

CHALLENGES AND PERSPECTIVES OF STUDENTS WITH VISUAL IMPAIRMENT IN HIGHER EDUCATION: ANALYSIS OF SCIENTIFIC PRODUCTION

DESAFIOS E PERSPECTIVAS DO ESTUDANTE COM DEFICIÊNCIA VISUAL NA EDUCAÇÃO SUPERIOR: ANÁLISE DA PRODUÇÃO CIENTÍFICA

DESAFÍOS Y PERSPECTIVAS DE LOS ESTUDIANTES CON DISCAPACIDAD VISUAL EN LA EDUCACIÓN SUPERIOR: ANÁLISIS DE LA PRODUCCIÓN CIENTÍFICA

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ABSTRACT: *The inclusion of students with visual impairments in higher education has still been challenging for managers and teachers to ensure academic success. Despite the investment initiatives by the government, but they are still insufficient in the face of the difficulties of access and permanence of these students. Therefore, the objective of this work is to analyze research on access and permanence with an emphasis on Specialized Educational Assistance for students with visual impairments in the productions of the Special Education Journal of the Federal University of Santa Maria (UFSM) in the period from 2014 to 2019. We used a quantitative-qualitative analysis of the nature of reviewing scientific production in the journal in question, for this we work with the indicators of disability, visual impairment, higher education, access, permanence, specialized educational assistance and their combinations. The search resulted in 519 articles, of which only 39 address inclusion in higher education. 14 were selected for analysis, dealing with visual impairment, higher education, inclusion and permanence. We conclude that the number of visually impaired students in Higher Education has increased by more than 50% (fifty percent), that there is a set of legislation that favors inclusion, but the conditions, whether of resources/technologies or teacher formation, do not yet appear for its effectiveness, according to research. Specialized educational assistance, guaranteed by law, is not yet perceived as materialized. Publications are relevant for the creation of new policies, actions and strategies for the permanence of students with disabilities*

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in higher education and specialized educational assistance according to their specificities, but it still need further study.

KEYWORDS: *Special education. Visual impairment. Higher education. Inclusion.*

RESUMO: A inclusão do estudante com deficiência visual na educação superior ainda tem sido desafiadora para os gestores e professores, para garantir êxito acadêmico. Mesmo com a existência de iniciativas e investimentos por parte do poder público, mas elas ainda são insuficientes diante das dificuldades de acesso e permanência destes universitários. Portanto, o objetivo deste trabalho é analisar as pesquisas sobre acesso e permanência, com ênfase no Atendimento Educacional Especializado de estudantes com deficiência visual nas produções da Revista de Educação Especial da Universidade Federal de Santa Maria (UFSM) no período de 2014 a 2019. Utilizamos uma análise quanti-qualitativa de natureza de revisão da produção científica na revista em questão, para isso trabalhamos com os indicadores deficiência, deficiência visual, educação superior, acesso, permanência, atendimento educacional especializado e suas combinações. A pesquisa resultou em 519 artigos, dos quais apenas 39 abordam a inclusão na educação superior. Foram selecionados 14 para análise, tratando de deficiência visual, educação superior, inclusão e permanência. Concluímos que o número de estudantes com deficiência visual na Educação Superior tem aumentado mais de 50% (cinquenta por cento), que existe um conjunto de legislação que favorece a inclusão, porém não aparecem ainda as condições, seja de recursos/tecnologias ou de formação de professores para sua efetivação, conforme as pesquisas. O atendimento educacional especializado, garantido por lei, ainda não se percebe materializado. As publicações são relevantes para a criação de novas políticas, ações e estratégias para a permanência do estudante com deficiência na educação superior e atendimento educacional especializado de acordo com suas especificidades, mas que ainda necessitam de maiores aprofundamentos.

PALAVRAS-CHAVE: Educação especial. Deficiência visual. Educação superior. Inclusão.

RESUMEN: *La inclusión de estudiantes con dificultades de visión en la educación superior todavía es un desafío para los gerentes y docentes para garantizar el éxito académico. A pesar de las iniciativas e inversiones del gobierno, todavía son insuficientes ante las dificultades de acceso y permanencia de estos universitarios. Por lo tanto, el objetivo de este trabajo es analizar las investigaciones sobre acceso, permanencia con énfasis en Apoyo Educativo Especializado para estudiantes con discapacidad visual en las producciones de la Revista de Educación Especial de la Universidad Federal de Santa María (UFSM) en el periodo de 2014 a 2019. Trabajaremos con un análisis cuanti-cualitativo en la revisión de la producción científica de la revista en cuestión, para ello se trabaja con los descriptores de discapacidad, discapacidad visual, educación superior, acceso, permanencia, apoyo educativo especializado y sus combinaciones. La búsqueda resultó en 519 artículos, de los cuales solo 39 abordan la inclusión en la educación superior. Se seleccionaron 14, para su análisis, centrados en discapacidad visual, educación superior, inclusión y permanencia. Concluimos que el número de estudiantes con discapacidad visual en Educación Superior se ha incrementado en más del 50% (cincuenta por ciento), que existe un conjunto de ordenanzas legales que favorecen la inclusión, pero las condiciones, ya sea de recursos / tecnologías o de formación, aún no aparecen en las prácticas de los profesores, según las investigaciones. El apoyo educativo especializado, garantizado por ley, aún no se realiza en todos los casos. Las publicaciones son relevantes para la creación de nuevas políticas, acciones y estrategias para la permanencia de*

los estudiantes con discapacidad en la educación superior y el apoyo educativo especializado según sus especificidades, pero que aún requieren mayor estudio.

PALABRAS CLAVE: *Educación especial. Discapacidad visual. Educación universitaria. Inclusión.*

Introduction

The expansion of special education has grown very much in recent years and, within it, what concerns the access of visually impaired students to Brazilian universities as well. In 2014, according to data from the Higher Education Census (INEP, 2014), 19,654 students with disabilities were registered and according to the last census registered on the website of the National Institute of Educational Studies and Research Anísio Teixeira (INEP, 2018), in 2018 this number was increased to 27,048 students. Growth average 51.3 percent. In the wake of this historical movement, it is possible to verify, through research investigation, on the one hand, the expansion of services based on the guidelines and principles contained in inclusive education, such as the competition for Translators and interpreters in Libras, the creation of special education laboratories for specialized educational assistance to students with disabilities, the reservation of vacancies in 2016 for federal public universities, adapted materials, Braille machines, Braille lines, mandatory accessibility on university sites, in short, a range of services, assistance and products designed these students.

In terms of temporal locus, in the search for the achievement of the scope announced in this production, the fact corresponding to the first blind student who concluded Higher Education is brought up, as a proving genesis of such access and permanence, this student named Walkírio Ughini Bertoldo, according to Selau and Damiani (2014). At the time, Bertoldo needed to hire a secretary to carry out the readings, he also had to acquire a typewriter and, still, he had to import the voice recorder from the United States. Therefore, at that point in history, it appears that Walkirio's entry into PUC/Rio Grande do Sul depended on a genuinely meritocratic initiative. Thus, the survey carried out with the aim of producing this article, is anchored in the search to make explicit the actions focused on the set of laws that addresses the issue, as well as the technological innovations that have impacted on the factual, relative construction access for students with visual impairments in Higher Education.

Disability is understood in the social perspective, as a social, historical construction, and thus a limitation that occurs in the subject's relationship with his social environment. This understanding opposes the medical perspective that understands it as the lack of structure,

organs and functions. (FRANCE, 2013). Visual impairment in this perspective is a sensory impediment that can reduce the person's participation in society, this fact occurs due to the barriers that this society imposes, whether physical, architectural, pedagogical, in short, obstacles that make it impossible for people with disabilities to enjoy all possibilities of development.

Inclusion is a principle that was being consolidated in the 1990s with the World Declarations on Education for All (1990) and the Salamanca Declaration (1994). When conducting a survey of the publications of articles that address themes located in the area of studies according to the person with disabilities in the context of higher education in the *Revista de Educação Especial de Santa Maria, RS*, it is necessary to insert, as a historical reference, the periods in which this audience deserved mention in the Holy Scriptures, the approach centered on the dichotomy elimination versus permission to life from Christian piety, a case of the Middle Ages, according to studies carried out by Caiado (2006), Jannuzzi (2006), Mazzotta (2005) and Neres and Corrêa (2008). Along the same lines with fulcrum in historical factors, one cannot fail to refer to the most recent movements based on the integration and inclusion of people with disabilities.

It appears that, with respect to the access of the mentioned population, we have the many documents of a legal nature, the purpose of which is to provide higher education institutions, with physical structure and resources, tending to ensure access, permanence and progression of the academic with visual impairment in that learning stage. It is proposed that everyone can learn together, as long as the conditions of access and permanence are provided so that students with specific characteristics can achieve success in learning, and thus complete their courses. In addition to the legislative mechanisms, and in relation to the access and permanence of these students, there is an evolution of possibilities from Technology (BIZELLI; SEBASTIAN-HEREDERO, 2016), so that among these, with emphasis on the assistive, the advent of screen reader programs, the expansion of Braille printers in the sphere of public services, applications with an accessible interface inserted in cell phones, text to audio converters, such as Balabolka, the Braille display, digital scanners with voice, among other products. In this article, the understanding of assistive technology is in accordance with Law No. 13,146, of 6 July 2015 (BRASIL, 2015).

The Historical Cultural Theoretical perspective supported the ongoing research on the permanent access of visually impaired students in higher education, as they understand man as a relational person and thus a social being that develops in the relationship with other men, if

this relationship between who see and who do not create a barrier in the development process of the non-seeing person.

This production is also supported by Fair School a theoretical construction consolidated by François Dubet, whose definition encompasses both factors linked to overcoming meritocratic aspects, the conditions with which students are faced in their daily lives, the adversities arising from the social structure, among others. For the author, Fair School, by prioritizing distributive justice, can be conceived as the school of opportunities. However, this purely meritocratic conception of school justice faces great difficulties and, even if we accept the principle, it must be considered [...] (DUBET, 2004, p. 542).

The objective of this work is to analyze research on access, permanence with emphasis on Specialized Educational Assistance for students with visual impairments in the productions of the Special Education Magazine of the Federal University of Santa Maria (UFSM) in the period from 2014 to 2019.

Methodology

The methodology applied from a quanti-qualitative perspective, is a bibliographic review, centered on data from the publications made available by the Revista de Educação Especial, from UFSM in the last five years. Quanti-qualitative approaches are interrelated, thus integrating quality and quantity and overcoming limits that can occur in separate approaches (SOUZA; KERBAUY, 2017).

Within the limits of the keywords or descriptors that could lead to the location of research that dealt with the access and permanence of students with visual impairments in Higher Education and specialized educational assistance, the following were used: *Atendimento Educacional Especializado; Educação superior; Deficiência visual; Permanência na educação superior; Permanência; Deficiência e Inclusão na Educação Superior*; we registered that the logical operator used for the selection of the articles was the “AND”. The exclusion criteria used were established based on articles that dealt with the keywords, but did not deal with visual impairment, SEA in higher education, higher education, inclusion, permanence, articles that although they dealt with the theme, but not related to higher education, repeated articles, learning difficulties, insertion in the labor market, psychotherapies, religion and parental neglect.

519 articles were captured that alluded to the keywords reported in Table 1. After analyzing the titles, periods of publications and abstracts, we selected those that referenced

higher education, visual impairment, access to permanence and specialized educational assistance. With the time frame from the year 2014 to 2019, we formed the theoretical corpus with 14 productions to be analyzed.

Table 1 – Number of articles with keywords

Keywords	N of articles
<i>Inclusão na educação superior</i> (Inclusion in higher education)	39
<i>Permanência na educação superior</i> (Permanence in higher education)	9
<i>Deficiência visual</i> (Visual impairment)	45
<i>Educação superior</i> (Higher Education)	74
<i>Permanência</i> (Permanence)	25
<i>Deficiência</i> (Disability)	254
<i>Atendimento Educacional Especializado</i> (Specialized Educational Assistance)	48
<i>Educação superior AND deficiência visual</i> (Higher education AND visual impairment)	7
<i>Acesso AND permanência AND educação superior</i> (Access AND permanence AND higher education)	1
<i>Inclusão na educação superior AND Atendimento educacional especializado</i> (Inclusion in Higher Education AND Specialized Educational Assistance)	5
<i>Educação superior AND deficiência AND Atendimento educacional especializado</i> (Higher education AND Disability AND Specialized educational assistance)	4
<i>Educação superior AND deficiência AND permanência AND Atendimento educacional especializado</i> (Higher education AND disability AND permanence AND Specialized Educational Assistance)	1
TOTAL	519

Source: Devised by the authors

Results

We explain that with regard to the factual results, among the productions, a significant range of works related to basic education was identified. However, when focusing on the access of students with disabilities in Higher Education and the SEA, this first search brought the result of a single survey, when we used combined descriptors.

Following the present survey of productions in the Revista de Educação Especial of the Federal University of Santa Maria, we inserted the descriptor *Deficiência visual* (visual impairment), and captured 45 articles among the articles found, we found works with themes related to inclusive education in basic education, the usability of LIBRAS in the context of Higher Education, aspects related to the teaching of Chemistry to visually impaired students. Findings that were not related to visual impairment were discarded.

Another keyword inserted in order to locate additional works within the scope defined for the aforementioned search, was “*Educação Superior*” (Higher Education). This time, the number of identified searches made a total of 74 items. It is important to emphasize that with that word, inquiries were made available in the field of deafness/hearing impairment, autism, deafblindness, participation of students with visual impairment, Physical Education, High Skills/Giftedness, among others.

We emphasize that in the case of Higher Education, six studies were found with an indication that the approach was compatible with the purpose of this survey. Therefore, the considerations concerning aspects related to these publications

Table 2 - Articles published focusing on the inclusion of visually impaired people in higher education

Year	TITLE AUTHOR	KEYWORDS	Repetitions keywords
2014	Desafios da implantação do atendimento educacional especializado no Ensino Superior Alexandra Ayach Anache, Sabrina Stella Maris Rovetto, Regiane Alves de Oliveira	Atendimento educacional especializado AND Educação Superior AND Deficiência AND Permanência	9
2014	Quando não se falava em inclusão: a história de vida do primeiro advogado cego formado no Brasil Bento Selau, Magda Floriana Damiani	Educação Superior	2
2015	Formação do professor do atendimento educacional especializado: a Educação Especial em questão Elisabeth Rossetto	Atendimento Educacional Especializado	2
2015	Educação Especial, Educação Inclusiva e Pedagogia da Diversidade: Celebrar a diversidade! Exaltar a tolerância! Notabilizar o respeito! Proclamar a solidariedade! Márcia Lise Lunardi-Lazzarin, Simoni Timm Hermes	Atendimento Educacional Especializado	0
2015	Alunos com deficiência: investigação e análise das condições de atendimento de um Instituto Federal de Educação, Ciência e Tecnologia no Brasil Cesar Gomes de Freitas, Cristina Maria Delou, Helena Carla Castro	Educação Superior	2
2016	Meios de acesso à literatura para pessoas com cegueira: Braille ou Áudio livro? Vivian Santos, Amanda Cristina dos Santos Pereira, Paulo E Zorel, Ailton Barcelos da Costa, Maria Amélia Almeida, Marcia Duarte	Deficiência visual	2
2016	Inclusão de estudante cego em curso de Análise e Desenvolvimento de Sistemas de uma instituição pública de ensino superior: um estudo de caso Luciano Tadeu Esteves Pansanato, Luzia Rodrigues, Christiane Enéas Silva	Permanência	4

2016	O convívio acadêmico: representações sociais de alunos com Necessidades Educacionais Especiais Zenilda Nogueira Sales, Ramon Missias-Moreira, Edvaldo Souza Couto	Educação Superior	2
2016	Inclusão de estudantes com deficiência no ensino superior: uma revisão sistemática Rosamaria Reo Pereira, Simone Souza da Costa Silva, Rosana Assef Faciola, Fernando Augusto Ramos Pontes, Maély Ferreira Holanda Ramos	Educação Superior AND Deficiência AND Inclusão	3
2016	Um estudo sobre a realidade da inclusão de pessoas com deficiência na educação superior no Paraná. Hernestina da Silva Fiaux Mendes, Camen Célia B. C. Bastos	Educação Superior AND Acesso AND Permanência	5
2018	Revisitando a Acessibilidade a partir do Modelo Social da Deficiência: Experiências na Educação Superior Jackeline Susann Souza da Silva	Educação Superior AND Acesso AND Permanência	2
2018	Marcadores sociais da diferença: uma perspectiva interseccional sobre ser estudante negro e deficiente no Ensino Superior brasileiro Vanessa Carolina Silva, Wilker Solidade Silva	Educação Superior AND Deficiência	3
2018	Experiência de pessoas com deficiência no ensino superior: um olhar sobre a vivência de empoderamento e auto advocacia Taísa Caldas Dantas	Educação Superior	2
2019	A narrativa de universitários cegos acerca de suas experiências acadêmicas Danielle Sousa Silva, Maristela Rossato, Erenice Natalia Soares Carvalho	Educação Superior AND Acesso AND Permanência	7

Source: Devised by the authors

We start to emphasize, as a starting point, the work located from the insertion of the keyword visual impairment in this production. It should be noted that the text corresponding to the research under analysis was mentioned in passing in the introduction of the bibliographic survey now carried out. Its title is: “*Quando não se falava em inclusão: a história de vida do primeiro advogado cego formado no Brasil*” (When there was no talk of inclusion: the life story of the first blind lawyer trained in Brazil). The authors of this production are Selau and Damiani (2014).

The research was carried out by conducting an interview with family members and college colleagues of Walkírio Ughini Bertoldo, also supported by the biographical method, also based on publications of printed newspapers that gave ample coverage to the story of Walkírio Bertoldo, which according to the investigation joined the Law course at the Pontifical Catholic University of Rio Grande do Sul (PUCRS).

The authors state that even in times of the search for inclusion, the entry of students with disabilities in Higher Education is still worth noting, as expressed in this excerpt from the focused publication:

Recently, the vestibular world website, reproducing a report published by the newspaper Zero Hora, on 18 September 2009, praised the presentation of the final essay of the course of Letters/Spanish of academic at the Federal University of Santa Maria (UFSM), Rodrigo Gonçalves da Silva (SELAU; DAMIANI, 2014, p. 134, our translation).

According to the report, the academic was the first blind student to complete higher education at UFSM, a fact that occurred in 2009. The authors point out in the final considerations, the care and determination of Walkírio Ughini Bertoldo, but above all, emphasize the action of the distant 1957, as a distinct moment in terms of opening up formative horizons for students with visual impairments in Higher Education. Fortunately, according to the explanation of the data contained in the investigation, the meritocratic character is evidenced as an element that is linked to inclusion, which is still so striking in the academic journey of Brazilian visually impaired students.

Below we present some works that report how this inclusion happens in higher education. We started with Freitas, Delou and Castro (2015) who compared the service provided to students with disabilities at a federal technological institute in the north and a university in the southeast. The federal technological institute - IFECT was composed of four campuses. As for the university, it was not informed whether it is multicampi. At IFECT, 30 students with disabilities were attended at the centers, while at university 130 were attended. The reported deficiencies were deafness, blindness, low vision, syndromes and disorders, mobility difficulties and mental retardation. The authors observed a lack of material resources, assistive technologies limiting the services offered. Academic and pedagogical actions are limited and insufficient to guarantee a full and effective service with regard to higher education, access and permanence, we have compiled the research by Mendes and Bastos (2016), developed in the municipality of Umuarama, State of Paraná, which aims to title: “A study on the reality of the inclusion of people with disabilities in higher education”.

The investigation reveals the implications that affect the formation of students with disabilities in higher education, in an institution of the mentioned educational level, based on prejudice and lack of material in the development of academic training. It also points out the family contributions to the consolidation of the formation of students in the aforementioned educational stage.

Therefore, despite the relevant scope of the research, “by unveiling constitutive elements as obstacles to such formation, the investigation does not respond to the specificity related to the academic walk of the visually impaired student at the heart of the university” (FREITAS; DELOU; CASTRO, 2015 , p. 773, our translation). Regarding the obstacles in the IFECTs the research, the authors found a change in the coordinators of the centers.

With reference to the federal university, there are sufficient financial resources to carry out the actions of the nucleus in order to reduce barriers and guarantee architectural, pedagogical, communicational and other accessibility. In carrying out this survey, there was also contact with the Research conducted by Dantas (2018), whose development was based on the title: “*Experiência de pessoas com deficiência no ensino superior: um olhar sobre a vivência de empoderamento e auto advocacia*” (Experience of people with disabilities in higher education: a look at the experience of empowerment and self-advocacy).

In this production, the author brings components that demonstrate the importance of access to Higher Education, as a founding factor in the field of autonomy and independence of students who build the trajectory up to that level of education. To this end, Dantas takes cultural studies as a reference, supporting research in the qualitative approach with students with disabilities at the Federal University of Paraíba. However, considering the purpose of the search proposed here, we note that the investigation on screen is not consistent with the objectives announced for this survey.

With regard to the words higher education, access and permanence, we compiled the research by Mendes and Bastos (2016), developed in the municipality of Umuarama, State of Paraná, whose title is: “*Um estudo sobre a realidade da inclusão de pessoas com deficiência na educação superior*” (A study on the reality of the inclusion of people with disabilities in higher education).

The investigation reveals the implications that affect the formation of students with disabilities in higher education, in an institution of the mentioned educational level, based on prejudice and lack of material in the development of academic formation. It also points out the family contributions to the consolidation of the formation of students in the aforementioned educational stage.

There is still the work: “*O convívio acadêmico: representações sociais de alunos com Necessidades Educacionais Especiais*” (The academic interaction: social representations of students with Special Educational Needs), research by Sales, Missias-Moreira and Couto (2016), with the case study method, descriptive, exploratory and qualitative, with theoretical support based on the theory of social representations, within the State University of Bahia.

Participants were 11 students, 8 with visual impairments, two with physical disabilities and one with hearing impairment. One of the results of the research was the verification that the professors and peers of these academics are not prepared for the inclusion of diversity in the university.

When analyzing the work “*Desafios da implantação do atendimento educacional especializado no Ensino Superior*” (Challenges of implementing specialized educational assistance in Higher Education) by Anache, Rovetto and Oliveira, it was possible to verify that this is a dense research. Developed based on the technique of conversation, the investigation encompassed 238 subjects with teachers and students, dealing with the availability of assistive technology and its impact on educational services for students with Special Educational Needs. As the title itself emphasizes SEA in higher education, it is a challenge and consists of several actors. The authors identified 08 students with disabilities who receive SEA: 2 with moderate deafness, 1 blind, 2 with physical disability, 1 with low vision and 2 with mental disorders.

The services consisted primarily of providing equipment, software, adapting didactic materials, pedagogical guidance to students and their teachers, as well as referring them to the psychological assistance provided there (ANACHE; ROVETTO; OLIVEIRA, 2014, p. 309). This research is one of the pioneers that deal with SEA in higher education and shows that this service is a factor that helps students with disabilities stay at this level of education.

However, in view of the scope of the research with regard to the characteristics of the students and professionals working in the aforementioned retro area, it did not provide the opportunity for further study, since it did not have as a guideline to study according to specificities, the circumstances in which the development is found. the conditions of services for the defined public, according to the purpose of this production, that is, the access of students with visual impairments in Higher Education.

There is a group of research that is considered pertinent in the present survey, on how this inclusion happens and the resources used, starting with the research that has the title: “*Meios de acesso à literatura para pessoas com cegueira: Braille ou Audiolivro?*” (Means of access to literature for people with blindness: Braille or Audiobook?). This is because such inquiry has sparked several debates regarding the best way of access to publications by students with visual impairments. As for the researchers who took on this task, these are: Santos *et al.* (2016).

The research defined as quanti-qualitative, was developed through interviews, composing the number of students with disabilities in a total of five, being these people with congenital or acquired blindness. It is also important to clarify that the students had access to

audio books and Braille productions during the period of the research through public and private institutions. The investigation concluded that among the interviewees, 80 percent declared preference for accessing publications, via Braille.

The investigation also informs that among the restrictions concerning the mentioned writing, the weight of the books and the lethargy in the performance in the acts of reading and writing stand out. Regarding access to the audiobook, the main obstacles are related to grammar and spelling, issues that may imply a reduction in financial and economic aspects, since these limits imposed by the usability of the audiobook, interfere in the list of opportunities in the world of work for the visually impaired person.

Thus, this is a research that addresses concern in the current context, whether through professionals working in the field of public service on screen, or from the point of view of people with disabilities themselves, who, within the limits of such concern, in certain circumstances need to choose the form made available by the production unit, in detriment of their preference, a circumstance that also arises from the scarcity of productions printed or audiobook.

The research that is part of the search for the present survey, deals with the Narrative of Blind University Students and their Academic Experiences. The production was conducted by the authors Sousa Silva, Rossato and Carvalho (2019). The participants were two blind students, at a university in the Federal District. After the approach through which we sought to bring the genesis regarding the inclusion of students with visual impairment in Higher Education, in this latest research analyzed with the keyword Higher Education, we identified the emphasis given to the expansion in the number of students in the mentioned stage of academic education. The production of a narrative character also informs that students are unaware of their rights to the best conditions within the scope of promoting accessibility. Circumstance that directly implies taking measures aimed at ensuring curricular adequacy.

When the word Visual impairment was introduced, as it constitutes an identification in the present survey, the research stands out: “*Inclusão de estudante cego em curso de Análise e Desenvolvimento de Sistemas de uma instituição pública de ensino superior: um estudo de caso*” (Inclusion of blind student in Systems Analysis and Development course at a public higher education institution: a case study). As for authorship, the following are responsible for production: Pansanato, Rodrigues and Silva (2016).

The longitudinal investigation in the Case Study modality emphatically brought about the adaptations implemented to enable the best use of the course in the technology area by the

visually impaired student. Another point addressed in the investigation was the detection of some gaps present in teacher formation.

Even so, considering the totality of the research period, the authors concluded that the student's objective when choosing a course in the computational area, reached its purposes, having ended the course with an adequate substitution of the visual aspects, exactly by the adjustments made by the teachers.

And “*Revisitando a Acessibilidade a partir do Modelo Social da Deficiência: Experiências na Educação Superior*” (Revisiting Accessibility from the Social Model of Disability: Experiences in Higher Education) by author Silva (2018), identified accessibility or barriers faced by students seeking to enter the university and also those who present themselves after admission. The author understands that accessibility is a right. The research is a case study, semi-structured research and shadowing technique in which the researcher becomes the shadow of the participant, accompanying him in all educational activities. Silva (2018, p. 202) used four types of accessibility: (1) architectural and structural accessibility; (2) attitudinal accessibility; (3) informational and communicational accessibility and (4) pedagogical-curricular accessibility. Six participants took part in the survey, three men and three women, two of whom were deaf, two were blind, one was physically disabled and had cerebral palsy.

The results of the research demonstrated the attitudinal barrier as the most urgent to be resolved, since other barriers result from it. “The experiences of students with disabilities reveal that university culture creates disabling environments for people with disabilities” (SILVA, 2018, p. 210). To equalize this condition, the author proposes a social model of disability that “understands accessibility much more than a right, but as a cultural value associated with a personal-collective movement in the search for favorable attitudes that balance human differences and inherent freedoms” (our translation). In this sense, creating a university culture that accepts the diversity existing in the educational environment and the admission and permanence are everyone's responsibility.

When the key word was Higher Education and Inclusion, publications related to Higher Education for Students with Disabilities, Interpreter Performance and LIBRAS in Higher Education, Service to Deafblind Students in Regular Education were found, in addition to some articles already analyzed here. However, there was no matches via the titles indication, of other works originating from higher education and that, at the same time, expressed the theme at this level of education by students with visual impairment.

Lunardi-Lazzarin and Hermes (2015) and Rossetto (2015) dealt with teacher formation for SEA. The first reported: Specialized Educational Assistance in Brazil: reports of the

professional experience of teachers and their formation, in the course of extension and improvement of teachers in SEA at a university in Rio Grande do Sul, weave inclusion as diversity and a right and a challenge.

Rossetto (2015, p. 114) in a bibliographic and documentary study found that the SEA:

assumes centrality in the propositions of support to education when being promoted in the discourse of individual success by inclusion and when being placed as the guarantee of viability of this process. In addition, it has no emphasis on teaching and learning, but on the provision of technical apparatus, as well as building the capacity to use these resources. Therefore, this service is at the heart of actions that update education according to the expectations of man with technical capacity and immediate skills for the production process in the globalized world (our translation).

In this sense, SEA is understood as something that will solve the deficient issues of students with disabilities at all levels of education and with regard to formation, the author perceives it as lightened and in accordance with the principles of neoliberal education. We understand SEA as an alternative to other permanence processes, but it is not permanence itself. Resuming the formation for the provision of this service, Rossetto (2015) emphasizes that, because it is a lightened process, the theoretical basis is sometimes made with a limited and immediate foundation, such as the need of the production chain, we register that this formation occurs in the distance education modality. It is necessary to discuss teacher education and what the SEA really is.

Finally, when inserting the keyword Access, Permanence, Higher Education, the only article found, deals with the evasion of students with deafness in Higher Education. Thus, the number of productions of a specific order regarding the purpose of the present survey, presented itself in an exceedingly small way, considering the most diverse forms through the diversity present in the scope of the inserted keywords.

In this same line of higher education and disability we find the document: “*Marcadores sociais da diferença: uma perspectiva interseccional sobre ser estudante negro e deficiente no Ensino Superior brasileiro*” (Social markers of difference: an intersectional perspective on being a black and disabled student in Brazilian Higher Education), written by Silva e Silva (2018), bibliographical, exploratory and qualitative analysis, focus of analysis as marker, race, color and disability. The focus of the research was the bank of theses and dissertations of Capes, from 2012 to 2017 and the number of students enrolled with these markers in the years 2010 and 2015. The authors noticed an increase in the enrollment of the researched public (black, disabled, quilombolas), this is a reflection, according to them, of positive affirmative action

policies within higher education institutions, as a result of the research in recognizing the particularities of students and proposing inclusion strategies and strengthening the bonds of these students.

With the terms Higher education, disability and inclusion, we captured an article entitled: “*Inclusão de estudantes com deficiência no ensino superior: uma revisão sistemática*” (Inclusion of students with disabilities in higher education: a systematic review), by Pereira *et al.* (2016), aimed to analyze scientific productions related to the inclusion of students with disabilities in higher education. The locus of the research was that of the database of the Periodicals of the Coordination for the Improvement of Higher Education Personnel - CAPES, in the period from 2003 to 2013. Qualitative methodology. It was possible to perceive, according to the authors, that the inclusion of these students, although supported by laws, does not always favor broad inclusion. We understand with this that sometimes the legislation supports, but the institution excludes. This theme is perceived to be recent at this level of education, which is why it requires further study.

Final considerations

The analysis of the productions, for the development of the present investigation, demonstrated the relevance of this theme, either by the focus of the investigation, or by making it explicit through it, the growing number of students with disabilities in Higher Education, even more because of the transformative dynamics based on innovative technological tools with application in the educational context.

The fact that we found 14 documents, focused on the research object, in only one specialized journal and according to the determined criteria and inclusion, indicates that there is a growing interest in this research object, although it is still under development. We found that among the various authors of the works that deal with the theme of inclusion in higher education, four specifically dealt with the permanence of the visually impaired student at this level of education.

Regarding the focus of the research, students with visual impairment in higher education, we found that it still needs to be further investigated in future research (PEREIRA *et al.*, 2016; and others), in different themes on how this inclusion really occurs, limitations and challenges. The article dealing with the story of Walkírio Ughini Bertoldo, who by his own means, makes it clear that he was the first blind student to have this schooling, however research shows that there are many academics with visual impairments in higher education today

(SILVA ; SILVA, 2018). About this, it is evidenced, as an element that is linked to inclusion, the meritocratic character still so striking in the academic journey of Brazilian students with visual impairment.

We observed in the studies analyzed that although these academics are present in Brazilian Universities, there is an important lack of material resources and accessible technologies limiting the services offered.

With this work it becomes evident that the importance of the availability of assistive technology at work with visually impaired people in higher education and its impact on educational services for students.

There is a precariousness of the circumstances in which the development of the conditions of services for the public defined in higher education is found, although there are accessibility centers.

On the other hand, the professors and peers of these academics, it seems evident that they are not prepared for the inclusion of diversity in the university, with a long way to go yet, despite the many existing legal provisions.

Of the two works found on teacher formation for specialized educational assistance, it is understood as something that will solve the deficient issues of students with disabilities at all levels of education and, in terms of formation, it is perceived as lightened.

Therefore, this study showed the relevance for new referrals about the inclusion process allied to the SEA in higher education institutions. Studies for the investigated public are still insufficient and need further study.

We realized, according to Rossetto (2016), that formation for SEA is still incipient and in a lightened way and intertwined with neoliberal policies.

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