INCLUSION OF STUDENTS WITH VISUAL IMPAIRMENT IN EDUCATION REGULAR

THE INCLUSION OF VISUALLY IMPAIRED STUDENTS ON REGULAR EDUCATION

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SUMMARY

In the medical context, blindness is considered a disorder that can affect one or several functions of the optical apparatus, which will have the function of decoding the information that is sent to it, from the external environment, so that vision is formed. This study aims to discuss ways in which blind students can be included in regular education, in addition to conceptualizing blindness; present the pathologies that cause blindness; demonstrate the characteristics of children with visual impairment; relate how the inclusion of blind children in regular education is carried out, providing clarifications for educators, for the families of blind children and for society in general. The inclusive school, as a trainer of conscious individuals, must be prepared to provide education that values and respects students with or without special educational needs. Thus, requiring structure and specialized professionals who are capable of contributing to the learning process. The methodology used was qualitative bibliographical research in books, articles, magazines and monographs on the topic. It is concluded that it is possible to include blind students in regular education, especially if there is a specialized teacher and a mediator who can contribute to the development and learning of this child.

Key words: School inclusion. Visual impairment. Regular education. Mediator. Teacher.

ABSTRACT

In the medical context, blindness is considered a disorder that may affect one or several functions of the optical apparatus, which has the function of decoding the information sent to it from the external environment, so that vision is formed. This study aims to discuss ways in which blind students can be included in regular education, in addition to conceptualizing blindness; to present the pathologies which cause blindness; to demonstrate the characteristics of children with visual impairment; to report how the inclusion of blind children in regular education is carried out, bringing clarifications to educators, to the families of blind children and to society in general. The inclusive school, as a trainer of conscious individuals, must be prepared to make available an education that values and respects the student with or without special educational needs. Thus, it needs structure and specialized professionals who are able to contribute to the learning process. The methodology used was a qualitative bibliographic research in books, articles, magazines, and monographs on the topic. We conclude that it is

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possible to include blind students in regular education, especially if there is a specialized teacher and a mediator who can contribute to the development and learning of these children. **Keywords:**School Inclusion. Visual Impairment. Regular Education. Mediator. Teacher.

1. INTRODUCTION

This work aims to discuss ways in which blind students can be included in regular education, since the inclusive school, as a trainer of conscious individuals, must be prepared to provide an education that gives value and respects the student with or without special educational need. Thus, requiring structure and specialized professionals who are capable of contributing to the learning process.

According to Sá, Campos and Silva (2007), blindness is conceptualized, from a medical point of view, as a disorder that can affect one or several functions of the optical apparatus. Such a device will have the function of decoding the information that is sent to it, from the external environment, so that the vision is formed.

Throughout history, more precisely in modernity, blindness has been seen as a lack, a deficiency, an impossibility that will produce a disadvantage in relation to other people. This point of view results in the relationship focusing on the defect, on the impossibility, which generates discrimination and prejudice towards that blind person and ends up limiting their real chances of social inclusion.

Social exclusion continues to be the reality of individuals with visual impairments today. This individual's schooling has undergone fundamental conceptual changes supported by new educational paradigms as a support for quality schools for all individuals, with the mission of respecting, knowing and welcoming the needs of each child. This way of conceiving education gives priority to the inclusion of children with disabilities in regular schools and professionals act differently to ensure inclusion is achieved.

From this, this work is focused on methodologies for including children with visual impairments in regular schools. To this end, the following specific objectives were established: conceptualize blindness; present the pathologies that cause blindness; demonstrate the characteristics of children with visual impairment; relate how the inclusion of blind children in regular education is carried out.

The problem with this research lies in the strategies used to include students with visual impairments in regular classes, as they need specialized assistance and adapted material. The hypothesis is that there is a specialized professional at the educational institution to guide and collaborate with the teacher, the family and the entire team to find the most appropriate way to include this student.

The research is qualitative in nature and its aim is to provide clarification for educators, families of children with blindness and society in general, using bibliographical research in books, scientific articles, magazines, monographs and other texts already written on the subject.

2 VISUAL IMPAIRMENT

The basic function of human vision is to capture everything that is around you, the eye is an organ responsible for this capacity and any change in this organ can compromise the way you see.

Ramos (2006, p. 2) states that "the human eye is made up of a set of elements and specific ways they act in the act of seeing". While Mazzaro (2008, p. 45) establishes that "our vision provides us with approximately 80% of sensory information", in addition to integrating the individual into the world and losing vision can reduce the person's ability to adapt to the social, educational environment and in your daily activities.

Melo (1991) characterizes visual impairment as partial loss (low vision or reduced vision) that is subject to surgical or optical correction, and complete loss of vision (blindness), which restricts the normal functioning of vision. For Bautista (1997), the terms vision loss, subnormal vision or visual deficit refer to permanent changes in the person's eyes or in the pathways that carry the visual impulse, which generates a reduction in the ability to see, where the individual needs attention. particular to meet your needs. The author defines the blind as individuals who have no visual residue or only perceive light, which makes them visually impaired.

According to Brumer et al. (2004, p. 321), "the lack or reduction of vision is not the main obstacle to the inclusion of visually impaired people as citizens, aware of their rights and duties, as long as they are offered the necessary conditions for their learning and means of developing and apply your skills." However, Mendonça et al. (2008, p. 5) state

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that "changes in the structure or function of vision determine limitations in carrying out activities that involve the use of vision", that is, deformity in the ocular structure can create difficulties in the learning process since the teacher uses this means in explanations.

According to Decree No. 5,926, of December 2, 2004, it establishes that a person is considered disabled when they demonstrate visual (sensory), mental, auditory, physical and multiple impairments. In art. 4th, item III of this decree, visual impairment is defined:

c) visual impairment: blindness, in which visual acuity is equal to or less than 0.05 in the best eye, with the best optical correction; low vision, which means visual acuity between 0.3 and 0.05 in the best eye, with the best optical correction; cases in which the sum of the visual field measurement in both eyes is equal to or less than 60o; or the simultaneous occurrence of any of the foregoing conditions; (BRAZIL, 2004, online)

According to Raposo and Carvalho (2010, p. 7), "in Brazil there are around 1.0 to 1.5% of people with visual impairment (approximately 1.7 million people), 80% with low vision and 20% blind." Visual impairment is defined by Raposo and Carvalho (2010, p. 6) as:

an irreversible situation of decreased visual response, due to congenital or hereditary causes, even after clinical and/or surgical treatment and the use of conventional glasses. The decrease in visual response can be mild, moderate, severe, profound (which make up the group with low vision) and total absence of visual response (blindness).

Montilha (2006, p. 1) defines the visually impaired as "an individual with visual acuity of 20/60 (0.05), in the best eye and with the best possible optical correction, even in the absence of light". An individual's level of disability, according to the World Health Organization (WHO), is classified according to the table below, which follows the Snellen Decimal Optometric Scale, which checks an individual's distance visual acuity (DE MASI, 2002).

Visual acuity is described by Fissmer et al. (2005, p. 16) as the "eye's ability to discriminate, that is, the ability to recognize details of the external world and which changes in focus imply low visual acuity at distance". In the educational field, visual impairment is defined as follows:

Low vision: is the change in the functional capacity of vision, resulting from or associated factors, such as: low visual acuity, reduction of the visual field, cortical changes and/or sensitivity to contrasts, which interfere or limit the person's visual performance, which may be: severe, moderate or mild. From the point of

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educational view of blindness: it is the total loss of vision, up to the absence of light projection (BRASIL, 2006, p. 13).

According to the Secretariat of Special Education, the term legal blindness, visual acuity equal to or less than 20/200 or visual field less than 20° in the smaller eye, should not be used in the educational environment and used only for social purposes, since This expression does not inform the useful visual potential to carry out the educational activities that will be carried out by the student.

2.1 PATHOLOGIES THAT FREQUENTLY CAUSE VISUAL IMPAIRMENT

Lima et al. (2007) state that among the pathologies that can cause visual impairment are toxoplasmosis, retinitis pigmentosa, glaucoma, optic nerve atrophy, diabetic retinopathy, congenital cataracts, among others. This work will highlight congenital cataracts, glaucoma, retinitis pigmentosa, ocular toxoplasmosis and diabetic retinopathy.

According to Lima et al. (2007), congenital cataract is an opacity of the lens. It is acquired through congenital ocular malformations, birth trauma or infection such as rubella during pregnancy, heredity, radiation, congenital syndromes, use of medications, systemic modifications with inborn errors of metabolism or being idiopathic and is considered responsible for high rates of blindness (OLIVEIRA, 2004). Glaucoma is explained by Lima et al. (2007, p. 14) by

increase in the internal pressure of the eye (intraocular pressure), due to the elimination of aqueous fluid (which is concentrated between the cornea and the lens), can be congenital and acquired, the increase in pressure causes defects in the visual field that can cause low vision and blindness.

Lima et al. (2007, p. 14) explain retinitis pigmentosa, which "is the degeneration of the peripheral retina, where there is a reduction in the visual field". According to Sá, Campos and Silva (2007, p. 1), this disease is considered "hereditary that causes progressive degeneration of photoreceptors (which are responsible for vision in low light, night and peripheral vision), leading to visual impairment".

Ocular toxoplasmosis is explained by Bonametti et al. (2010) as an infectious disease, which is caused by Toxoplasma gondii, and can be congenital or acquired. The protozoan is found in nature, the definitive host of which is the cat. When this

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Once the parasite enters the body, some permanent consequences may occur. Bonametti et al. (2010, p. 2) states that the consequences acquired by the individual can be:

mental retardation, cerebral palsy, intracranial calcifications, microcephaly, seizures, deafness and active chorioretinitis (the most common sequel, with the risk of new complications in the retina remaining for a few years, potentially ending in blindness). Visual impairment can be partial or total.

Regarding diabetic retinopathy, Boyce (2003, p. 5) explains that it is a "progressive degeneration of the retina due to the lack of insulin, or rather, sugar (diabetes mellitus), in this region the visual field is compromised and causes blindness".

2.2 THE PARTICULARITIES OF BLIND CHILDREN'S DEVELOPMENT

According to Bardisa et al. (1986, p. 55), it is possible to state that "[...] the blind child is more like than different from the sighted child". For this to occur, it is necessary to understand that the development of this child occurs in a favorable environment, which is a welcoming space, appropriate to their needs, challenging and stimulating. Providing this environment, which is ensuring the basics for the child to grow fully, ends up being an arduous task when it is a child born with visual impairment.

Children with visual impairment, in most cases, require specialized intervention, which involves guidance from family members, the adaptation of physical spaces and situations, investigation and the use of updated techniques, among others. Due to progress in techniques for caring for these children, it has become possible to promote programs that, acting in a preventive manner, make it impossible for inappropriate behaviors of the child and family to crystallize (BRUNO, 1993; FARIAS, 2003).

It is understood that specialized practices need to start in the first month of the individual's life. Today this is possible due to technological developments in the field of diagnosis. Advances make it possible for early pathologies to be detected, enabling the creation of a practice aimed at preserving the survival of premature babies and socializing knowledge about the initial phase of a child's development.

Both the expressions "early stimulation" and "early intervention" are generally used as synonyms to name this type of clinical practice aimed at working with individuals aged 0 to 6 years. Jerusalinsky and Yañez (2003, p. 18), define early stimulation as "[...] the clinical field with babies who present problems in their development and psychic constitution – with or without basic organic pathologies".

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Farias (2003, p. 15) states that the "[...] goal of early intervention is to prevent or minimize developmental problems for at-risk children, arising from biological, environmental and sociocultural factors".

Farias (2003) highlights that these services, in Brazil, are scarce, mostly carried out by private, religious and philanthropic institutions, which may involve primary care practices, such as pathology detection, screening; secondary care, such as assessments; the tertiary, which is the intervention with the individual and their family.

In the last 30 years, a new demand requires specialists to have contextualized intervention options that are appropriate to both individual and collective impositions, emphasizing the relevance of psychosocial aspects. The child develops through interaction with the environment, in the meaningful practice he has with the world around him.

Cavalcante (2001, p. 28) states that it is essential that children experience "[...] significant learning in the construction of important knowledge necessary for their growth as a person, acquired from concrete, exploratory, functional experiences, based on a playful character [...]"

Based on new concepts, support is found from professionals to ensure children with special educational needs have the right to experience interaction with the world, actively participating in the teaching-learning process in the family and formal educational environment. Bruno (1993, p. 14) states that the purpose of these services for children aged 0 to 6 should be:

> [...] help visually impaired children to build their system of meaning based on their experiences with themselves, with people and with the world around them [...] Only from sensorimotor experiences lived, integrated, organized and reflected by the child himself is that he will act in the world as a thinking, creative and participating being.

The early stimulation project needs to seek to embrace the individual in a global, comprehensive way, paying attention to the diverse and simultaneous influences that the environment can generate on their development.

According to Vygotsky (1997), to help visually impaired children in their organization, creating strategies to compensate for their deficit, it is necessary for professionals working in this field to seek the appropriation of knowledge related to the individual's development and recycling and discussion regarding the peculiarities that indicate the interaction of the blind individual with the world. Through other perceptual pathways,

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New learning paths will be traced by the child, being able to unfold their story, which is peculiar and unique.

Bruno (1993, p. 12) highlights that "[...] each child has their own particular way of organizing and structuring knowledge in an individual and unique way, reaching different levels of development at their own pace and time". This shows that there is no ready-made recipe. The information helps and supports discussions, however, in the relationship between each child, the family and the specialized professional who reveals the paths. In this dialogue, the child discovers the world and learns to make its meaning, understanding the direction that needs to be followed, for their happy and full development.

Therefore, information regarding the development of children with visual impairment cannot be understood in an inflexible, unchangeable position, but as indicators of development that may vary, depending particularly on each situation.

2.2.1 Psychomotor development

Around 4 months of age, the baby must be passing the passivity typical of a newborn so that circumstances can be experienced that give a boost to their development. At this time, the main activity is visual exploration, through which the eyes search for objects and people (OCHAITA; ROSA, 1995).

According to Ochaita and Rosa (1995), this does not occur with visually impaired children. She ends up being deprived of various stimuli that, naturally, are part of the daily lives of other children. The lack of stimuli can cause a significant delay in this child's mobility, since it is in the environment that they find these stimuli to crawl, drag and walk. Seeing an object in front of you and wanting to reach it are the driving forces behind motor activities that precede walking. Therefore, it is essential that sound objects that are easily accessible are included in the blind child's life, with the aim of enabling this experience.

As there is a limitation in relation to mobility, there ends up being a difficulty in constructing the notion of space and the way of mastering the environment around them, which can lead the child to self-stimulation and isolation, which can consequently generate mannerisms and behaviors stereotypical. Low psychomotor experience leads to difficulties in constructing notions of laterality, for example. Therefore, it is essential that the activities

which these children are exposed to have a context and contribute to global integration, providing encouragement for their movement around the environment (BRUNO, 1993).

According to Farias (2003), early intervention services can collaborate at this stage as a fundamental facilitation instrument for the family, adapting the environment in which the child lives, helping them to organize their other senses, using them in differentiating other sensory cues that will help to understand the world and increase mobility.

2.2.2 Perceptual-cognitive development

According to Ochaita and Rosa (1995), for blind children, touch and hearing are extremely important from birth. Hand-vision coordination generally begins around 4 months in sighted children, however, it is not established in blind children. In order for objects to be explored by touch, they need to be guided by ear-hand coordination.

This organization may take a while to occur, as it is not just an organic issue, of auditory development and of the blind subject. The question is how the environment will give new meaning to the child, making the auditory search for sounds interesting or not. A child with visual impairment is not born with more or less acute hearing or touch; they will learn from their experiences a new way of organizing their feelings (VYGOTSKY, 1997).

Regarding the development of touch, according to Ballesteros et al. (2003), the haptic system is essential for blind children, since, through it, they can relate to stimuli that exist in the world around them and can access the world of education with Braille learning.

Bardisa (1992) carried out drawing work with blind people that highlights the particularities regarding the tactile experience. It is possible for the tact to be successive or simultaneous. In successive cases, the object or a part of it is touched at separate moments; simultaneously, the object or part of it is touched by the fingers, the palm of the hand, with one or both hands simultaneously.

This perception is heightened when there is stimulation. In general, sighted individuals do not exercise this type of exploration as intensely as those who are blind. Therefore, the seer's mediation, in relation to the tactile detailing of an object, will come up against limits. The seer generally describes the phenomena visually, which makes it difficult for the

blind individual understands the fact fully. It is necessary to encourage the blind child to explore objects, to search for the lost object, in addition to receiving motivation to use dynamic touch. This investment will be essential in the future for their perceptual-cognitive development, which is directly related to important acquisitions, such as understanding the Braille reading and writing system.

Bruno (1993) states that it is essential for the development of concepts regarding the world that the child tactilely access as many objects as possible, miniature animals and other objects that represent the world.

In a chronological sequence, the senses that follow touch are smell and taste. Along with touch, another resource that can be used to teach taste, for example, is tasting some liquids and foods that convey the sensations of salty, sweet, bitter and sour. In this way, in addition to manually feeling a texture that conveys the sensation, the student will also feel the taste and relate it to the tactile sensation. According to Sá, Campos and Silva (2007), graphics, drawings and illustrations should undergo adaptations and be represented in relief, which would help students' understanding, and thus there is the possibility of guaranteeing the effectiveness of the model used to teach the taste.

2.3 INCLUSION OF CHILDREN WITH VISUAL IMPAIRMENT

It is essential that the teacher pays attention if any child presents signs, symptoms and postures related to visual impairment and refers them to the necessary specialist, since the sooner the child receives the diagnosis, the greater the student's chances of developing with stimuli. in the school environment.

Students with visual impairments need to be included in the regular education system, so that the principles of inclusive education and schools for all are met. The inclusion of blind children in common classes "must be a preferential process, with the possibility of progress, success and conditions for the development of learning" (BRASIL, 2001b, p. 98).

The inclusion of visually impaired children at school requires the organization of several work proposals, such as materials adapted in Braille, which are the most commonly found in schools, the resource room and materials adapted in the classroom. However, inclusion still faces several barriers to achieving education as a right for all (BRASIL, 2001). Barriers already arise in the lack of acceptance of blind students in

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common classes, since several schools reject this student, not complying with what is established by art. 208 of the 1988 Constitution, which states that the "State's duty to education will be carried out by guaranteeing: III – specialized educational assistance to people with disabilities, preferably in the regular education network" (BRASIL, 1988, online).

There is a need for this reality to be broken, making students have the right to an inclusive education that enables new horizons for their development. "Inclusion is not simply physical proximity, being together, but the possibility of communication-action-participation" (BRASIL, 2001a, p. 171). That is, ensuring that the student can interact with the environment, through playing, getting to know other children, and sharing other experiences.

Bruno (2006, p. 14) states that "inclusion is a complex process that configures different dimensions: ideological, sociocultural, political and economic". School inclusion needs to demonstrate as its main point an education aimed at the collective, with joint work in the search for education for all, creating a bond of affection in the school field. Through affection, children with visual impairment begin to feel that they are loved, valued and respected.

Students with visual impairments need to have access to the same content as other students, what generally differs is the method used by the teacher so that the student is able to obtain the knowledge necessary for their learning.

Inclusion in schools, in the school context, must arise from the teacher, using strategies that are innovative for their class, making all children have an active participation. As stated by Bruno (2006, p. 18),

[...] the inclusive classroom proposes a new pedagogical arrangement: different dynamics and teaching strategies for everyone, and curricular complementation, adaptation and supplementation when necessary. The school, the classroom and teaching strategies must be modified so that the student can develop and learn.

Through the practices that are developed by teachers, it is important to highlight the use of teaching resources as important instruments, which will contribute significantly to the learning of children with visual impairments. Such resources need to provide communication and interaction between all students, ensuring that there is rapport. Didactic resources are essential for blind children, taking into account that:

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[...] one of the basic problems of students with visual impairments, especially blind students, is the difficulty in contact with the physical environment; the lack of adequate material can lead the visually impaired child's learning to mere verbalism, disconnected from reality [...] (BRASIL, 2001b, p. 75).

According to Sá, Campos and Silva (2007), it is possible to produce teaching resources from various low-cost materials that can be reused, such as bottles, scraps, fabrics, toothpicks, string, lids, disposable packaging, among others.

In addition to promoting interaction between students, working with material resources contributes to the realization of concepts through everyday life, using the body's senses, becoming fundamental for a comprehensive education (BRASIL, 2001b).

Technological resources are also fundamental to the teaching-learning process of students with visual impairments. They help in the activities of both students and teachers, enabling access to research and new knowledge for students.

It is important to create an environment in schools with new experiences and rich in stimuli, where it is possible to promote new learning situations, with changes that are part of children's daily lives. Students with disabilities need their knowledge to be shared like any child, presenting their ability to learn and develop to society.

Therefore, for students with visual impairments to feel included in the school context, it is essential that the school and teachers respect the particularities of each student, providing them with new forms of knowledge.

FINAL CONSIDERATIONS

Children who are born blind need to be stimulated early to develop their other senses and see the world in a different way. The role of the mediating teacher is fundamental for the development and learning of this child, who will not have the same independence as the sighted student, in addition to not being able to carry out various activities alone.

It is essential to provide all the necessary resources that are the right of the blind child so that they can have access to everything that exists for their best performance. The potential of each subject is variable and can only be identified based on the

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teacher intervention, mainly family and society. It is necessary for the child to feel that they are truly included in that area, with as little delay as possible.

However, it is essential that the school is prepared to receive that child and provide them with learning and development as they would provide for any other student. Therefore, it is essential to have a mediator to accompany this child and provide him with the main information for his learning.

Thus, it is possible to include blind students in regular education, especially if there is a specialized teacher and a mediator who can contribute to the development and learning of this child. The fact that she is blind does not prevent her from learning in other ways, developing her other senses and making adaptations in her life so that she can be included in a regular classroom and interact with students who are sighted.

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