Dialoguing teaching for visual impairment from the perspective of inclusive special education

Diálogo do ensino para deficiência visual a partir da perspetiva da educação especial inclusiva

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Abstract
This work provides an opportunity to reflect on the process of inclusion and accessibility of visually impaired students in Basic Education. That said, a bibliographical research was carried out in the scientific and academic literature, through several databases, outlining theoretical and methodological contributions of the literature towards inclusive education. The results obtained from the study allow us to infer that the inclusion of visually impaired children

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in Basic Education with regard to regular school is still a subject little explored in the literature. as well as, it needs new discussions so that the theme can be developed, providing new perspectives on the adaptation and accessibility of these children. Furthermore, the study points out that students’ cognitive and motor development are improved as the teaching and learning process is articulated with a multidisciplinary and multidimensional team.

**Keywords:** Basic Education. Teaching and Learning. Cognitive Development.

**Resumo**

Este trabalho oferece uma oportunidade de refletir sobre o processo de inclusão e acessibilidade dos alunos com deficiência visual na Educação Básica. Dito isto, uma pesquisa bibliográfica foi realizada na literatura científica e académica, através de vários bancos de dados, delineando contribuições teóricas e metodológicas da literatura para a educação inclusiva. Os resultados obtidos a partir do estudo permitem inferir que a inclusão de crianças portadoras de deficiência visual na Educação Básica em relação à escola regular ainda é um assunto pouco explorado na literatura, além de precisar de novas discussões para que o tema possa ser desenvolvido, oferecendo novas perspetivas sobre a adaptação e acessibilidade dessas crianças. Além disso, o estudo aponta que o desenvolvimento cognitivo e motor dos alunos são melhorados, uma vez que o processo de ensino e aprendizagem é articulado com uma equipa multidisciplinar e multidimensional.

**Palavras-chave:** Educação Básica. Ensino e Aprendizagem. Desenvolvimento Cognitivo.

**Introduction**

Visual Impairment is a term referring to the spectrum that goes from blindness to low vision and is characterized by the limitation or loss of the basic functions of the visual system. Blindness is described as the total lack of vision or the minimal possibility of perceiving light effects (GIL, 2000). Low vision precedes the current concept of low vision, which refers to limitations in visual capacity. Gil (2000, p. 6) defines low vision as “alteration of functional capacity due to factors such as significant lowering of visual acuity, significant reduction of visual field and sensitivity to contrasts and limitation of other capabilities”.

According to the IBGE, it is estimated that there are about 248,203 children aged 0 to 5 years with visual impairment in Brazil. Thus, it is extremely important to treat and
understand how the inclusion of these children in early childhood education has been implemented (IBGE, 2010).

When talking about inclusion, it means the action that allows different individuals to participate in the same environment, in its various dimensions, without discrimination and in an egalitarian way. Thus, school inclusion allows different individuals to participate in school and school activities, in all its dimensions, on an equal basis, providing them with an environment capable of offering them the right to education, as provided for in article 205 of the Federal Constitution of 1988 (BRASIL, 1988; SIGNIFICADOS, 2021; MARTINS, 2001; VALADÃO; MENDES, 2018).

Relating the introductory aspects about visual impairment and school inclusion, the following question arises: What is the difference between inclusive education and special education?

Inclusive education refers to the inclusion and participation of each child with or without disabilities, with their particularities, in regular schools and classrooms, prepared to receive them along with other children. It is important to say that, for school inclusion to work, adequate training of teachers is necessary. The physical and curricular adaptation of the school (CUNHA; MOURAD, 2021). Thus, the IEP (Individualized Educational Plan) can be organized, based on an assessment of the student's demands, taking into account both their needs and their potentialities and abilities to prepare a pedagogical plan that is best suited and effective for their teaching and learning process (BRASIL, 2017).

Special Education is understood as preferential care for people with disabilities, preferably in regular schools. Soares (2020) points out that in Special Education develops the skills of people with disabilities, who have typical behaviors or high skills, and which covers the different levels and degrees of the education system. And when we think about the difference between Special Education and Inclusive Education, the author mentions that in Special Education, teaching is totally geared towards students with disabilities. In inclusive education, all students with and without disabilities have the opportunity to live together and learn together”. The National Policy on Special Education from the Perspective of Inclusive Education declares the importance of articulating Specialized Educational Assistance (AEE) with the Political Pedagogical Project (PPP) of the School, foreseeing its institutionalization in the school context (BRASIL, 2008).

In this regard, it is worth noting that:

Specialized educational assistance has the function of identifying, developing and organizing pedagogical and accessibility resources that eliminate barriers to the full participation of students,
considering their specific needs. The activities developed in the specialized educational service differ from those carried out in the common classroom, not being substitutes for schooling. This service complements and/or supplements the training of students with a view to autonomy and independence at school and outside it (BRASIL, 2008, p. 11).

Regarding the SRM, Normative Ordinance No. 13, of April 24, 2007, establishes the AEE in the curriculum offering answers to the special educational needs of students, and resolves:

Create the Program for the Implementation of Multifunctional Resource Rooms with the objective of supporting public education systems in the organization and provision of specialized educational services and to contribute to the strengthening of the process of educational inclusion in common teaching classes (BRASIL, 2007, Art. 1).

Speaking of inclusion in early childhood education, it is the basis for an egalitarian society, as it is at the beginning of life that one begins to add values, learning and form character, beliefs and individual ideas, which later, collectively, will become the guidelines of a society (BRASIL, 2018).

Thus, inclusion in early childhood education is fundamental for children with disabilities, who need not only to learn content, but also to be part of a society with everything that surrounds it. It is also essential for children who do not have a disability, who need to learn to live with differences. It is necessary to teach them that it is possible to form a diversified society, in which people with disabilities can hold positions in the labor market and other occupational roles common to life (CUNHA, MOURAD, 2021).

The term “occupational roles” refers to the functions that an individual performs in their daily lives, which contribute to the construction of their identity. As examples of occupational roles, we can mention those of professional, student, domestic service, father/mother, caregiver, among others (PAIVA, 2015).

When we talk about a child's occupational roles, one that comes to mind is the student role. To play this role, some basic conditions are necessary, such as an accessible environment and favorable conditions for motor and cognitive performance. Therefore, in cases such as that of a visually impaired child, with sensory and mobility issues, occupational therapeutic monitoring is necessary so that the child can fully exercise his role as a student.

Occupational Therapy is the profession that makes use of specific knowledge about human occupation and that uses tools, technologies and specific activities to achieve the autonomy and independence of an individual in carrying out their occupations, focusing on their potentialities, being able to act in various fields such as health, education, justice and social, among others (CARVALHO, 2012).
Occupational Therapy is a field of knowledge and intervention in health, education and the social area, which brings together technologies aimed at the emancipation and autonomy of people who, due to specific problems (physical, sensory, psychological, mental or social), they present difficulties in insertion and participation in social life temporarily or permanently (BARROS; LOPES; GALHEIGO, 2002, p. 366).

Thus, the role of the occupational therapist in the school context is supported by Resolution No. 500, of December 26, 2018, of the Federal Council of Physical Therapy and Occupational Therapy (COFFITO), which recognizes and disciplines this specialty of Occupational Therapy, as well as described in which areas and how the occupational therapist working in this context should act (CONSELHO FEDERAL DE FISIOTERAPIA E TERAPIA OCUPACIONAL, 2019).

One of the occupational therapist's possibilities of action is the prescription and/or creation of assistive technology resources. According to Cunha et al. (2021), multidisciplinary knowledge based on Assistive Technology, allows inclusion to be supported by resources that effect the insertion of students in the school environment. It is worth noting that the resources used to facilitate the teaching and learning process can vary from simple tools to more complex equipment (MARIN et al., 2019; MOURA et al., 2019; MARIN et al., 2019b; MORAIS et al., 2019; JUNGER et al., 2023; DE SOUZA; CUNHA; CASTRO; DINARDI, 2023).

With a wedge et al. (2021) lists interdisciplinary aspects in terms of Assistive Technology, highlighting the importance of articulation between areas of knowledge in favor of inclusion:

The theme of so-called assistive technology is directly associated with the contemporary effort to include people with special needs. This fact stems from the necessary efficient inclusion that, due to diversity, imposes an expanded set of challenges on educators, and it is worth noting that professionals from various areas of education and health are directly involved with the promotion of inclusive education, among them: Occupational Therapy, Physiotherapy, Speech Therapy, Psychology and Psychopedagogy (CUNHA et al., 2021, p. 211).

Chart 1 presents a classification of Assistive Technology resources. Topic 9 refers to “Aid for the blind or with low vision”.

<table>
<thead>
<tr>
<th>1 - Aids for daily living</th>
<th>Materials and products to aid in routine tasks such as eating, cooking, dressing, bathing and performing personal needs, house keeping, etc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 - Augmentative (supplementary) and alternative communication</td>
<td>Resources, electronic or not, that allow people to communicate expressively and receptively without or with limitations of speech. Communication boards with the PCS or Bliss symbols are widely used, in addition to dedicated vocalizers and software for this purpose.</td>
</tr>
</tbody>
</table>
Assistive Technology is part of the actions and strategies applied in the Multifunctional Resource Room (SRM), an exclusive environment to offer AEE and can also be adapted to the conventional classroom. What will determine the efficiency of learning will be the teacher's mediation, that is, the SRM can be a conventional classroom when used without valuing its resources, just as a conventional classroom can be adapted in terms of resources, intensifying the process of teaching and learning. The AEE is not mandatory, however it is very important to subsidize an inclusive language based on resources, mechanisms and actions, which stimulate the student in the teaching and learning process (CUNHA, MOURAD, 2021).
Therefore, the present work intends to analyze the inclusion of visually impaired children in preschool education between 2010 and 2020. In specific terms: Identify facilitating factors and barriers to the inclusion of visually impaired children in preschool education; Reflect on the participation of visually impaired children in school activities; Discuss the contributions of the occupational therapist in the process of including visually impaired children in early childhood education.

**Methodological Procedure**

In order to achieve the objectives of this study, a theoretical-methodological path was structured, due to the pandemic of the new coronavirus (Sars-cov-2), which causes the infectious disease Covid-19, which prevented practical activities in the school environment. Being thus, among the most diverse types of existing research, it was decided to use qualitative bibliographical research in this study.

Regarding qualitative research, it can be said that it refers to investigation activities that are presented in a specific way and with characteristics of common traits. It has the natural environment as a direct source of data and the researcher as a key instrument. In this type of research, the quantitative point of view is not valued, but the quality of the information obtained (TRIVIÑOS, 1987).

According to Gil (2008), bibliographical research is the most commonly used and is carried out from material already prepared, such as books and scientific articles. Its base is already published documents, which can be both printed and digital.

The databases used were: Scientific Electronic Library Online (Scielo), Google Scholar (GA), Coordination for the Improvement of Higher Education Personnel (CAPES), SciVerse Scopus (SCOPUS), Brazilian Portal of Open Access Scientific Publications (OASISBR), Journal of Social Sciences (JSTOR), Education Resources Information Center (ERIC), Online Medical Literature Search and Analysis System (MEDLINE/PUBMED), Brazilian Interinstitutional Journal of Occupational Therapy (REVISBRATO), Journal of Occupational Therapy of USP (RTO), Bahia Magazine of Occupational Therapy (RBTO).

Table 2 presents the terms in Portuguese and English and their correlations, such as (blindness OR "Visual Impairment" OR "Low Vision" OR "Low Vision" OR Blind OR "Visual Impairment") AND ("Childhood Education" OR "occupational therapy" OR "Occupational Therapist" OR "special education" OR "Special Education"). A total of 20,492 articles with these descriptors were found.
<table>
<thead>
<tr>
<th>HEADINGS</th>
<th>DATA BASE</th>
<th>QUANTITY OF ITEMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;blindness OR &quot;Visual impairment&quot; OR &quot;low vision&quot; OR &quot;Low Vision&quot; OR blind OR &quot;Visual Impairment&quot;) AND (&quot;child education&quot; OR &quot;Early Education Classroom&quot; OR &quot;terapia ocupacional&quot; OR &quot;Occupational Therapist&quot; OR &quot;preschool children&quot;).</td>
<td>CAPES</td>
<td>1.662</td>
</tr>
<tr>
<td>(“Blindness OR &quot;Low Vision&quot; OR &quot;Visual Impairment&quot;) AND (“Early Education Classroom&quot; OR &quot;preschool children&quot;).</td>
<td>JSTOR</td>
<td>1.389</td>
</tr>
<tr>
<td>&quot;Visual impairment AND special education&quot; AND “occupational therapy”</td>
<td>OASISBR</td>
<td>214</td>
</tr>
<tr>
<td>(blindness OR &quot;visual impairment&quot; OR &quot;low vision&quot; OR &quot;Low Vision&quot; OR cego OR &quot;Visual Impairment&quot;) AND (&quot;early education&quot; OR &quot;occupational therapy&quot; OR &quot;Occupational Therapist&quot; OR &quot;special education&quot; OR &quot;Special Education&quot; OR &quot;preschool children&quot;).</td>
<td>SCIELO</td>
<td>88</td>
</tr>
<tr>
<td>(blindness OR &quot;visual impairment&quot; OR &quot;low vision&quot; OR &quot;Low Vision&quot; OR cego OR &quot;Visual Impairment&quot;) AND (&quot;early education&quot; OR &quot;Early Education Classroom&quot; OR &quot;occupational therapy&quot; OR &quot;Occupational Therapist&quot; OR &quot;preschool children&quot;).</td>
<td>USP OCCUPATIONAL THERAPY JOURNAL</td>
<td>10</td>
</tr>
<tr>
<td>(blindness OR &quot;visual impairment&quot; OR &quot;low vision&quot; OR &quot;Low Vision&quot; OR cego OR &quot;Visual Impairment&quot;) AND (&quot;early education&quot; OR &quot;Early Education Classroom&quot; OR &quot;occupational therapy&quot; OR &quot;Occupational Therapist&quot; OR &quot;preschool children&quot;).</td>
<td>REVISBRATED</td>
<td>7</td>
</tr>
<tr>
<td>“Low Vision” OR &quot;Visual Impairment” OR blind OR blindness AND “Early Education Classroom” OR “Occupational Therapist” OR “Occupational Therapy” OR &quot;preschool children&quot;</td>
<td>SCOPUS</td>
<td>62</td>
</tr>
<tr>
<td>(Blindness OR &quot;Low Vision&quot; OR &quot;Visual Impairment&quot;) AND (“Early Education Classroom” OR “Occupational Therapist” OR “Occupational Therapy” OR &quot;preschool children&quot;).</td>
<td>ERIC</td>
<td>41</td>
</tr>
<tr>
<td>occupational therapy AND visual impairment AND early childhood education, blindness OR visual impairment AND occupational therapy.</td>
<td>MEDLINE</td>
<td>0</td>
</tr>
<tr>
<td>(blindness OR &quot;visual impairment&quot; OR &quot;low vision&quot; OR &quot;Low Vision&quot; OR cego OR &quot;Visual Impairment&quot;) AND (&quot;early education&quot; OR &quot;occupational therapy&quot; OR &quot;Occupational Therapist&quot; OR &quot;special education&quot; OR &quot;Special Education&quot;).</td>
<td>PUBMED</td>
<td>33</td>
</tr>
</tbody>
</table>

Chart 2: List of articles found by descriptors and database (total of 20,492).
Source: The authors.

The titles of each article were read up to the tenth page of the databases with the largest numbers: Google Scholar, CAPES, JSTOR and OASISBR, with 10 articles per page, totaling a reading of 100 titles in each of these bases. In the databases with lower results (Scielo,
Scopus, ERIC, Pubmed, Revisbrato, Revista de Terapia Ocupacional da USP, Revista Baiana de Terapia Ocupacional) the titles of all identified articles were analyzed.

The inclusion criteria were: articles published between 2010 and 2020, which addressed the inclusion of visually impaired children in early childhood education. Articles available in full in Portuguese and English were considered.

Exclusion criteria were: articles published before 2010; articles that talked about segments other than early childhood education; articles that did not address the visual impairment itself, but only cited it as a comorbidity.

In the end, 10 articles were selected by title. Two were excluded because they referred to high school and two because they were also literature review studies, leaving 6 for qualitative analysis.

For the analysis, the content analysis method was used, which can be defined as a set of instruments of methodological content in constant improvement, which are applied to extremely diverse discourses (BARDIN, 2011).

The analysis categories were pre-selected to identify:

- Population profile: children with blindness or low vision;
- Professionals involved in the inclusion process: regular and special class teachers, pedagogues, directors, mediators, occupational therapists and other professionals;
- Intervention focus: pedagogical, therapeutic, autonomy and independence;
- School spaces with intervention: classroom, patio/park, bathroom and cafeteria;
- Factors facilitating inclusion;
- Barriers in the inclusion process;
- Specialized materials.

### Results and Discussion

In the detailed reading of the articles found, an attempt was made to identify relevant aspects for the knowledge about the inclusion of visually impaired children in Early Childhood Education.

Chart 3 presents the articles analyzed by title, author, objective, year and place of publication.
<table>
<thead>
<tr>
<th>TITLE</th>
<th>AUTHORS</th>
<th>AIM</th>
<th>METHOD</th>
<th>PUBLICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independence of children with low vision in activities of daily living: collaboration with preschool teachers.</td>
<td>GEBRAEL; MARTINEZ</td>
<td>Implement the individual teacher training program.</td>
<td>Quali-quantitative research/Case study</td>
<td>Development Issues/2010</td>
</tr>
<tr>
<td>Collaborative consultancy in occupational therapy for teachers of preschool children with low vision.</td>
<td>GEBRAEL; MARTINEZ</td>
<td>Implement the individualized program of collaborative consultation in Occupational Therapy for teachers.</td>
<td>Quali-quantitative research/Experimental study</td>
<td>Brazilian Journal of Special Education/2011</td>
</tr>
<tr>
<td>Social interaction of blind and sighted children in kindergarten.</td>
<td>FRANCE-FREITAS; GIL</td>
<td>To characterize the social interaction of blind and sighted children who received or did not receive specialized stimulation.</td>
<td>Qualitative Research/Case Study</td>
<td>Semiannual Journal of the Brazilian Association of School and Educational Psychology/2012</td>
</tr>
<tr>
<td>Adequacy of the regular early education classroom environment for students with visual impairment (Adequacy of the regular classroom environment in kindergarten for visually impaired students).</td>
<td>BROWN; PACKER; PASSMORE</td>
<td>To describe the classroom environment experienced by visually impaired students in an Australian mainstream preschool class.</td>
<td>Quali-quantitative research/Case study</td>
<td>The Journal of Special Education/2013</td>
</tr>
<tr>
<td>Interaction between visually impaired children in play groups.</td>
<td>RUIZ; CAMBRIC</td>
<td>To analyze the forms of interaction between the children and the action of the adult in a “pretend play” situation.</td>
<td>Qualitative Research/Case Study</td>
<td>Brazilian Journal of Special Education/2014</td>
</tr>
<tr>
<td>The visually impaired child in situations of play in kindergarten.</td>
<td>ROCK; GARRUTTI-LOURENÇO</td>
<td>To investigate the participation of visually impaired children in play contexts in early childhood education.</td>
<td>Qualitative research/Field study</td>
<td>Special Education Magazine/2015</td>
</tr>
</tbody>
</table>

**Chart 3: Articles selected for analysis.**
Source: The authors.
The analyzed articles were located in the Scielo, Capes, Google Scholar and Oasis databases and published in the period from 2010 to 2015, each of which was published in a different year, with no year of concentration. About the population studied in the analyzed articles, two carried out studies with children with total blindness, three with children with low vision and one did not define its audience, stating only that they were children with visual impairment. Still on the target population, the studies involved children from 4 to 6 years old, two with 5 year olds, one with children between 4 and 6 years old and three of them did not inform the age, only emphasized that they were children of Early Childhood Education.

In all articles analyzed, there was participation of teachers from regular classes, auxiliary teachers, specialist teachers, directors, managers, among other education professionals. In some of them there was also the participation of parents and guardians.

Among the authors are 4 occupational therapists, 3 pedagogues, 3 psychologists and 1 teacher. Of the 6 articles, only one article talks about the contributions of the occupational therapist in the inclusion process.

The activities researched in the analyzed articles involved: games and forms of interaction between sighted and visually impaired children in three articles; in two, activities of daily living, such as hygiene and food, highlighting the promotion of independence in children with visual impairment. One article analyzed the regular classroom environment, relating it to the experiences of students with disabilities in early childhood education.

In the methodology of the analyzed studies, interviews, questionnaires and observation were carried out as measurement instruments with the use of filming and recordings.

The results obtained in the analyzed studies will be arranged in the subsequent categorized topics.

3.1 The Interaction Between Visually Impaired Children, their Peers and Teachers

The analyzed studies were carried out with visually impaired children (blind or with low vision) aged between 4 and 6 years old, who attended regular classes of kindergarten.

According to these articles, during the interaction between visually impaired children and sighted children, it was noticed that both the initiative and the closure of activities were not carried out by children with visual impairments, but by sighted children, such as França-Freitas and Gil (2012) corroborate:

[...] referring to the behavior of initiating or receiving interactions, blind children were more recipients of interaction initiatives from other children than initiators when compared to sighted children. [...]
regard to the end of interactions, sighted children ended a greater number of episodes of interactions than had their interactions ended by classmates or teacher. The opposite was observed for blind children, who had their interactions terminated more frequently by classmates or the teacher than by themselves (FRANÇA-FREITAS; GIL, 2012, p. 8).

Visually impaired children participated in activities more passively. When the teacher or an adult intervened to provide a more interactive environment, they were able to participate more effectively and autonomously in activities, creating make-believe plots with toys and bringing their own meaning to the game (ROCHA; GARRUTTI-LOURENÇO, 2015, p. 348).

The teacher then becomes the main social and pedagogical mediator of the interaction process between sighted and non-sighted children. In inclusion, these aspects are important to ensure and develop socialization and interaction, promoting equality and social inclusion, encouraging included students to be part of all social events that occur in the environment (CUNHA; MOURAD, 2021).

In addition, teaching must be able to promote the awareness of other students towards children with disabilities. Demystifying any practice of prejudice that may arise. This posture promotes equity so that students as a whole can exercise respect, tolerance, solidarity and citizenship.

Thus, proper stimulation and environment are basic foundations for the good development of these children. According to França-Freitas (2012, p. 9), "the blind child will probably not have difficulties in learning and interacting if he is provided with time stimulation and an environment rich in experiences where he can develop his capacities".

For Ruiz (2014) the conditions offered for children with visual impairment to interact well with other children or adults are also fundamental for their development:

The visually impaired child showed conditions to play like any other child, once conditions were offered to interact with partners. She will learn to play if she has play partners who understand that her way of interacting can be different. And being different does not mean being inferior (RUIZ, 2014, p. 13).

3.2 Orientation and Physical Mobility in the School Environment

Ravazzi and Gomes (2013) highlighted the differences between blindness and low vision, making a link between the limitations that such children in these conditions face in the school environment. Many schools still do not have adequate accessibility to promote the autonomy of this group. It is understood that inclusion is still a relatively new practice that has been gaining a greater trend over the years (CUNHA; MOURAD, 2021).
The visually impaired need to have autonomy to be able to have an independent active life, without the presence of someone in the basic daily activities. [...] The visually impaired person, whether congenital or acquired, needs means to be able to locate himself in different environments and situations. The other senses (smell, touch and hearing) become more acute due to limited vision, and become increasingly active over the years (RAVazzi; Gomes, 2013, p. 735).

Maia and Freitas (2018, p. 75) stressed that "guidance and mobility of people with disabilities must be done by all teachers and school staff". The authors highlighted that when inclusion is not a priority, it does not add a a differentiated look, it ends up becoming an excluding practice. The whole school, including teachers, employees and management, must contribute to access and displacement in the school environment.

3.3 Professional Training of Teachers and Education Professionals

According to the analyzed articles, most teachers and education professionals did not feel prepared to deal with visually impaired students, even those who had some type of preparation still felt unable to offer quality teaching and care. According to Brown, Packer and Passmore (2013), 68% of the consulted teachers indicated a limited level of inclusive experiences.

School directors and managers also did not feel able to provide an adequate school environment, although they made an effort to do so, they still considered it insufficient.

Of the schools and programs, 61% (n=11) had an overall poor (negative) attitude toward inclusion on the QIEM Program Goals and Purposes scale at Time 1. These schools failed to sufficiently incorporate inclusion into the school's philosophy. Furthermore, principals and teachers reported unenthusiastic views towards inclusion and reported that their schools had limited commitment to inclusion (Brown; Packer; Passmore, 2013, p. 6).

Cunha and Mourad (2021) highlighted the importance of continuing education for education professionals working on inclusion. This training promotes constant updating, resulting in teacher improvement in the face of new emerging trends, in order to provide better performance and benefits in the teaching and learning process. Thus, with more prepared teachers, the inclusion of visually impaired students becomes not only more viable, but also better implemented, which only benefits these students.
3.4 Performance of Occupational Therapy with Visually Impaired Children in Early Childhood Education

Definition of Occupational Therapy according to the American Occupational Therapy Association (2020):

Occupational therapy is defined as the therapeutic use of activities of daily living with individuals, groups, or populations (i.e., the client) for the purpose of enhancing or enabling participation. The occupational therapist uses his knowledge of the transactional relationship between clients, the client's involvement in meaningful occupations, and the context to design occupation-based intervention plans (AOTA, 2020, p. 1).

Thus, Occupational Therapy acts in the school context to increase the participation of individuals who, for some reason, had their performance reduced, promoting their autonomy and independence.

Ávila (2005) and Gebrael and Martinez (2011, p. 117) further corroborate:

The work of the occupational therapist at school is characterized by support for the entire educational system, covering all characters that are part of inclusion, students, teachers and the entire educational team.

Article 2 of Resolution 500 of COFFITO (2018) says that the occupational therapist is competent to act in all “modalities, stages and levels of education, in the management of the process for the implementation of policies that guarantee the inclusion of students”.

The occupational therapist can “evaluate and intervene in the student's occupational performance in the school context” (CONSELHO FEDERAL DE FISIOTERAPIA E TERAPIA OCUPACIONAL, 2018, article 3), as well as act in “all areas of occupational performance and daily activities in these spaces, such as education, play, leisure, social participation, Activity of Daily Life – ADL, Instrumental Activities of Daily Life – IADL, rest and sleep” (CONSELHO FEDERAL DE FISIOTERAPIA E TERAPIA OCUPACIONAL, 2019, article 4).

It is also important to point out that article 7 of that resolution points out the actions that the occupational therapist can exercise, such as

II – Collaborate in the processes of access, permanence and completion of students in all modalities, stages and levels of education; III – Mediate the processes of implantation and implementation of reasonable adaptations and/or adjustments with the student, in the environment and/or in the task/occupation aiming at the student's occupational performance in the school context; IV – Collaborate for the implantation and implementation of the student's Individual Development Plan; V – Evaluate, identify, analyze and intervene in the general demands of accessibility in the school that
serves the entire educational community; VIII – Select, train and guide school support professionals; IX – Compose the team of the specialized educational service (AEE), multifunctional rooms, for the implantation and implementation of the assistive technology resources, alternative communication necessary, in addition to the necessary and fair reasonable adaptations in the inclusion process; XIV – Collaborate for the implementation of school inclusion process policies (CONSELHO FEDERAL DE FISIOTERAPIA E TERAPIA OCCUPACIONAL, 2018).

The results of the six studies analyzed were very positive, as they expanded the repertoire of pedagogical activities aimed at including children with visual impairments; spaces for interaction, development and inclusion of these children in playful situations; suitability of the classroom environment for these children and independence in their daily life activities within the school.

**Final Considerations**

The inclusion of children with some type of visual impairment in the regular school system, according to the studies analyzed in this work, is still a very exciting topic and that, little by little, has brought about discussions about its implementation.

In addition to their limitations regarding vision, these children have a great capacity for adaptation, developing other senses, such as touch and hearing, for example.

Several schools have already created environments, spaces and programs aimed at including these children in a regular teaching environment, as well as training courses for educators so that they are prepared to receive and help them. It is important to emphasize that the main objective is to include the child. It's about making her feel like she's an integral part of the group and that, despite her limitations, she has all the conditions to develop her skills and knowledge. It is not the intention to do the activities for the child, but to create situations and moments in which he can carry out them alone, so that he can feel independent, as well as his other colleagues.

It should be noted that interdisciplinary work is essential for the implementation of inclusion in school and needs to be implemented. The articulation between the school and the occupational therapist brings permanent benefits to the entire school community, from administrators to students. This is one of the fundamental professionals for the inclusion of children with visual impairment to be carried out in an effective and powerful way in the school environment.
References


BRASIL. Ministério da Educação. *Base Nacional Comum Curricular*, 2018;


CUNHA, Fernando Icaro Jorge; VIEIRA, Luciana Martins; MOURAD, Leonice Aparecida de Fátima Alves Pereira; AZAMBUJA, Maria José Baltar de; COELHO, Caroline Pugliero; HICKMANN, Janete. *Tecnologias Assistivas: Potencializando Habilidades Apresentadas por Estudantes de Educação Especial Inclusiva*. In: CUNHA, Fernando Icaro Jorge; MOURAD, Leonice Aparecida de Fátima Alves Pereira (orgs.). Educação


FRANÇA-FREITAS, Maria Luiza Pontes de; GIL, Maria Stella Coutinho de Alcântara. Interação social de crianças cegas e de crianças videntes na educação infantil. Psicologia Escolar e Educacional, v. 16, p. 317-327, 2012;


GEBRAEL, Tatiana Luísa Reis; MARTINEZ, Cláudia Maria Simões. Independência de crianças com baixa visão nas atividades de vida diária: colaboração com professores na pré-escola. Temas sobre Desenvolvimento, v. 17, n. 99, p. 104, 2010;


Submetido em: 10.07.2023
Aceito em: 07.08.2023

Revista Gestão e Secretariado (GeSec), São Paulo, SP, v. 14, n. 8, 2023, p. 12819-19836.