Inclusive Educational Attention for Students with Severe Visual Impairment

Isabel Serrano Marugán[1], Ascensión Palomares Ruiz[2] & Catherine Kostich Tejera[3]

Abstract

In this paper, we review the various educational experiences that have been implemented with visually-impaired students within the inclusive education model of the Region of Madrid (Spain) during the last decade. The methodology used is a combination of theories, their implementation and their analysis in order to understand, explain and demonstrate their efficacy through the use of descriptive or interpretive research. Furthermore, a comparative analysis is used to dissect the changes that have happened during the last four years, which have been characterized by a deep economic and social crisis. We justify the choice of eclectic methodology because, rather than limiting ourselves to differing theories, this will provide a richness that will enable us to obtain a more realistic and ecological view of the problem. We conclude that the inclusive education of visually-impaired students has been a priority for the different education authorities. The inclusive educational response is a reality with effective intervention teams of early and general care closely collaborating with specific teams for visually-impaired students. This constitutes an example that could be extended to other contexts of disability.

Keywords: visual impairment, equality, school organization, inclusive education, accessibility

Introduction and Approach

Since the early 21st century, Spanish society has been convinced of the imperative need to improve the quality of education and that this benefit should reach everyone without exclusion, banking their hopes on inclusive school sites.

Clearly, when inclusion is done appropriately and with the necessary requirements, it has an overall influence on the quality of the educational institution (Gento and Gonzalez, 2010). Thus, the preamble I of the Organic Law on the Improvement of the Quality of Education (LOMCE, 2013) specifies that only an inclusive, integrative, demanding, quality educational system can guarantee equal opportunity and can enable every student to develop to their maximum potential. The same law, establishing the principles of education in Art.1.b), states the need for fairness to ensure equal rights and opportunities for the full development of personality through education, educational inclusion, equal rights and opportunities to help overcome any discrimination and provide universal access to education, in order to offset personal, cultural, economic and social inequalities, paying special attention to those that stem from any type of disability.

However, as evidenced in previous research (Palomares, Domingo and González, 2013), the practice of a transformative and inclusive School meets with serious obstacles that make it, in many cases, impossible.

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[1] Universidad Nacional de educación a Distancia. Facultad de Psicología. Departamento de psicología evolutiva y didáctica. Madrid. Spain. Email: isaserrano@madrid.uned.es
[2] Universidad Castilla La Mancha, España. Facultad de Educación de Albacete. Departamento de Pedagogía. (Plaza de la Universidad, nº 3.- 02071 ALBACETE - ESPAÑA). Email: Ascension.Palomares@uclm.es
[3] Peabody Charter School. 3018 Calle Noguera, Santa Barbara, California 93105 USA. Email: cgill@peabodycharter.org

Therefore, it is essential to build an inclusive school through the legislative system and to have the resources to meet the needs of all students without exceptions. Consequently, as Palomares (2011) suggests, we require inclusive school organization policies that promote, in practice, effective inclusive actions; the influence of the relationship between participating in education and in social issues, between what happens in and outside of school, is undeniable, given that participation is a holistic reality that transcends the intervention of individuals or of specific groups in formal and regulated contexts.

Inasmuch as diversity is the beautiful expression of creativity and humanity, the facts presented in this article stem from inclusive organizational policies and focus on the academic inclusion of visually impaired students, emphasizing their effectiveness, while following modern and multifunctional organizational models, and are imbued with humanity and creativity.

The concept of visual impairment covers a large range of disorders and forms of vision loss which in practice lead to various situations. Visual impairment is a condition which has an effect at the personal, family, social and educational levels.

Therefore, it is extremely important for blind and visually impaired students to acquire knowledge and skills that allow them to become independent and properly utilize the tools that provide access to knowledge, thus acquiring a functional learning rate that promotes inclusion in their academic and social environment with as much normalcy as possible. Therefore, we must monitor and adjust each individual case to their particular situation (Serrano, Palomares and Garrote, 2013).

Among the main factors that hinder the implementation of inclusive education for visually impaired students are the lack of basic teacher training designed to prepare students to acknowledge their differences as a positive challenge, and the new eco-educational, collaborative and inclusive performance techniques (Palomares, 2004).

The main objective of inclusive educational activities described in this article is to *"reflect critically on the practice of academic inclusion of visually impaired students "*. The review focuses not only on the legislative framework, but -what is more important- on the conditions (material, personal, organizational, etc..) that enable this principle to become a reality. Thereby, we have raised the following **specific objectives**:

- Show the various actions that have helped achieve inclusive education for visually impaired students in the Madrid Autonomous Community, enabling them to learn alongside their peers while taking part in the same activities and following the same curriculum in a standardized way.
- Introduce the educational response provided by the Madrid Educational Counseling Guidance Network as a specialized service that promotes diversity among students enrolled in our country. This response has enabled the inclusive education of visually impaired students using the international agreements as a benchmark (UNESCO, 2008)[4].

Methodology

As indicated above, after some decades being governed by laws that promote and encourage the inclusion of students with special educational needs, it was deemed necessary to conduct an investigation to prepare a review of inclusive practices that have been developed subject to the inclusive paradigm of academic accomodations for severely visually impaired or blind students. It is, therefore, a committed work, developed throughout a decade, for the purpose of reflecting on the present situation and existing information and providing a clear, updated vision of the educational response and inclusive actions afforded to these students.

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[4] UNESCO (2008). Inclusive education: the way to the future. Reference document. Forty-eighth meeting. Geneve International Conference Centre, 25-28 November 2008.

Moreover, the increase in the number of research and scientific journals has encouraged us to collect and combine the teaching and administrative experiences to provide teachers and specialists with critical and objective information of inclusive educational practices. Therefore, the methodology used in the research combines theory, development and analysis for the purpose of providing information, understanding, explaining and demonstrating through the use of descriptive or interpretive research. As Padua indicates (179, p. 31), it has been held that *"descriptive studies result in a diagnosis"* which is, in this case, the current status of school services for visually impaired students. That is, the main function of this revision work would be to compact the work and experiences that have been carried out at the school sites, as well as update and report on the inclusive education of visually impaired students, in order to contribute to the improvement of this educational response. Therefore, we prefer to speak of an interpretative perspective, versus the dualism of quantitative and qualitative, since educational research is not only a problem of methods and techniques, but of knowledge and interpretation of reality to try to improve it. Also, comparative methodology is used to analyze the changes in the last four years, which have been characterized by a dire economic and social crisis. We justify our choice of eclectic methodology, because, although it could lead us to differing knowledge, it would not hinder but rather help by enabling us to obtain a more realistic and ecological view of the problem.

As for the sources, we have chosen to select not only the legislation but also journals and congress proceedings that are meant to represent the various areas of educational research (psychological, pedagogical and special education).

Thus, this article is not about providing a comprehensive review of all the experiences and research produced in the last decade, but about presenting a range of good deeds and real examples that advance the inclusive project.

The theoretical model on which the research is based is the Paradigm of Inclusive Education, founded in defense of intercultural education; the acceptance of a holistic and constructivist learning perspective; the building of a common and diverse curriculum; active social and academic participation, based on multidirectional model of the digital era; the offer of adapted, flexible practical lessons; and the incorporation of the use of technology in the classroom and in the environment in which the student lives.

The innovative educational experiences focus on the entire population of visually impaired students enrolled in schools of Madrid since 2010-2011 to 2013-2014, with reference to the data from the National Organization of Spanish Blind People (ONCE, for its acronym in Spanish)-Madrid Social Services.

Organization of Educational Services for Inclusive Education

This section analyzes why and how education policy that is currently being implemented to achieve the inclusion and standardization of visually impaired students in school sites actually provides inclusion for these students.

Schooling for Visually Impaired students

We analyze the schooling models that are being developed in accordance with what was agreed in the Convention on the Rights of Persons with Disabilities (2006). This Convention recognizes the right to have access to education without discrimination and on an equal opportunity basis and is committed to developing an inclusive educational system at all levels as included in the Organic Law of Education (LOE, for its acronym in Spanish) (2006), which was inspired by principles of inclusive action with a particular focus on disability, as well as in Article 79.2 bis of Organic Law on the Improvement of the Quality of Education (LOMCE, for its acronym in Spanish) (2013), which states that the education of students with learning difficulties will be governed by the principles of normalization and inclusion and will ensure the non-discrimination and the effective equality of access and permanence in the educational system.

Nowadays, schooling models that are being applied to severely visually impaired students can be grouped into two sections: *ordinary schooling models*, both in ordinary sites and in special education sites; and *unique schooling models*, which consist of combination schooling, either in group or individually, and temporary schooling in specific visual impairment sites.

• Ordinary schooling models

Visually impaired students are usually schooled in ordinary sites and –depending on the circumstances- in special education sites, thus ensuring that they are provided the necessary resources to meet their educational needs. In addition, students, schools and families receive support and specialized counseling from the professionals of the Specific Visual Impairment Team (Palomares and Serrano, 2013).

• Unique schooling models

Unique schooling models are offered to visual impaired students with specific educational needs who are unable to achieve personal and social development appropriate to their age. These students´ needs are met with material and human resources, or professional expertise if these cannot be provided neither at their site nor by the specific team.

This schooling is carried out in the ONCE's Specific Visual Impairment Sites, located in the ONCE's Educational Resource Centre (ERC) in Madrid. These school sites have the relevant regulatory power within the framework of the regional legislation and provide the students enrolled in compulsory education with a specific plan based on their equipment, professional specialization, curricular adaptations and intervention methodology. The Resource Centre has a regular site (CO, for its acronym in Spanish) and another special education site (EEC, for its acronym in Spanish), which is for deafblind students with other associated disabilities.

Considering the data reflected in the annual report of the ONCE-Madrid Social Services[5] (ONCE, 2014) , Tables I and II show the number of students schooled in ordinary sites and in the specific school site according to the educational stages established in the Education Law, during the 2010-11, 2011-12, 2012-13 and 2013-14 years as well as the average of those school years (X).

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[5] ONCE (2014). Visual and school data from the ONCE's Social Services.

Table I. Students Enrolled in Ordinary and Special Education Sites

EDUCATIONAL SITES	STAGES	YEAR 2010/2011	YEAR 2011/2012	YEAR 2012/2013	YEAR 2013/2014	X
Ordinary	**Early Childhood Education**	265	234	147	203	212,25
	Primary Education	188	185	177	187	184,25
	Secondary Education	79	97	111	109	99,00
	Baccalaureate	32	31	36	42	35,25
	Vocational Training	13	19	9	13	13,50
	I.P.Q.P.	1	6	7	6	5,00
	Adult Education	16	13	8	8	11,25
Total		594	585	495	568	560,50
Special Education	**C.B.E.**	394	373	371	380	379,50
	P.T.V.A. (Programs to aid Transition to Adult Life)	42	30	14	39	31,25
Total		436	403	385	419	410,75
TOTAL POPULATION		**1.030**	**988**	**890**	**987**	**973,75**

Source: Self-created

Table II. Students Enrolled in Specific Visual Impairment Sites

SPECIFIC SITES	STAGES	YEAR 2010/2011	YEAR 2011/2012	YEAR 2012/2013	YEAR 2013/2014	X
Ordinary	Primary Education	11	8	9	14	10,50
	Secondary Education	26	15	8	25	18,50
Totals		37	23	17	39	29,00
Special Education	C.B.E.	10	10	8	10	9,50
	I.P.Q.P.	8	8	4	4	6,00
Totals		**18**	18	12	14	15,50
TOTALS BY YEAR		**55**	41	29	53	44,50

Source: Self-created

Under ordinary forms of schooling, 57.57% of visually impaired students have no other associated disabilities and are integrated in ordinary sites. As for the average of the four academic levels studied, there is an average of 212 visually impaired students (21.79%) in Early Childhood Education, indicating that they are integrated from the earliest educational levels, thus supporting their stimulation.

In Compulsory Basic Education (C.B.E.) an average of 184 students of the schooled population in Ordinary Sites (38.98%) is integrated and these students further their studies at various stages (3.62% in Baccalaureate and 1.38% in Vocational Training). In addition, the Initial Professional Qualification Programs (IPQP) represents 0.53% of the students enrolled in ordinary sites.

It should be noted that students who attend *special education sites* account for 42.19% of the schooled population. The most populous Step -within the five levels analyzed- is the Compulsory Basic Education, which includes students who cannot follow the curriculum relevant to their age and have disabilities associated with visual function. Also, Adult Life Transition Programs (ALTP) represent 7.60% of students enrolled in special education sites.

The greatest needs are focused on Compulsory Secondary Education students (ESO, for its acronym in Spanish), possibly because of the increased complexity of the braille code and instrumental materials.

However, due to the specialization of services and resources, it can be said that almost all students without other associated disabilities (98.12%) are schooled in ordinary sites, receiving the support and technical means to follow the same curriculum as their peers.

Educational Response at Site Level

At the school sites where visually impaired students are enrolled it is important to focus on several aspects, namely the site, classroom and individual levels. First, we focus on the educational response from the site, which should encourage a flexible, open, inclusive and individualized educational response. Therefore, any organization of the educational response must be initiated by the adequate awareness of the Educational Community. The organization of educational response at site level requires reviewing and adapting their organizational and pedagogical documents. The next level is the context of the classroom, which is led entirely by the homeroom teacher, and his or her main tools are the academic or classroom lesson plans.

The teaching team is responsible for observing the process of acquisition and development of skills in its group class, as specified in the regulations on evaluation of the different educational stages, taking as reference the official curriculum. Regarding visually impaired students, the homeroom teacher may perceive difficulties in social interaction, in symbolic play, in collaboration on assignments, in orientation and mobility and in daily living skills. Therefore, when the teacher notices that a student does not meet the objectives of his group class, starts to lag in achievement, or does not exhibit an expected behavior for his or her age, the teacher proposes an alternative intervention by applying common diversity measures. In the event that these measures are not sufficient, he or she must refer to the appropriate Educational Guidance Services that, given the specific conditions and characteristics associated with the visual disability, will call on the Specific Visual Impairment Team.

Guidance Services

The Educational Guidance Network is a technical public specialized service and a quality factor essential to meet the needs of the current educational system from the psycho-pedagogical and social standpoint.

Guidance plays a decisive role from a socioeducational perspective because it becomes a key service for detection, referral and intervention in different environmental and social issues, acting as the gateway to community services network for the students and family. It also focuses on students from age 0 to adulthood and adapts to respond to developmental needs and to the various educational institutions. It is divided into different *work dimensions*, created and run by professionals.

These dimensions are organized at different educational levels, resulting in the following: Early Care Teams for early childhood education from 0 to 6 years old; General or Sector Teams working in Early Childhood Education and Primary School Sites (CEIP) from 3 to 12 years old; Secondary Education Sites (IES) Departments for students aged 12 to 18; Adult Education Site (CEPA) Departments for adults and Special Education Site (CEE) Departments for students aged 3 to 21; and Specific Teams that respond to cases arising from all levels (Serrano, Palomares and Garrote, 2013).

It should be noted that in order to implement inclusive actions with students with disabilities, it is necessary to act within an organizational framework that allows and enhances those actions, so the organization of the Specific Visual Impairment Team and its intervention model must be adequately considered.

- Specific Visual Impairment Team:

Educational services for visually impaired students are coordinated through the Specific Visual Impairment Team at the autonomous region level that provides educational services to students with severe visual disability, psycho-pedagogical care to the school sites and family counseling, in order to promote standardization, integration and inclusion in all areas, as established in the educational standards (Serrano, 2009).

These services are intended for blind students, those with a degree of vision equal to or less than 1/10, those with a decrease of 10 degrees in their visual field or whose visual acuity does not exceed 3/10 who are enrolled in the school site of the non-university educational stages and need specialized school attention because of their low vision (Cebrian De Miguel, 2003).

- Intervention model:

A student with a possible visual impairment may apply through the Guidance Network of the Autonomous Community. The school site is responsible for handling the services request through the Early or General Intervention Teams or through the Guidance Departments. It is always necessary to submit an updated ophthalmological report. This transfer comes to the Specific Visual Impairment Team through the Education Programs Unit.

The intervention process begins with a joint working session of the mini-team (Community Services Technical Teacher, Education Counselor and Traveling Teacher PT Specialist) who first studies and assesses the student's educational needs, and then makes an intervention proposal which includes the specific areas related to the visual impairment which need to be addressed, the frequency of services, the professionals trained in visual impairment that will intervene and the planning of this intervention. These curricular adaptations will be revised as situations that require modification to the agreed interventions arise.

At the various educational stages, items that are specific and common to all of those stages are evaluated.

- Common items refer to social skills, the degree of personal and school autonomy, the acquisition of habits according to chronological age, the development of communication and language, and the attitude toward learning. All these general items are coordinated with and complement the general guidance services of the school site.

- The most significant specific items are evaluated based on the maturity level of pupils; so, in Early Childhood Education they relate to motor skills, body image and symbolic play, all of them aspects that are considered basic prerequisites to enter fully into the braille reading and writing acquisition process; in Primary Education special attention is placed on the script and braille code reading and writing rate; in the last years of Primary and Secondary Education the emphasis is on providing access to textbooks (print, Braille and audio), the use of communication and information technologies (TIC, for its acronym in Spanish) as a learning tool (digital books, moodle, webquest ...) and study skills.

This intervention process is approved by the Education Authority and included in the different operating protocols and team performance instructions[6].

Personal Specialized Resources for Direct Services

To help meet inclusion objectives, the Education Authorities provide students with personal specialized resources as contained in the legislation in order to promote attention to diversity. Also, the Specific Visual Impairment Team has the support of the specialized professionals of the ONCE's Madrid Educational Resource Centre. Having access to specialized resources for the visually impaired is one of the keys to achieve true inclusion of students involved.

The main professional roles who are involved in schools and facilitate inclusive, targeted and quality educational interventions in school sites are reflected in Table III. At the request of the Visual Impairment Specific Team, these professionals will work collaboratively with site professionals (Palomares and Serrano, 2013).

Table III. Direct Attendance Profesional Profiles

SPECIALIZED PROFESSIONAL ROLES		DUTIES
Educational Counselors		Provide assessment and psychoeducational counseling to students and families.
Social Workers		Welcome the families, make a social and family diagnosis and manage the socio-economic support resources.
Teachers/Educators	Visual Impairment Specialists	Provide access to the curriculum and teach the most functional reading-writing code.
	Deafblindness Specialists	Facilitate access to curriculum and communication using the most suitable communicative and reading-writing code.
Rehabilitation technicians (RT)		Teach daily living skills and orientation and mobility.
Tiflo-technology and Braille Instructors (TBI)		Ensure functional learning and information access processes.

Source: Self-created

Specialized Complementary Resources

To ensure inclusion, it is essential to provide complementary resources that guide direct intervention in school sites to achieve the best posible standardization conditions. Among these resources, the most significant are those related to the use of residual vision and access to written materials and textbooks.

- As to the use of a student's residual vision, we stress the importance of the tests and studies made by ophthalmologists and optician-optometrists who make a functional vision assessment in order to decide whether visual impairment is affecting learning and the access to written text.
  This functional vision assessment is used by the visual impairment team to unify services criteria and intervention methods.

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[6] Specific Visual Impairment Team's operating instructions (September 2013).

Their optimum results are a benchmark for the inclusive education model, as we believe that they are key to design the work of all professionals involved and guarantee the intervention process.

- Access to written material. In the event that the student needs to work on braille code or use his haptic perception in order to enrich some aspects of knowledge, the ONCE's technological and educational resources production service will step in to provide educational texts in braille and create or adapt teaching resources. Thus, the classroom teacher will have the specific materials necessary for the students to access the teaching and learning tasks in the same way as their peers.

Individualization of Educational Response

The specific team's overall response to the needs of visually impaired students implies an interdisciplinary work between the team's professionals and the teaching staff who works at the school site. It should be emphasized that one of the keys for student inclusion is to have specific personal resources and additional specialized resources to cater to the visually impaired, as well as establish individualized and personalized services and monitoring for the specific needs of each student, site and family. Therefore, the individualization requires establishing intervention fields or specific working areas with each student that may be extended depending on specific needs resulting from their visual impairment (Jovft and Miñambres, 2001). The most elaborated intervention fields are:

- Child development stages. Homeroom Teacher or Therapeutic Pedagogy (PT) specialist and Specific Team work together to monitor development stages and general development and analyze warning signs.
- Educational community advice and information. Guidance includes specific actions and awareness and training activities aimed at the educational community, carried out by qualified professionals from the specific team or from the school site.
- School curriculum access. It is important to remember that the Curricular Proficiency Level of visually impaired students must be adjusted to their abilities and reference group, so that the student's teaching team and the specific team's professionals must work closely to agree on and develop the necessary curricular adaptations. A description of such adaptations and their importance in the learning process of visually impaired students is collected by Rodriguez Fuentes (2003). His work places special emphasis on the evaluation of some compulsory education basic skills, including linguistic communication, which requires that students have a functional reading-writing code as soon as possible.
  As to digital technology skills, students must be able to access information and use the tools that enable this access. In addition, Learning to learn and the sense of initiative and leadership is taught to make students autonomous and build their self-esteem.
- Stimulation / visual training. The team's traveling teacher, along with the Site's PT Specialist carries it out with the aim of helping visually impaired students make sense of what they see and interpret the sensations perceived, which requires the preparation of an individualized program. Among the most frequently used programs are:
  - Project for visual perceptual training of totally and partially blind children from 5 to 11 years old (Mira y Piensa). This program is based on the principle that residual vision is not only useful but can be trained and therefore specific instruction can lead to improvements in discrimination and pattern recognition. It is divided into two main groups: basic skills and visual perceptual skills. It was developed by Chapman, Tobin, Tooze and Mos (1986).

  - Visual stimulation (EV). It is a project that runs on Jclic software. The application has two modules: "Let's see" and "Letters and Words." Both provide exercises that stimulate the use of vision. Each module has three levels that are organized in order of increasing difficulty. Due to its simple nature, it is targeted at Preschool and Kindergarten students or First and Second grade students.

– ONCE′s visual stimulation (EVO). A visual training computer system for visually impaired people designed for two purposes: to assess visual capabilities and to implement visual training programs in the context of computer games tailored to the visual characteristics of the students. The program has two modes: a comprehensive training mode that runs the student through each of the perceptual areas, and a specific training mode, which works on specific areas (Rodriguez, Lillo, Vicente and Santos, 2001).

• Visual disability adjustment. This area is the joint responsibility of the Site′s Education Counselors and the specific team. Adjustment is evaluated in different fields (emotional, cognitive and behavioral) and different areas (personal, family and social). In addition, there are very interesting programs such as the one developed by the Tiresias Group for Early Childhood and Primary Education levels that provide us with readjustment tools in all contexts (Project "Mirate!" 2007).

• Deafblindness. Its aim is to promote the use of technical aids that provide access to communication, both at the Site and in the family, in an effort to improve the hearing and technical aids prescribed in each case (Serrano and Esteban, 2010) .

Providing Students with a Reading and Writing Code to Access Curriculum

One of the first decisions to be made in the education of visually impaired students is whether they should learn to read and write in Braille or in print (Bueno and Espejo, 2005). Thus, with reference to the data from the Social Services ONCE-Madrid Annual Report, it is clear that the majority of students enrolled in higher levels, has a defined reading and writing access code, whereas it is mostly Early Childhood Education students who have yet to choose the code (Palomares and Serrano, 2013).

Braille Reading and Writing

The Braille system, as a reading and writing code, is used when the student cannot use his vision functionally; namely, when it is very difficult to visually identify symbols and simple geometric shapes (even with the use of optical aids or adaptations), when there is a lack of interest in the use of residual vision and the sense of touch is preferred to explore objects, when there is a disease whose prognosis is short-term blindness or a serious impairment of central vision, and in cases of deafblindness whose visual prognosis is regressive.

Braille teaching requires the existence of preconditions that will enable the child to develop a positive attitude towards learning the reading and writing process. It must follow a sequenced program so that students enrolled –in full inclusion- can use Braille in their Sites in a standardized manner and supervised by the Specific Guidance Team.

Reading and Writing Print

Low vision students need special training to read text. This will help improve their vision acuity during reading and writing tasks. Many students, mainstreamed in ordinary school sites, use print code, with pertinent specific support, as their functional access code during learning tasks.

Material Resources

One of the main keys of inclusive education for visually impaired students is providing teaching materials for access and adaptation to the curriculum and ICT (Information and Communication Technologies) assistance, facilitated and supported by the Education Authorities and providing them throughout their school career. Such materials are prescribed and managed by the Specific Team and are an important element in inclusive education because they are motivating, they help in the understanding of concepts and they facilitate learning. Therefore, they must be customized to student´s needs and to the objectives set by the classroom teacher. The most significant are:

- Learning material resources for access and adaptation to curriculum:
  – Materials adapted to the place of study which are essential for optimal use of vision. We highlight the lectern and gooseneck lamp.
  – Aids that improve contrast, such as writing instruments, colors, type-scopes, markers.
  – Instruments to reproduce materials in relief: Thermoform, Oven Fuser and sprockets.
  – Optical aids: Microscopes, magnifiers, Telescopes, Filters.
  – Electronic aids, most notably the Magnifier-Television (Serrano, 2009).

- Computer aids and new technologies:

Technological accessibility implies that the application can be handled by any student. Digital technologies generate very powerful tools that can facilitate the inclusion (or exclusion) of visually impaired students, tools that we must be familiar with as teachers (Corbella and Boix, 2005).

Regarding ICT accessibility and inclusion, we must stress that teachers are the most responsible for ensuring that each student complies with the educational program and does so in the best possible conditions.

The use of computer aids and ICT enables students with disabilities to feel included in their environment. Among such computer aids, we can highlight (UNIDAD TIFLOTÉCNICA ONCE, 2012):

- Braille writing tools, as the tiflo-computer devices that use Braille as a reading and writing code:
o   Perkins machine: for mechanical writing or typing in Braille.
o   Braille´n Speak/ Voice Sense: Portable instruments that enable information process and storage through a keyboard that can be reproduced by speech synthesis in print or Braille, depending on the printer.
o   Braille line: displays computer information as "dots" that appear on the screen.
- Screen magnifiers (characters, graphics, etc.), which recognize the enlargement of all or part of the screen in order to make it more perceptible, such as:
o   Magic: Combines the ability to enlarge characters and read screens.
o   ZoomtextXtra: Software that enlarges graphics.
- Screen readers that recognize and play content by sending it to a speech synthesizer, a Braille line, or both systems. The most popular is Jaws for Windows, which includes options for browsing Web pages.
- Daisy textbook player: MP3 books that allow you to move inside audio files at different levels, go to a particular page, add reading marks to the book, use the index, etc.
- Technical aids that facilitate access to ICT and were not specifically designed for use by people with disabilities; however, they play an important role in accessing digital technologies. Among them we should mention the scanner with OCR, the digitizing tablet and the Tablet PC.

Results

In the revision work, it has been found that, at present, 98.12% of visually impaired students are schooled in ordinary educational sites and follow the same curriculum as their peers, with the necessary access adaptations and technical and optical assistance.

The inclusive educational actions that make this possible are the organization of the educational response, the existence of sufficient and specialized personal resources, and the Support Teams.

In addition, it should be stressed that this intervention model may be used an example to try to address other disabilities in a similar way, combining efforts and improving students' services. Therefore, we consider that it may be a way to move forward in the socio-educational integration of people with disabilities.

It has also become clear that the goal of inclusive education should not only be to approximate the visually impaired person to the so-called "normal" model, but rather to understand the relativity of their unique characteristics, teaching them to live with their "differences." This means that all society must recognize the right of individuals to have a visual impairment and provide them with opportunities to develop as a whole, all them to lead a normal life and have the appropriate conditions to live in their own environment and actively participate in the community to which they belong.

Clearly, the performance of any educational program intended for visually impaired students requires early education and an advanced program. The latter program must act as the educational component of the role carried out by the Specialized Teams, which provide the psycho-pedagogical prior assessment and subsequent monitoring of students.

The results of these studies show that the widespread dissatisfaction of all members of the educational community and the unfavorable educational climate affect those who fail to successfully enter and remain in the compulsory stages and those who manage to stay in the educational system until the higher stages of the educational hierarchy. These results match those from other research studies, such as the one done by Tedesco (2012, p. 9) that states, *"The more advantaged perceive that the education they receive does not comply with the requirements of the 21st century and the progress made by traditionally excluded sectors threaten their privileged position. The less advantaged, in turn, perceive that their efforts and achievements are not enough to narrow or close the traditional gap"*.

Conclusions and Proposals

As a final conclusion, we should emphasize that the objectives of this research have been met and that there is a need for new psycho-pedagogical research that can provide data from longitudinal studies that allow functional and social integration in the context of full inclusion to be assessed. The effective intervention of the General and Early Care Psycho-pedagogic and Educational Guidance Teams working alongside the Specific Visual Impairment Team has been shown and serves as an example that can be applied to other disabilities and contexts. The research results undoubtedly show that in recent years great progress has been made regarding the inclusion of students with special education needs. But, in light of the results described, it appears that there is still work to be done and a long road lies ahead before inclusive education can be achieved.

There are minor shortcomings in this body of work, especially due to the fact that it focuses on one autonomous community, so in future research we intend to widen our sample so that it is more representative and focuses on a more reflective professional development and learning model. However, it should be pointed out that it is a committed and relevant work that spans a decade and reflects existing reality and information, and offers a current clear vision of the educational response and its inclusive actions for blind or severely visually impaired students in the community of Madrid.

In future research we will expand upon this work, broadening our sample to the entire country and elaborating on the factors that help or hinder the goal of an inclusive School equipped with all the necessary resources and a motivated, qualified teaching staff that can meet the needs of all students, because an educational revolution implies providing every individual a quality education that facilitates the development of his or her full potential in a society without discrimination.

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