between literacy and alphabetization.
CAPES	A3 - Scientific literacy vs. scientific alphabetization: a naming problem or a conceptual difference?	BERTOLDI, Anderson. (2020).	Discuss possible conceptual differences between scientific literacy and scientific alphabetization. And how science education scholars have used them.
SciELO	A4 - Scientific alphabetization: questions for reflection.	TEIXEIRA, Francimar Martins. (2013).	Present reflections on the meanings attributed to the term <i>scientific literacy</i> and provide an interpretation of the aspects of education addressed by the term <i>scientific alphabetization</i> when translated.

Source: The authors (2023).

Chart 3 – Categorization by theme / author / year / objective by database

CATEGORY 2 – <i>Representations of literacy in the school context</i>			
Database	Article / Title	Author(s)	Objective
SciELO	A5 - Analysis of knowledge of teachers' working in elementary education about written language from a literacy perspective.	BERBERIAN, Ana Paula <i>et al.</i> (2013).	Analyze the knowledge of public elementary school teachers' about writing conceptions and the concept of literacy.
CAPES	A6 - Studies of narratives on alphabetization memories: some considerations on literacy and numeracy.	KAUFMANN, Maira Bartira <i>et al.</i> (2015).	Discuss the narratives of alphabetization memories of teachers' participating in the PNAIC, in relation to literacy and numeracy.
CAPES	A7 - Literacy to "read the world": the construction of a socially situated concept in the school context.	DA SILVA, Eliseu Alves. (2017).	Investigate the representations of literacy produced by public school teachers' during a continuing education program, through conceptions and literacy practices in the classroom.

Source: The authors (2023).

Results and discussions

Category 1 – *Concepts and understandings of alphabetization and literacy*, this category encompasses definitions of literacy and alphabetization, highlighting their different conceptions and theoretical perspectives as presented in the following articles. It consists of four articles (A1, A2, A3, and A4). Note that the letter 'A' stands for article and the number following the letter is the article number, that is, A1 (article one), and so on.

Article A1, titled '*The concept of literacy and alphabetization practices*,' explores various conceptions of alphabetization and literacy, including approaches based on linguistic rules, the emphasis on the social use of language, and the integration of students into social practices of writing and reading.

Authors Kleiman (1995) and Soares (2004) emphasize literacy as a social practice that goes beyond the abilities to read and write. However, Correa et al. (2018) note that conservative conceptions of alphabetization still persist, and the effective implementation of literacy in schools remains a challenge. This is due to the expanded meanings of literacy, which has become a broad “umbrella term, under which different perspectives are sheltered, yet in practice, literacy does not effectively resonate in the daily alphabetization and teaching of reading and writing, often appearing as an empty discourse” (Correa et al., 2018, p. 265).

Given the varied complexity in defining literacy, the authors of article A1 also highlight that instead of helping to overcome limitations in teaching writing, literacy has paradoxically reinforced the resurgence of traditional and fragmented practices. They state that “new words end up having their meanings shifted to the semantics most convenient for defending old practices” (Correa et al., 2018, p. 266). To overcome these limiting practices, it is crucial to consider cultural practices of reading and writing and avoid oversimplifications when addressing alphabetization and literacy.

Article A2, titled '*The concept of literacy in question: a discursive perspective on alphabetization*,' highlights issues in alphabetization, such as repetition and learning difficulties, attributed to schools based on privileged values.

Goulart (2014) notes that the attempt to use literacy to explain the social importance of writing has led to the creation of dichotomies between form and meaning, technique and knowledge, individual and social, among others. This occurs in the effort to transform literacy into content, as “the term enters the school circuit, where everything needs to become content - teachable and measurable - often emptying itself of its culturally and socially referenced meaning” (Goulart, 2014, p. 41).

Expressions like ‘alphabetizing literately’ and ‘literate alphabetization’ were highlighted, underscoring the importance of distinguishing the dimensions of teaching and learning to write. The rela-

tionship between alphabetization and literacy is emphasized, with the understanding that literacy encompasses a broader aspect, including knowledge, skills, and attitudes related to the functional and critical use of writing in a social context.

The lack of understanding of the concepts of alphabetization and literacy limits teachers' ability to teach from the perspective of 'alphabetizing literately.' It is essential to approach alphabetizing literately by considering cultural practices of reading and writing, avoiding simplifications, so that students can learn to read and write with an understanding that writing is used in everyday life, in real situations; whether reading a book or interpreting a message or an advertisement, the purpose is to understand their functions and meanings.

Article A3 discusses '*Scientific alphabetization versus scientific literacy*,' investigating whether the expressions 'scientific alphabetization and scientific literacy' are merely synonyms or if they have different meanings and ramifications. In this regard, Bertoldi (2020), the author of the work, identified three different explorations. These are first presented by scholars: Chassot (2003, 2016) and Sasseron and De Carvalho (2011), who treat these two terms as a variation of denomination, i.e., synonyms, pointing to the same reality.

For Chassot (2003, 2016) and Sasseron and De Carvalho (2011), the use of scientific alphabetization is intended for students' and future citizens' lives so that they can read the world critically, adopting Freire conception. However, Chassot (2016) also emphasizes that scientific alphabetization should be used to understand science, which should be known and understood by everyone, not just the scientific community.

In the second approach presented by Gomes and Santos (2018), the expressions 'scientific alphabetization and scientific literacy' are different concepts. The authors associate scientific alphabetization with the ability to understand, apply, and think critically about a particular subject using 'scientific language,' for active and appropriate participation in social and professional activities that require such knowledge. On the other hand, scientific literacy for the authors is related to how a person employs 'scientific knowledge' for personal and social enhancement, in practical situations, and various contexts, that is, how they use knowledge to solve practical problems and make decisions.

And finally, the last group of authors: Cunha (2017), Davel (2017), and Santos (2007), in relation to the third approach differs "scientific alphabetization from scientific literacy not because they believe they are two distinct processes, but because they deny the pertinence of the metaphorical relationship between alphabetization and scientific education" (Goulart, 2020, p. 14). This group emphasizes the importance of valuing the knowledge that students already have and proposes the integration of science and language teaching. For this, it is necessary to think about constructing scientific knowledge through

writing, through interdisciplinary practices in school, integrating science teaching with the work of the mother tongue (Goulart, 2020).

Article A4 addresses '*Scientific alphabetization: issues for reflection*,' focusing on the term 'scientific literacy' as the interpretation of 'scientific alphabetization' in a specific context, that is, "when referring to the reading and writing of scientific text and everything that involves these two skills, such as building understanding and analyzing information. [...] scientific alphabetization is tied to the very language" (Teixeira, 2013, p. 806).

In this sense, Teixeira (2013) asserts that scientific alphabetization interconnects with alphabetization in the native language. However, only alphabetization in the native language is limiting. Scientific alphabetization goes beyond this limiting capability; it is the ability to read, understand, and analyze scientific texts. Thus, scientific alphabetization reaches a potential for understanding and critical use of information and knowledge that can be interpreted in any context.

Category 2 – This category comprises three articles (A5, A6, and A7) and addresses *Representations of literacy in the school context*, highlighting teachers' understanding and the importance of literacy in the school context.

Article A5, titled '*Analysis of elementary school teachers' knowledge about written language from a literacy perspective*,' reveals the viewpoints of elementary school teachers' on writing and literacy, highlighting the lack of adequate understanding of the concepts of alphabetization and literacy. This lack of understanding hinders teachers' ability to "conduct portuguese language teaching/learning from the proposal of 'alphabetizing literately,' as disseminated in educational guidelines" (Berberian et al., 2013, p. 1640).

There is a need for continuous teacher training for effective literacy pedagogical action, considering "the theoretical deepening about language and its appropriation processes and the materialization and systematization of such foundations in the planning and execution of classroom activities" (Berberian et al., 2013, p. 1640). This aims to promote a pedagogical practice that goes beyond traditional alphabetization methods, that is, from the mere technical reading and writing, to the integration of students actively and critically into literacy social practices.

Article A6 discusses '*Studies of narratives about alphabetization memories: some considerations on literacy and numeracy*'. The article brings narratives from teachers' about their alphabetization memories, highlighting the view of alphabetization as "a set of skills to be progressively developed to achieve an ideal reading and writing competence" (Kaufmann et al., 2015, p. 93). It is noteworthy that the understanding of alphabetization described by the teachers' is focused on mastering the written code, that is, not integrated with the social dimension. Thus, it is essential to understand literacy as a discursive and socially contextualized practice.

Article A7 addresses '*Literacy for 'reading the world': the construction of a socially situated concept in the school context*'. The article indicates that literacy is understood as a phenomenon that goes beyond the simple acquisition of basic reading and writing skills. While teachers' conceptually know the difference between alphabetization and literacy, even when literacy is visualized and internalized by teachers' as a critical reading of the world, when attempting to materialize it in the classroom, the discourses pointed to representations of literacy as decoding and interpreting texts (Da Silva, 2017).

It is important to note that merely knowing or internalizing the concepts of literacy, does not guarantee a coherent and contextualized application in the design and conduct of pedagogical activities. This means that teachers' face difficulties in putting into practice literacy conceptions in activities that include a critical and relevant reading for knowledge appropriation for life.

In the Brazilian context, authors like Paulo Freire (1996), Kleiman (1995), Soares (1998), and Rojo (2004) contributed to the understanding of literacy, relating it to alphabetization, schooling, cultural practices, and participation in different contexts. Official documents in Brazil adopted the literacy approach as the acquisition of knowledge that contributes to the structuring of interdisciplinary thought, recognizing the importance of socio-cultural and historical practices in the school environment.

In summary, the articles discuss the concepts and understandings of alphabetization and literacy, highlighting the importance of considering the social practices of reading and writing, the integration of different disciplines, and the proper training of teachers'. They also emphasize the need for a broader view of literacy as a discursive and socially contextualized practice, going beyond individual reading and writing skills. To expand the understanding of literacy, it is necessary to create environments that encourage innovation and experimentation in pedagogical practices, allowing teachers' to explore new approaches and methods for teaching reading and writing.

The gaps and limitations found in the analyzed articles serve to enhance studies related to alphabetization and literacy. It is worth noting that the articles were analyzed with the following perspective: reflecting on the concepts and understandings of alphabetization and literacy.

The articles contribute to the understanding of the concepts of alphabetization and literacy, emphasizing their social dimension and asserting that these concepts should go beyond the simple act of reading and writing. This was evidenced throughout the work, with references to various scholars in the field.

Based on the studies, it is evident that conservative conceptions still persist in the teaching of writing, such as decoding and the formality of writing. In this sense, it is necessary to broaden the understanding of how writing can be used in real and meaningful contexts so

that more contemporary approaches promoting a critical and transformative understanding can be practically applied in schools.

Final considerations

The results obtained from this analysis show that there are different conceptions of alphabetization and literacy, emphasizing distinct aspects of the reading and writing process. Foundational conceptions of language as a tool for communication and language as discourse represent theoretical and pedagogical approaches that influence teaching practices. These conceptions highlight both the progress achieved and the challenges yet to be overcome in the educational field.

One way to address conservative conceptions, as discussed in article A1, is through the implementation of pedagogical methods that integrate social practices of written language from the early stages of education. This can include projects that encourage students to apply reading and writing skills in contexts relevant to their lives, reinforcing the understanding that alphabetization goes beyond mere decoding. Even in schools with limited resources, educators can turn to creative teaching materials, local stories, art, and free digital resources to enrich students' learning experiences.

It is important to highlight that traditional and coding-focused conceptions of the reading and writing processes can be transformed through clearer understandings of literacy definitions applicable to the classroom context, facilitated by continuous professional development aimed at integrating contemporary literacy and alphabetization practices.

The discussion around the differentiation between scientific alphabetization and scientific literacy, presented in the research, reflects the complexity of these terms and the importance of clarifying their meanings for both understanding and conceptualization, and especially for guiding the teaching of science in a more comprehensively as a form of literacy.

Articles A3 and A4 also provide evidence that a greater theoretical deepening is needed to achieve a more complete understanding of the concepts of scientific alphabetization and scientific literacy and their educational implications. Creating spaces for dialogue and professional development aimed at discussing and exploring the relationship between these terms can help establish clear guidelines for the integration of science teaching, reading, and writing in an interdisciplinary manner, highlighting the interdependence between science and language.

The lack of understanding to practically employ the concepts of literacy and alphabetization by teachers', as emphasized in articles A5 and A7, raises substantial concern. This lack of understanding can result in outdated and ineffective teaching practices, limiting educators' ability to adopt more contemporary and integrative approaches. Therefore, the professional training of teachers' emerges as an essential component for promoting pedagogical practice aligned with modern

conceptions of literacy and alphabetization. Training programs should incorporate innovative methods, such as project-based learning, classroom simulations with teachers' in training, collaborations with experienced professionals in the thematic area, enabling teachers' to internalize and apply the concepts of alphabetization and literacy in an updated and practical manner for classroom contexts.

Additionally, to achieve a broader vision of literacy as a socially contextualized practice, as explored in article A7, it is vital to explore ways to involve the community and local environment in the educational process. Collaboration with parents, community members, and local businesses can provide additional resources, allowing for practical and relevant projects that promote literacy in an accessible manner.

In summary, the identified challenges can be overcome through innovative educational approaches that encourage the integration of social practices of written language, interdisciplinary collaboration, and the strengthening of teacher training programs. This is fundamental to ensure quality education aligned with the demands of contemporary society.

These are just a few of many existing suggestions that, when applied, can create a more meaningful and equitable educational environment, aiming to combine theory with clearer and more reflective understandings to improve alphabetization and literacy practices. This would promote a more inclusive, critical, and relevant education to contemporary challenges and conducive to surpassing alphabetization practices limited to word decoding.

Received on October 5, 2023

Approved on July 27, 2024

References

- BERBERIAN, Ana Paula et al. Análise do conhecimento de professores atuantes no ensino fundamental acerca da linguagem escrita na perspectiva do letramento. **Revista CEFAC**, v. 15, p. 1635-1642, 2013.
- BERTOLDI, Anderson. Alfabetização científica versus letramento científico: um problema de denominação ou uma diferença conceitual? **Revista Brasileira de Educação**, v. 25, 2020.
- CHASSOT, Attico. Alfabetização científica: uma possibilidade para a inclusão social. **Revista brasileira de educação**, p. 89-100, 2003.
- CORREA, Marcelo Macedo; AMORIM, Rejane; CERDAS, Luciene. O conceito de letramento e as práticas de alfabetização. **Revista Contemporânea de Educação**, v. 13, n. 27, p. 251-270, 2018.
- COSTA, Angelo Brandelli; ZOLTOWSKI, Ana Paula Couto. Como escrever um artigo de revisão sistemática. **Manual de produção científica**, v. 1, p. 55-70, 2014.
- CUNHA, Rodrigo Bastos. Alfabetização científica ou letramento científico?: interesses envolvidos nas interpretações da noção de scientific literacy. **Revista Brasileira de Educação**, v. 22, p. 169-186, 2017.

- DA SILVA, Eliseu Alves. Letramento para 'ler o mundo': a construção de um conceito socialmente situado no contexto escolar. **Calidoscópio**, v. 15, n. 1, 2017.
- DAVEL, Marcos Alede Nunes. Alfabetização científica ou letramento científico? Entre elos e duelos na educação científica com enfoque CTS. **Encontro Nacional de Pesquisa em Educação em Ciências**, v. 11, p. 1-9, 2017.
- FERREIRO, Emília; TEBEROSKY, Ana. **Os sistemas de escrita no desenvolvimento da criança**. México: Siglo XXI, 1979.
- FERREIRO, Emília; TEBEROSKY, Ana. **A psicogênese da língua escrita**. Porto Alegre: Artes Médicas, 1986.
- FREIRE, Paulo. **Pedagogia da autonomia: saberes necessários à prática educativa**. 25. ed. Rio de Janeiro: Paz e Terra, 1996.
- GOMES, Vanessa; SANTOS, Amilton Cesar. Perspectivas da alfabetização e letramento científico no Brasil: levantamento bibliométrico e opinião de profissionais da educação do ensino fundamental I. **Scientia Plena**, v. 14, n. 5, 2018.
- GOULART, Cecília Maria Aldigueri. O conceito de letramento em questão: por uma perspectiva discursiva da alfabetização. Bakhtiniana: **Revista de estudos do discurso**, v. 9, p. 35-51, 2014.
- KAUFMANN, Maira Bartira et al. Estudos de narrativas sobre memórias de alfabetização: algumas considerações sobre letramento e numeramento. **Revista Jovens Pesquisadores**, Santa Cruz do Sul, v. 5, n. 2, p. 88-97, 2015.
- KLEIMAN, Angela B. (Org.). **Os Significados do Letramento**. Campinas: Mercado de Letras, 1995. p. 15-61.
- KLEIMAN, Angela B. Modelos de letramento e as práticas de alfabetização na escola. In: KLEIMAN, Angela B. **O conceito de letramento e suas implicações para a alfabetização**. São Paulo: Unicamp, 2007.
- MORAIS, Artur Gomes. **Sistema de escrita alfabética**. São Paulo: Ed. Melhoramentos, 2012.
- PETITCREW, Mark; ROBERTS, Helen. **Systematic reviews in the social sciences: a practical Guide**. Malden: Blackwell Publishing, 2006.
- ROJO, Roxane. **Letramento e capacidades de leitura para a cidadania**. São Paulo: SEE: CENP, 2004.
- SANTOS, Wildson Luiz Pereira dos. Educação científica na perspectiva de letramento como prática social: funções, princípios e desafios. **Revista brasileira de educação**, v. 12, p. 474-492, 2007.
- SASSERON, Lúcia Helena; DE CARVALHO, Anna Maria Pessoa. Alfabetização científica: uma revisão bibliográfica. **Investigações em ensino de ciências**, v. 16, n. 1, p. 59-77, 2011.
- SOARES, Magda Becker. **Letramento: um tema em três gêneros**. Belo Horizonte: Autêntica, 1998.
- SOARES, Magda. Letramento e alfabetização: as muitas facetas. **Revista Brasileira de Educação**, n. 25, p. 5-17, jan. 2004.
- TEIXEIRA, Francimar Martins. Alfabetização científica: questões para reflexão. **Ciência & Educação** (Bauru), v. 19, p. 795-809, 2013.

Eliane de Jesus Araujo is a Master's student in Management, Education, and Technology at the State University of Goiás (UEG - UnU Luziânia - Brazil). She is a member of the Interdisciplinary Research Group in Education, Management, and Regional Culture/GEGC at UEG Luziânia-GO, Brazil. She holds a Bachelor's degree in Pedagogy (UEG - Brazil). She is a teacher at the Cora Coralina Rural Municipal School - Novo Gama - GO, Brazil.

ORCID: <https://orcid.org/0000-0002-5075-9248>

E-mail: elianejesusdearaujo@gmail.com

Jorge Manoel Adão Post-Doctorate in Cultural Studies (UFRJ - Brazil), PhD and Master in Education from the Federal University of Rio Grande do Sul (UFRGS - Brazil), and Licensed and Bachelor in Philosophy from (PUC-RS - Brazil). He is a Professor at the State University of Goiás (UEG – UnU Luziânia - Brazil). Founder of the Interdisciplinary Research Group in Education, Management, and Regional Culture/GEGC at UEG Luziânia-GO, Brazil.

ORCID: <http://orcid.org/0000-0002-2957-613X>

E-mail: jorge.adao@ueg.br

João Gabriel Modesto holds a PhD and a Master's degree in Social, Work, and Organizational Psychology from the University of Brasília (UNB - Brazil), and a Bachelor's degree in Psychology (UFB - Brazil). He is a Professor DES IV (Adjunct) at the State University of Goiás (UEG - Brazil), and a Full Professor at the University Center of Brasília (FACES - Brazil).

ORCID: <https://orcid.org/0000-0001-8957-7233>

E-mail: joao.modesto@ueg.br

Availability of research data: the dataset supporting the results of this study is published in the article itself.

Editor in charge: Carla Karnoppi Vasques

