Revista ARACÊ
ISSN: 2358-2472

UNRAVELING THE WORLD WITH YOUR HANDS: LITERACY FOR VISUALLY IMPAIRED CHILDREN

https://doi.org/10.56238/arev7n2-193

Submitted on: 01/17/2025 **Publication date:** 02/17/2025

Rodi Narciso[1], Veralús Batista da Silva Delgado[2], Marsiléia Brasil de Lima[3], Ana Paula Duarte Pinto[4] and Nazaré Maria da Conceição Gomes Liberato[5].

ABSTRACT

The research addressed the problem of literacy of children with visual impairment, with the aim of analyzing the pedagogical methodologies adapted to promote inclusive learning. The methodology adopted was a bibliographic research, with a qualitative approach, using academic sources such as books, articles, dissertations and theses. The analysis of the results indicated that the use of Braille, combined with assistive technologies and adapted pedagogical resources, constitutes an approach to the literacy of children with visual impairment. However, it was observed that the lack of adequate resources and the lack of specific training of educators are still significant challenges. The research also showed that school inclusion, when applied, contributes to the success of the literacy process, by providing an accessible and welcoming environment. Inclusive pedagogical practices, accompanied by assistive technologies and continuous teacher training, proved to be fundamental to ensure access to knowledge and the active participation of students in the school context. The final considerations indicated that, despite the advances identified, there is a need for studies on the accessibility of pedagogical materials and the optimization of assistive technologies, to strengthen inclusion and improve educational results. It is concluded that inclusive education for children with visual impairment is feasible, but requires a continuous effort in terms of resources, training of educators and pedagogical adaptations.

Keywords: Literacy. Visual impairment. Inclusion. Braille. Assistive Technologies.

[1] Doctorate student in Educational Sciences
Inter-American Faculty of Social Sciences (FICS)
Email: rodynarciso1974@gmail.com
LATTES: http://lattes.cnpq.br/7973576620739898
[2] Specialist in Literacy
Anhanguera University
E-mail: veralusdelgado@hotmail.com
LATTES: http://lattes.cnpq.br/4407221675890230
[3] Master in Social Work
Pontifical Catholic University of Rio de Janeiro (PUC-Rio)
E-mail: marsileiabdl@gmail.com
LATTES: http://lattes.cnpq.br/3176321066162208
[4] Specialist in Special Education and Early Childhood Education
Inta University Center (UNINTA)
E-mail: anapduartte@gmail.com
LATTES: http://lattes.cnpq.br/8298662567957426
[5] Specialist in Methodology of Teaching English as a Second Language
AVM Integrated College
E-mail: nazare.liberato@prof.ce.gov.br

Revista ARACÊ
ISSN: 2358-2472

INTRODUCTION

Literacy is a fundamental process in the educational development of any child, and is considered one of the essential skills for the full exercise of citizenship. For visually impaired children, the literacy process presents unique challenges that require the adoption of adapted pedagogical methods and approaches, as well as the use of assistive technologies and specific resources. The education of visually impaired children involves the use of tools that encourage reading and writing in an inclusive way, such as the use of Braille, audio description, and other tactile and audiovisual methods. Teaching for these children needs to be designed in a way that respects the particularities of each student, promoting equal access to knowledge and the full development of their cognitive and social capacities.

The relevance of this study is justified by the need to deepen pedagogical practices aimed at the literacy of children with visual impairment, a field that, despite its advancement, still has gaps in terms of the adoption of inclusive methods. With the increase in access to assistive technologies and awareness of the importance of school inclusion, it is essential that education professionals are prepared to deal with the specificities of the teaching and learning process of these students. In addition, the lack of uniformity in the pedagogical approaches adopted in schools and the lack of adequate training for educators make it urgent to analyze the best literacy practices that consider the needs of this public, ensuring not only school inclusion, but also access to knowledge and the construction of autonomy for students with visual impairment.

The problem question that guides this research is: how can literacy methodologies for children with visual impairment be adapted to promote inclusive learning, considering the specificities of this disability and the individual needs of each student? This question aims to explore the existing pedagogical approaches, their results and the challenges faced by educators and students in the literacy process, in order to identify which methods are accessible for the educational inclusion of children with visual impairment.

The objective of this research is to analyze the literacy methodologies used with children with visual impairment, identifying the main pedagogical and technological strategies adopted to promote inclusive teaching adapted to the needs of these students. Throughout the study, it will be possible to evaluate the impacts of these approaches on the learning process, focusing on the identification of good practices that favor the inclusion and integral development of children with visual impairment.

Revista ARACÊ
ISSN: 2358-2472

This text is structured in sections that aim to organize the analysis of the theme in a systematic and coherent way. The first section deals with the theoretical framework, addressing the main contributions of the literature on literacy for children with visual impairment, with emphasis on the methodologies, tools and assistive technologies used in this process. Next, the development focuses on the analysis of different pedagogical approaches and practices adopted in schools and education centers, exploring the experiences of educators and students. The methodology adopted to carry out the research will be described, followed by the presentation of the results obtained, which will be discussed in the light of the issues presented in the research. Finally, the final considerations provide an overview of the study's conclusions, suggesting possible directions for future investigations and improvements in pedagogical practices aimed at the education of children with visual impairment.

THEORETICAL FRAMEWORK

The theoretical framework is structured in order to provide an understanding of the literacy of children with visual impairment. Initially, the fundamental concepts related to visual impairment are addressed, with emphasis on the different forms of visual impairment and their implications in the learning process. Then, the pedagogical methodologies used for the literacy of this audience are discussed, including the use of Braille, inclusive education and approaches that consider the sensory specificities of children. The framework also explores the function of assistive technologies and adapted pedagogical resources, such as tactile, audiovisual and digital materials, which help in the teaching and learning process. Throughout this section, the main studies, theories and recommended practices for the promotion of inclusive teaching are presented, focusing on the importance of adequate teacher training and the creation of accessible educational environments.

THE HISTORY OF LITERACY FOR THE VISUALLY IMPAIRED

The history of literacy for the visually impaired is marked by important transformations that, over time, reflect changes in the understanding of inclusive education and pedagogical approaches aimed at this audience.

In this context, the conception that visual impairment limits learning has been overcome by approaches that value social mediation in children's development. As Monteiro (2021) points out:

Revista ARACÊ
ISSN: 2358-2472

> This perspective has been guiding our pedagogical work with children with VI and we support this research in it, since we understand that disability cannot be a parameter to determine the development of the subjects. It is the opposite, from our point of view and from the theory that permeates our practice, people with disabilities need to be considered as capable of learning and their learning must be thought of from the social aspects of their development and the school is one of the places where these mediated social practices occur. Therefore, regarding the first question of this study, we realized that even though students belong to different school grades, with different histories, traditions and values, they experience situations that bring them closer together and keep them in relationships with each other. (Monteiro, 2021, p. 142).

At first, children with visual impairment were excluded from the formal educational process, being marginalized and without access to conventional means of learning. For many years, the available methodologies were scarce, and the few adapted pedagogical resources, such as Braille, were not disseminated or applied in schools (Sganzerla, 2020).

In recent years, several significant advances have been achieved, driven by the school inclusion movement and the growing awareness of the rights of people with disabilities. A milestone was the implementation of the Braille System, which revolutionized the way people with visual impairment teach and learn, allowing access to reading and writing autonomously (Costa, 2022). In addition, the expansion of inclusive pedagogical practices in recent decades has provided an accessible scenario for children with visual impairment, with the increasing use of assistive technologies that, combined with innovative methodologies, contribute to an adapted education (Masini; Gasparetto, 2023).

The implementation of new pedagogical approaches, such as inclusive education, has allowed visually impaired students to be integrated into the regular education process. In this way, the challenges of literacy began to be faced with adaptive resources and strategies, which consider not only the use of Braille, but also digital and audiovisual technologies that help in learning (Almeida, 2023). The literacy process for children with visual impairment, therefore, has evolved, and currently, it is possible to observe an integration of different pedagogical methods, which seek to respect the specificities of this population and ensure their full educational development.

These advances are visible in the increase in the number of research and specialized professionals, such as educators and pedagogues, who are prepared to deal with the specificities of visual impairment. The history of literacy for the visually impaired, therefore, not only reflects the challenges faced over time, but also demonstrates the important advances that have been made in the search for educational inclusion and the right to learn for all children, regardless of their conditions (Vasconcelos, 2018).

Revista ARACÊ
ISSN: 2358-2472

PEDAGOGICAL METHODS OF LITERACY

The literacy of visually impaired children requires the adoption of specific pedagogical methods, which consider the sensory limitations of these students and promote learning, the Braille method has been the main tool used to teach reading and writing to the visually impaired. This tactile writing system, developed by Louis Braille, has been fundamental for the inclusion of visually impaired children in the literacy process, allowing them to access knowledge autonomously and efficiently (Sganzerla, 2020). The use of Braille, in addition to being essential, was accompanied by adaptations and technological innovations that expanded the possibilities of teaching, such as the use of tactile and audiovisual materials, facilitating children's learning (Costa, 2022).

In addition to traditional methods, new pedagogical approaches have been developed and implemented to complement or even replace the Braille method in certain contexts. The global method, for example, seeks to integrate reading and writing into a single process, connecting words to meanings through direct associations, rather than focusing on decoding the letters (Masini & Gasparetto, 2023). The effectiveness of this approach has been discussed in several studies, which indicate that, for some students, the global method can provide fast and efficient learning, as it favors the use of other senses, such as hearing and touch, in the construction of knowledge (Domingues & Lima, 2024).

However, the application of the global method is not accepted in relation to Braille. Many experts argue that, despite the innovations, Braille still remains the consolidated and efficient method for teaching children with visual impairment to read and write, especially when considering the need for a basis for reading and writing (Castro, 2024). The combination of Braille with other methodologies, such as the use of assistive technologies and the global method, has shown to be a promising approach to making the literacy process accessible and adapted to the individual needs of each student (Almeida, 2023). Thus, the choice of pedagogical method must be planned according to the characteristics and needs of each child, and it is important to consider both traditional methods and technological innovations that can enrich the learning process.

THE ROLE OF THE TEACHER AND THE SCHOOL IN THE LITERACY PROCESS

The role of the teacher and the school in the literacy process of children with visual impairment is fundamental to ensure quality and inclusive education. The preparation and

Revista ARACÊ
ISSN: 2358-2472

training of educators are essential aspects for them to be able to deal with the specificities of teaching for this public. Teacher training should cover both the mastery of adapted pedagogical techniques, such as the use of Braille, and the understanding of the emotional and psychological needs of children with visual impairment (Sganzerla, 2020).

In this context, Assistive Technology (AT) plays a role, expanding the possibilities of teaching and learning for students with visual impairment. As highlighted by Sganzerla (2020):

> What could be observed during the research was the great help that AT provides to people with visual impairment, in some situations essential, such as writing, where some AT is necessary for the representation of the Braille system. Adapted and tactile materials are possibilities in the teaching of mathematical concepts. Providing teachers in their academic and continuing education with aspects inherent to visually impaired students would be ideal. Since when faced with such a situation, teachers often do not know how to proceed, since in the educational world of schools, the contents are presented in a visual way. Continuing education is an obligation on the part of teachers to be updated, but it must be provided by managers, the State and the Government. Tactile and audible adaptation are some of the evidences presented by AT. What often occurs, in addition to the lack of knowledge of such technologies on the part of teachers, there is also the fear of using them. (Sganzerla, 2020, p. 166).

Thus, the implementation of inclusive pedagogical resources is not restricted only to the availability of adapted materials, but also requires that educators be able to use them. For the literacy process to be successful, it is essential that teachers master different methodologies and technologies that favor student autonomy, in addition to promoting an environment of acceptance and respect for differences (Masini & Gasparetto, 2023).

For the literacy process to be successful, educators need to be able to use different pedagogical and technological resources that favor learning and student autonomy, in addition to being prepared to promote an environment of acceptance and respect for differences (Masini & Gasparetto, 2023).

In this sense, pedagogical mediation plays an essential role in the construction of knowledge, as it enables students to participate in the learning process, reformulating concepts and developing cognitive skills from social interaction. As Monteiro (2021) points out:

> In the process of forming thought about scientific phenomena, no concept was 'given ready-made' to the students. They needed to rethink and build them through relationships between themselves mediated by instruments. At this point, we highlight the role of pedagogical mediation in the conduct of teaching activity. At various times, the students resorted to her interventions and this, without presenting ready-made answers, launched questions and tasks that provoked the participation

Revista ARACÊ
ISSN: 2358-2472

> of the subjects through arguments, in which their actions were redirected towards the objects and objectives of the activity. (Monteiro, 2021, p. 144).

In addition to teacher training, the inclusive school environment plays a fundamental role in the literacy process of children with visual impairment. An inclusive school is one that adapts its practices, its spaces and its pedagogical materials to meet the needs of all students, without exception.

The school environment needs to be designed in an accessible way, which involves, among other things, the use of resources such as tactile materials, audiovisuals and assistive technologies that can help children with visual impairment in their learning (Domingues; Lima, 2024). The school space must be physically and psychologically accessible, with adequate infrastructure for the use of Braille, and must encourage the active participation of students in all proposed activities.

Therefore, the creation of an inclusive school environment depends not only on the physical and pedagogical infrastructure, but also on the attitude of the teaching staff towards inclusion. The presence of educators who are trained and motivated to work with visually impaired children is essential to ensure that these students feel welcomed and that their educational needs are met efficiently. The school, as an institution, should be a space for learning and respect for differences, offering the necessary conditions for all students, regardless of their limitations, to develop their full potential (Almeida, 2023). In this way, the collaboration between the training of teachers and the adaptation of the school environment constitutes the basis for the effective educational inclusion of children with visual impairment.

METHODOLOGY

The present research is characterized as a bibliographic research, with the objective of analyzing literacy methodologies for children with visual impairment. The approach adopted is qualitative, as it seeks to understand the existing pedagogical practices and theories from already published sources, identifying and analyzing the different methods and tools used in this context.

According to Santana, Narciso and Fernandes (2025), bibliographic research aims to gather information on a topic from materials already published, providing a theoretical basis for new investigations. In addition, the authors emphasize that the qualitative approach is used when the objective of the study is to explore perceptions, behaviors and

Revista ARACÊ
ISSN: 2358-2472

social phenomena without the need for numerical measurement, allowing an analysis of the interactions and processes involved in the phenomenon studied.

For data collection, academic works, scientific articles, dissertations, theses, books and book chapters that deal with inclusive education, literacy of children with visual impairment and the use of assistive technologies in the educational process were selected, as suggested by Santana, Narciso and Santana (2025). The research was carried out through the review and analysis of materials that address both historical and current aspects of literacy for this audience, focusing on the identification of methodologies and the contributions of specialized literature to the field. The bibliographic research, therefore, allowed an analysis of the pedagogical practices and theories related to the proposed theme.

The following table presents a selection of the main references used to support the research. These sources were organized based on the criterion of relevance to the theme, considering the theoretical and practical contributions to the literacy of children with visual impairment. The chart contains the essential information for each reference, including the author, title, year of publication, and type of work.

Chart 1: Bibliographic References Used in the Research

Author(s)	Conforming title published	Year	Type of Work
VASCONCELOS, D. F. P.	Learning with tasks: a serious game to help children with intellectual disabilities learn to read and write	2018	Master's Thesis
SGANZERLA, M. A. R.	Visual impairment and mathematics education: a study on the implementation of Assistive Technology	2020	Master's Thesis
MONTEIRO, A. F. B.	The process of teaching and learning Science for students with visual impairment: an analysis based on activity theory	2021	Research Report
COSTA, L. O. R.	Accessible theater education for children and young people with visual impairment	2022	Doctoral Thesis
ALMEIDA, A. C. C.	Audio description as a reading activity: the role of teacher training in inclusive education	2023	Seminar Annals
MASINI, E. F. S.; GASPARETTO, M. E. R. F.	Low vision: an educational approach	2023	Book
CASTRO, S. A.	Learning in distance education of people with blindness from the perspective of complexity theory: a case study	2024	Master's Thesis

Revista ARACÊ
ISSN: 2358-2472

DOMINGUES, M. O. M.; LIMA, R. V.	For a reading that involves all the senses	2024	Book Chapter

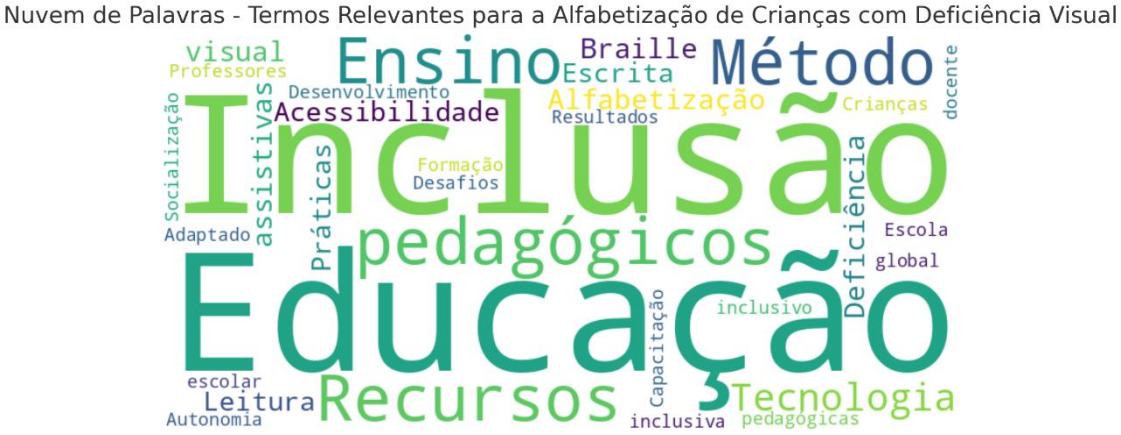
Source: The authors.

From the analysis of these references, it was possible to build a theoretical panorama that supports literacy methodologies for children with visual impairment, in addition to identifying the trends and challenges existing in this field. The table above offers a clear view of the sources consulted and contributes to the understanding of the theoretical framework that supports this research.

RESULTS AND DISCUSSION

The following word cloud highlights the frequent and significant terms present in the frame of reference, which will be explored in the next topics, results, and discussions of this study. These terms, such as 'literacy', 'visual impairment', 'inclusion', 'braille' and 'assistive technologies', reflect the core concepts addressed in the research and illustrate the areas of focus in pedagogical practices aimed at the education of visually impaired children. The cloud visualizes the keywords that will guide the analysis of the methodologies, challenges, and advances observed in inclusive education.

Image 1 - Word Cloud



Source: The authors.

The presentation of the word cloud allows for a quick and intuitive understanding of the predominant themes in the references used, providing a visual basis for the discussions that will follow. The highlighted terms will be deepened throughout the text, as the methodologies, results and approaches discussed are analyzed in detail. The presence of terms such as 'assistive technologies' and 'accessibility' also indicates the relevance of

Revista ARACÊ
ISSN: 2358-2472

technological innovations and pedagogical adaptations in the teaching-learning process of children with visual impairment.

LITERACY CHALLENGES FOR VISUALLY IMPAIRED CHILDREN

Literacy for visually impaired children involves several challenges that need to be overcome to ensure that these children can develop their reading and writing skills. One of the main difficulties faced by these students is the adaptation of traditional pedagogical methods, which in general do not contemplate the specificities of children with visual impairment. The use of Braille, for example, requires not only learning a different writing system, but also creating a suitable environment for its application, which can be an obstacle if resources and teacher training are not aligned with the needs of these children (Sganzerla, 2020). In addition, children with visual impairment face challenges related to the development of spatial perception and symbol recognition, which can make it difficult to understand texts and perform reading and writing activities (Vasconcelos, 2018).

Another significant challenge is related to the scarcity of adapted pedagogical materials and the limited use of assistive technologies, which are fundamental to the learning process of these children. Although there have been advances in the supply of digital materials and tools, many educators still do not have access to these technologies or do not know how to use them, which limits students' learning potential (Costa, 2022). In addition, visually impaired children often face social stigma, which can affect their self-esteem and their participation in school activities. This stigma can be exacerbated by a lack of understanding on the part of peers, teachers, and even family, which makes educational inclusion an ongoing challenge.

In this context, the role of the family, the school and the community is fundamental to face these challenges. The family, as the main agent of the child's socialization, must be engaged in the educational process, seeking alternatives for the emotional and pedagogical support of the children. Family support is essential to encourage the child's autonomy and inclusion in the school and social environment (Castro, 2024). The school, in turn, has the duty to create an inclusive environment, adapting its pedagogical practices and providing the necessary resources so that children with visual impairment can learn. The continuous training of teachers is essential to ensure that they are prepared to deal with the specific difficulties of this public (Almeida, 2023).

Revista ARACÊ
ISSN: 2358-2472

Finally, the community must contribute to the creation of an inclusive society that accepts differences and offers learning and development opportunities for all, without discrimination. Thus, addressing the literacy challenges of visually impaired children depends on a joint effort between the family, the school, and the community, ensuring that children can overcome educational barriers and reach their full potential.

ADVANCES AND RESULTS OF EDUCATIONAL PRACTICES

Advances in educational practices aimed at children with visual impairment have shown positive results, especially with the implementation of adapted and innovative pedagogical approaches. In addition to strategies aimed at literacy in written language, the teaching of mathematical concepts to these students has benefited from the use of Assistive Technology (AT) and accessible materials.

In this sense, as Sganzerla (2020) points out, the construction of the concept of number for children with visual impairment can occur as effectively as for sighted children, as long as adequate resources are used:

> Regarding the construction of the concept of number by the visually impaired child, it is possible to report that he has the same potentials as a sighted child. However, it is necessary to use AT and adapted materials to make this concept effective. During the preparation of the metatexts and data analysis, it is possible to infer about the mathematical knowledge regarding the construction of the concept of number by extracting four significant units: presenting; Recognizing; consolidating and abstracting. [...] In all stages of the acquisition of the concept of number by the research participants, AT and its resources were present. Quantities with tactile and diversified materials were allied to the presentation of concepts, through interactions with mathematical symbols in Braille, to consolidation with the use of calculators and other calculation resources, and to abstraction when they represented quantities and operations with mental calculations with the help of Math Touch. (Sganzerla, 2020, p. 168).

In addition to the teaching of mathematics, the use of Braille and inclusive methodologies has been essential to ensure that children with visual impairment access knowledge efficiently and autonomously. The adaptation of materials and the training of teachers are fundamental factors to consolidate pedagogical practices that meet the needs of these students, promoting inclusive teaching.

The use of Braille, for example, has proven to be a fundamental resource for literacy, providing a basis for reading and writing, essential for the academic development of these children (Sganzerla, 2020). In addition, pedagogical practices that use the global method

Revista ARACÊ
ISSN: 2358-2472

and other sensory approaches have contributed to improving children's interaction with texts, promoting integrative learning adapted to their needs (Costa, 2022).

One of the significant advances observed in recent years has been the incorporation of assistive technologies and adapted pedagogical resources, which play a fundamental role in the literacy process of children with visual impairment. The use of technological tools, such as screen reading software, recording devices and audiovisual equipment, have expanded the possibilities of teaching and learning, allowing these children to access content autonomously and more efficiently (Masini; Gasparetto, 2023). The impact of assistive technologies on learning to read and write has been remarkable, as these tools not only help in the adaptation of content, but also favor interactivity, which enhances student engagement in the educational process (Domingues; Lima, 2024). The use of tactile materials, such as maps and three-dimensional books, has also contributed to a better understanding of texts and concepts, providing a diversified learning experience for children with visual impairment (Vasconcelos, 2018).

The impact of these approaches, added to the increasing training of educators, has shown promising results in the academic and social development of children with visual impairment. The combination of traditional pedagogical practices with technological innovations has proven to be a strategy to ensure quality, inclusive and accessible education. These advances indicate that, although there are still challenges to be overcome, the adoption of adapted methodologies and the use of assistive technologies have contributed to improving the learning of reading and writing of children with visual impairment, expanding their possibilities of full participation in society and in the educational environment (Almeida, 2023).

INCLUSION AND ITS CONTRIBUTION TO EDUCATION

Inclusive practices have proven to be fundamental for the integration of children with visual impairment, not only in the educational context, but also in society in general. Inclusive education, which seeks to tailor teaching to the needs of each student, is one of the main approaches to ensure that children with visual impairment have access to the same learning opportunities as students. School inclusion allows these children to participate in pedagogical activities, interact with their peers, and develop important social skills for their formation and social integration (Sganzerla, 2020). In this sense, the

Revista ARACÊ
ISSN: 2358-2472

implementation of inclusive practices, such as the use of Braille and adapted pedagogical resources, has been essential to promote accessible and equitable education for all.

In addition, the creation of school environments that respect differences and seek to offer teaching adapted to the needs of visually impaired students has generated positive results in the learning and development of these children. Schools that adopt inclusive educational programs have observed an increase in the academic performance of visually impaired students, especially when these approaches are accompanied by adequate teacher training and the use of assistive technologies (Masini; Gasparetto, 2023). In literacy programs aimed at children with visual impairment, the use of adapted teaching materials and the adoption of diversified pedagogical strategies have proven effective, as they allow these children to learn in an efficient and participatory way. The integration of these children into regular classes not only contributes to their learning, but also promotes an inclusive environment, where differences are respected and valued (Costa, 2022).

The results observed in schools that implement literacy for visually impaired children in an inclusive manner are therefore quite promising. In addition to the improvement in academic performance, there is clear evidence of the strengthening of students' self-esteem, who feel valued and an integral part of the school community. Inclusive education has also contributed to the formation of a society aware of diversity, preparing future generations to deal with differences constructively and without prejudice (Domingues; Lima, 2024). In this way, school inclusion has a positive impact not only on the educational development of children with visual impairment, but also on strengthening their active participation in society, guaranteeing them an equal and accessible future.

FINAL CONSIDERATIONS

The final considerations of this research highlight the main findings related to the literacy of children with visual impairment, focusing on pedagogical methodologies, the role of educators and the school, as well as the impact of assistive technologies on the learning process. Throughout the study, we sought to understand how pedagogical practices can be adapted to promote an inclusive education for children with visual impairment. The analysis of the data and practices observed in schools and educational programs pointed out that, although there are significant challenges in the literacy process, adapted methodologies, such as the use of Braille, the support of assistive technologies and personalized pedagogical resources, have proven to be fundamental to ensure quality teaching.

Revista ARACÊ
ISSN: 2358-2472

The main question of the survey, related to how literacy methodologies for children with visual impairment can be adapted to promote inclusive learning, was answered based on the results obtained. The research showed that the use of Braille, together with the use of assistive technologies and adapted pedagogical resources, constitutes an approach to the literacy of children with visual impairment. These methodologies, when well implemented, allow these children to access the content autonomously, promoting not only academic learning, but also the development of social and cognitive skills that are important for their integration into society. However, the lack of adequate resources and the lack of specific training of educators continue to be challenges that impact the effectiveness of these methodologies, requiring continuous efforts to overcome them.

In addition, the results indicated that school inclusion, when applied, contributes to the success of literacy of children with visual impairment. The creation of accessible school environments, both in terms of infrastructure and pedagogy, is essential for these children to be able to participate in school activities and develop their reading and writing skills. Interaction with other students and the support of educators prepared to deal with the specificities of visual impairment play a fundamental role in this process of inclusion and learning.

The contributions of this study are significant, as they offer an analysis of the methodologies for literacy of children with visual impairment and argue the fundamental role of assistive technologies and pedagogical adaptations in this context. The survey also highlights the importance of continuous training of educators and the creation of inclusive school environments that respect the specific needs of students with visual impairment. Awareness of inclusion and the appropriate use of adaptive resources are, therefore, key elements for the advancement of education for this audience.

However, despite the advances identified, there is still a need for studies that explore accessibility issues and the adaptation of pedagogical materials. It is also necessary to investigate how the interaction of different assistive technologies can be optimized to improve the academic performance of children with visual impairment. Additional studies that address pedagogical practices in different contexts can help identify new approaches and challenges, contributing to the continuous improvement of teaching methodologies and to the strengthening of school inclusion.

Therefore, although this research has answered the central question about literacy methodologies for children with visual impairment and has identified effective practices, the

Revista ARACÊ
ISSN: 2358-2472

need for deepening in certain areas, such as teacher training and the expansion of adapted resources, remains evident. Continued research in this area is critical to building inclusive and accessible education for all.

Revista ARACÊ
ISSN: 2358-2472

REFERENCES

1. Almeida, A. C. C. (2023). Audiodescrição como atividade leitora: A função da formação de professores na educação inclusiva. In Seminário Internacional de Alfabetização e Educação Inclusiva, 2023, Belo Horizonte. Anais [...] (pp. [...]). Belo Horizonte: Universidade Federal de Minas Gerais. Available at https://repositorio.ufmg.br/handle/1843/76878. Retrieved on February 09, 2025.

2. Castro, S. A. (2024). Aprendizagem na educação a distância de pessoas com cegueira sob a perspectiva da teoria da complexidade: Estudo de caso (Master's thesis, Pontifícia Universidade Católica de Minas Gerais, Belo Horizonte, Brazil). Available at http://www.biblioteca.pucminas.br/teses/Educacao_SandraAndradeDeCastro_8614.pdf. Retrieved on February 09, 2025.

3. Costa, L. O. R. (2022). Educação teatral acessível às infâncias e juventudes com deficiência visual (Doctoral dissertation, Universidade de São Paulo, São Paulo, Brazil). Available at https://www.teses.usp.br/teses/disponiveis/48/48137/tde-16022023-091531/en.php. Retrieved on February 09, 2025.

4. Domingues, M. O. M., & Lima, R. V. (2024). Por uma leitura que envolva todos os sentidos. In Pontos de Vista em Diversidade e Inclusão (pp. 36–[...]). Niterói: Universidade Federal Fluminense. Available at http://pdi.sites.uff.br/wp-content/uploads/sites/330/2019/01/EBook-vol-4-Pontos-de-Vista-em-Diversidade-e-Inclus%C3%A3o.pdf#page=36. Retrieved on February 09, 2025.

5. Masini, E. F. S., & Gasparetto, M. E. R. F. (2023). Visão subnormal: Um enfoque educacional. São Paulo: Editora Universitária. Available at https://books.google.com.br/books?hl=pt-BR&lr=&id=6a7oEAAAQBAJ&oi=fnd&pg=PA1979&dq=DESVENDANDO+O+MUNDO+COM+AS+M%C3%83OS:+ALFABETIZA%C3%87%C3%83O+PARA+CRIAN%C3%87AS+COM+DEFICI%C3%8ANCIA+VISUAL&ots=AwqD-O_3tq&sig=aU-m0PEGJOyGFOzO0eBMSGyD8fU. Retrieved on February 09, 2025.

6. Monteiro, A. F. B. (2021). O processo de ensino e aprendizagem de Ciências para alunos com deficiência visual: Uma análise a partir da teoria da atividade. Rio de Janeiro: Fundação Oswaldo Cruz. Available at https://www.arca.fiocruz.br/handle/icict/50629. Retrieved on February 09, 2025.

7. Santana, A. C. de A., Narciso, R., & Fernandes, A. B. (2025). Explorando as metodologias científicas: Tipos de pesquisa, abordagens e aplicações práticas. Caderno Pedagógico, 22(1), e13333. https://doi.org/10.54033/cadpedv22n1-130. Available at https://ojs.studiespublicacoes.com.br/ojs/index.php/cadped/article/view/13333. Retrieved on February 12, 2025.

Revista ARACÊ
ISSN: 2358-2472

8. Santana, A. N. V. de, Narciso, R., & Santana, A. C. de A. (2025). Transformações imperativas nas metodologias científicas: Impactos no campo educacional e na formação de pesquisadores. Caderno Pedagógico, 22(1), e13702. https://doi.org/10.54033/cadpedv22n1-255. Available at https://ojs.studiespublicacoes.com.br/ojs/index.php/cadped/article/view/13702. Retrieved on February 12, 2025.

9. Sganzerla, M. A. R. (2020). Deficiência visual e a educação matemática: Estudo sobre a implementação de Tecnologia Assistiva (Master's thesis, Universidade Luterana do Brasil, Canoas, Brazil). Available at http://www.ppgecim.ulbra.br/teses/index.php/ppgecim/article/viewFile/356/350. Retrieved on February 09, 2025.

10. Vasconcelos, D. F. P. (2018). Aprendendo com tarefas: Jogo sério para auxílio na alfabetização de crianças com deficiência intelectual (Master's thesis, Universidade Federal de Uberlândia, Uberlândia, Brazil). Available at http://repositorio.ufu.br/handle/123456789/23039. Retrieved on February 09, 2025.