Accessibility and Inclusion in Higher Education: a Study on the Information Available on the Websites of the Public Universities of Paraná

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ABSTRACT

Introduction/Objective: The study aims to verify if the websites of public universities in Paraná (state and federal ones) are accessible for people with and without disabilities/Special Educational Needs (SEN).

Methodology: With the theoretical contribution of the Cultural-Historical Psychology, a bibliographic and documental review was carried out, focusing on the educational policies related to inclusion and a search in the websites of universities, analyzing the aspects: accessibility of the site, edicts, and the existence or not of center/program of care for people with disabilities/SEN. Results: The results indicate that the Universities (except one) present icons and/or the word accessibility on their access pages, aiming to meet the legal provisions. It is noteworthy that the way this information is presented requires the website user to have previous knowledge of these icons and services offered, which are represented in different ways, making it difficult to understand the information, as well as there is no mention of how the University is organized about architectural and attitudinal barriers. All the Universities present forms of attendance to students with disabilities/SEN, whether this attendance is in centers/programs or other sectors that aim at attending these students. All the HEIs (Higher Education Institutions) present in their edicts for admission, information on how the candidate can enroll, required documentation and the legal provisions that are the basis of these edicts. About 20% also present the candidate's handbook. Conclusion: We conclude that the websites offer accessibility, but there is the need to overcome barriers to access, permanence and academic termination of students with disabilities/SEN for their inclusion in Higher Education in the Public Universities in Paraná.

KEYWORDS


RESUMEN

Introducción/Objetivo: Este estudio tiene como objetivo verificar si los sitios web de las Universidades Públicas de Paraná (estatales y federales) son accesibles para personas con o sin deficiencia/necesidades educacionales especiales (NEE). Metodología: Con el apoyo teórico de la Psicología Histórico-Cultural, se realizó una revisión bibliográfica y documental centrada en las políticas educativas en materia de inclusión y
una búsqueda en las páginas web de las Universidades, analizando los aspectos: accesibilidad del sitio, edictos y la existencia o no existencia de centro/programa de asistencia para personas con deficiencia/NEE. **Resultados**: Los resultados dicen que las Universidades (excepto una) presentan iconos y/o la palabra “accesibilidad” en sus páginas de acceso, con el objetivo de ayuda en los dispositivos legales. Se destaca que la forma de presentación de estas informaciones, requiere del usuario del sitio con o cimiento previo de estos iconos y servicios ofrecidos que están representados de manera distintas, lo que dificulta la comprensión de las informaciones, no habiendo tampo comienzo de cómo la Universidad está organizada con relación a las barreras arquitectónicas y actitudinais. Todas las Universidades presentan maneras de asistencia a los alumnos con deficiencia/NEE, ya se esta asistencia en centros/programas u otros sectores que tienen como objetivo ayudar a estos alumnos. Todas las IIEs presentan en sus edictos para ingreso informaciones de cómo el candidato puede derse súplica, cuáles documentos necesitan y los dispositivos legales que justifican estos edictos. Acerca de 20% presentan también un manual del candidato. **Conclusión**: Se concluye que los sitios ofrecen accesibilidad, pero, existe la necesidad de superación de barreras para el acceso, permanencia y terminalidad académica del alumno con deficiencia/NEE para su inclusión en la educación superior de las Universidades Públicas de Paraná.

**PALABRAS CLAVE**

**RESUMO**
**Introdução/Objetivo**: Este estudo objetiva verificar se os *websites* das universidades Públicas do Paraná (estaduais e federais) são acessíveis para pessoas com ou sem deficiência/Necessidades Educaucionais Especiais (NEE). **Metodologia**: Com o aporte teórico da Psicologia Histórico-Cultural, realizou-se revisão bibliográfica e documental voltada às políticas educacionais relativas à inclusão e uma busca nos *websites* das universidades, analisando os aspectos: accesibilidad do *site*, edictos e a existência ou não de núcleo/programa de atendimento para pessoas com deficiência/NEE. **Resultados**: Os resultados indicam que as Universidades (com exceção de uma) apresentam iconos e/ou a palavra acessibilidade em suas páginas de acceso, visando a atender os dispositivos legais. Ressalta-se que a forma de apresentación dessas informaciones requer do usuario do *site* conocimiento prévio desses iconos e servicios ofertados que están representados de diferentes formas, o que dificulta a comprensión de las informaciones, no havendo tambem mencion de como a universidade está organizada en relación a barreiras arquitectónicas y atitudinais. Todas las universidades presentan formas de atendimento aos alunos con deficiencia/NEE, seja ese atendimento en núcleos/programas o otros setores que visan a atender esses alunos. Todas las IIEs presentan en sus editais para ingreso informaciones de como el candidato pode fazer su inscripción, qual documentação é necessária e os dispositivos legais que fundamentam esses editais. Cerca de 20% presentan también o manual del candidato. **Conclusão**: Conclui-se que os *sites* ofertam accesibilidad, mas que há a necessidade de superação de barreras para o acesso, permanência e terminalidade académica del alumno con deficiencia/NEE para su inclusión no Ensino Superior das universidades públicas do Paraná.

**PALAVRAS-CHAVE**
Acessibilidade. Ensino superior. Inclusão.

**CRediT**
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Introduction

Brazil is a signatory of international treaties that inspired the emergence of legal provisions, by our legal system, as a basis for specialized care for people with disabilities/Special Educational Needs. Such treaties date back to the 1940s, when the Universal Declaration of Human Rights was promulgated (ONU, 1948).

In 1990, the World Conference on Education for All was held in Jomtien, Thailand, an event in which the World Declaration on Education for All was elaborated (UNICEF, 1990), recommending the universalization of access to Basic Education, together with the improvement of teaching quality, to promote equity, since the reduction of social inequalities cannot be achieved without a minimum standard of quality in education. The Declaration also emphasizes the need to adopt measures to ensure equal access to education for those with disabilities (UNICEF, 1990).

In 1994, from the World Conference on Special Education Needs held in Salamanca, Spain, the Declaration of Salamanca was elaborated (UNESCO, 1994), a document that became a landmark for Special Education and that brought as one of its main contributions the elaboration of principles, policies, and practices in Special Educational Needs. The concept of Special Educational Needs refers to individual needs arising from the diversity of human characteristics, generated by disabilities, learning difficulties, or other situations that bring different challenges to schools and education policies. Special Educational Needs may be permanent or temporary and may arise for any person at any time of his or her school life, which demands appropriate school responses to such needs (UNESCO, 1994).

In Brazil, there are several public policies for the educational care of people with disabilities/Special Educational Needs that deal with forms of care, mediations, and assessments (BRASIL, 2008, 2009, 2012; PARANÁ, 2016). However, historically, the access of these people to schooling has always been conquered through struggles and clashes of religious, philosophical, or cultural order. Even with the legal provisions in force, the concept that human development happens by itself, that it is something biological, is still present in everyday life in education, from Basic Education to Higher Education, often blaming the subject for their limitations and not the sociocultural context in which he or she is inserted.

In art. 205 of the Federal Constitution (BRASIL, 1988), Brazil's highest law, it is stated that education is everyone's right and the responsibility of the State and the family. In art. 206, clauses I and VII provide equal conditions of access and permanence in school for all students, with quality assurance, and clause IX, which was added to the Constitution in 2020, through Constitutional Amendment no. 108 of 2020 (BRASIL, 2020a), advocates the right to education and learning throughout life1. Article 208, in turn, refers to the

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1 About the concept of "Lifelong Learning", we suggest reading the dissertation by Parada (2021), entitled “Os Conceitos de Educação e Aprendizagem ao Longo da Vida: aspectos históricos e a Educação Especial brasileira” (“The Concepts of Education and Lifelong Learning: historical aspects and Brazilian Special Education”).
responsibility of the State in providing Specialized Educational Services to people with disabilities.

Among the federal laws, we can highlight the Law of Directives and Bases of National Education no. 9. 394/1996 (BRASIL, 1996a), which defines the structure and functioning of education in Brazil and presents school education divided into levels - Basic Education (composed of Early Childhood Education, Elementary School, and High School) and Higher Education - and into modalities - Special Education, Youth and Adult Education, Vocational Education, Education of Indigenous Populations, Rural and Quilombola Education, and, more recently, Bilingual Education for the Deaf - (BRASIL, 2021).

Regarding Special Education, the modality addressed in this study, the Law of Directives and Bases of National Education (BRASIL, 1996a) defines it in art. 58 as a type of education offered preferably in the common education system and directed to a very specific public, restricted to three conditions: disabilities in general, the Global Developmental Disorders (GDD) - which, since the new edition and publication of the Manual of Mental Disorders (DSM-5) of the American Psychiatric Association (APA), have been called Autism Spectrum Disorders (ASD) - and High Abilities/Super dotation. Article 4 of the Law of Directives and Bases of National Education (BRASIL, 1996a) provides for free Specialized Educational Services, transversal to all levels, stages, and modes of education, preferably in the common education network, for the conditions set forth in the law (BRASIL, 1996a).

If, in Basic Education, the laws created seek to support students with disabilities/ Specialized Educational Services, in Higher Education (nationally or, particularly, in the state of Paraná), it happens the same way. Below, we indicate the main legal mechanisms related to Higher Education.

In 1989, at the federal level, Law no. 7.853/1989 (BRASIL, 1989) provided for the support to people with disabilities and their social integration, being particularly relevant as it showed that, since the late 1980s, prejudice was already being criminalized as it imposed penalties for the manager of institutions at any level of education, with the penalty of confinement and fine if they failed to comply with the legislation. Currently, Law no. 13.146/2015 (BRASIL, 2015) reiterates what is contained in Law no. 7.853/1989, by stating:

Art. 8 It is a crime punishable by imprisonment from 2 (two) to 5 (five) years and fine: I - refusing, charging additional values, suspending, delaying, canceling or terminating the enrollment of a student in an educational establishment of any course or degree, public or private, due to his/her disability; [...] (BRASIL, 2015).

Thus, these laws, also in the sphere of Higher Education, are important documents toward the elimination of prejudice when it prevails in refusing the enrollment of a student with disabilities.

In 1996, the Circular Notice nº 277/1996 (BRASIL, 1996b) was issued, addressed to the Rectors of the Higher Education Institutions, requesting the implementation of an educational policy, so that these Institutions would structurally adjust themselves to create
conditions of access of students with disabilities to Higher Education. At that time, this Circular Notice stated that adjustments were needed in three distinct moments of the selection process: in the preparation of the announcement, at the time of the vestibular exams, and at the time of the correction of the exams.

In 1999, Ordinance nº 1.679/1999 (BRASIL, 1999a) was drawn up due to the "[...] need to ensure the bearers of physical and sensorial disabilities basic conditions for access to higher education, mobility and use of equipment and facilities of the educational institutions [...]". Moreover, the same document "Provides on accessibility requirements for people with disabilities to instruct the processes of authorization and recognition of courses, and accreditation of institutions" (BRASIL, 1999a). In this Ordinance, we highlight the definition of concepts, such as: physical space (adaptations in buildings, furniture, urban equipment, and spaces), material resources (adapted to each disability, e.g.: Braille machine, elimination of architectural barriers, specific software, among others) and human resources (sign language interpreter/Portuguese language interpreter).

In the same year, Decree number 3.298 (BRASIL, 1999b) regulated Law number 7.853/89 and established the National Policy for the Integration of Disabled Persons, defining Special Education as a transversal modality in all levels and modalities of education. In its article 27, it determines that people with disabilities have access to Higher Education and that public and/or private institutions must offer adaptation of tests and the necessary support, which includes extending the time allowed for tests, resources that must be requested in advance by the student.

In 2003, Ordinance nº 3.284/2003 (BRASIL, 2003) issued instructions about the accreditation of Higher Education Institutions (HEI’s) and the recognition of their courses, conditioning these aspects to accessibility, and emphasizing the need to adapt infrastructure, equipment, services, and resources to the needs of people with disabilities. Gradually, the Brazilian HEI’s have shown more attention to the elimination of architectural barriers to people with physical disabilities, to ensure a greater accessibility, with information equipment and technologies for people with visual disabilities and didactic support to the deaf, for example.

Decree no. 7.611/2011 (BRASIL, 2011), to ensure the right of access to Higher Education, provided for the Specialized Educational Services through the structuring of accessibility centers, to eliminate physical, communication and information barriers that hinder the effective participation and development of students with disabilities in HEI’s.

In 2015, Law no. 13.146/2015 (BRASIL, 2015) - also called the Statute of the Person with Disability - established the Brazilian Inclusion Law as an inclusive normative system, which advocates the principle of the dignity of the person in several levels. With this, the person with disability is no longer considered to be incapable, but to have full legal capacity, even if he or she needs to be accompanied to conduct his or her own life. The 13th article of this law ensures "[...] access to higher education and professional and technological education in equal opportunities and conditions with other people [...]" (BRASIL, 2015). The Brazilian Inclusion Law also provides for a minimum of 10% of vacancies reserved for people with disabilities in the selection processes for Higher Education courses, prohibits private schools from charging more expensive tuition for students with disabilities and...
obliges the government to encourage and foster the publication of accessible books by
Brazilian publishers (BRASIL, 2015).

Law no. 13.409/2016 (which amended Law No. 12.711/2012), when dealing with
the reservation of vacancies for people with disabilities in technical courses of medium and
higher levels in Federal Educational Institutions, expanded the possibilities of access of these
students to Higher Education in the country.

In the state of Paraná, Law No. 18.419 of 2015 (PARANÁ, 2015) established the
Statute of the Person with Disabilities of the State of Paraná. In its article 44, it was
determined that the HEI’s must " [...] offer the adaptation of tests and the necessary support to
the student with disability, including additional time to perform the tests and differentiated
assessment criteria, according to the characteristics of the disability.

Still in Paraná, Deliverance no. 02/2016-State Council of Education (PARANÁ,
2016) defined, in art.10, item VI, that the public authorities have the duty to

[...] encourage and establish partnerships with institutions of higher education to
discuss issues and content related to the care of people with disabilities, global
development disorders, specific functional disorders and high abilities or giftedness,
at undergraduate and graduate level, conducting research and extension activities, as
well as programs and services aimed at improving the teaching and learning
process; [...] (PARANÁ, 2016).

For people with disabilities/ Special Educational Needs to be attended to as
determined by the laws in effect, it is necessary to eliminate the barriers to access and
permanence in any social environment, bearing in mind that one of the legal landmarks which
deals with accessibility is Decree no. 5.296/2004 (BRASIL, 2004), which regulated Laws no.
10.048/2000 (BRASIL, 2000a) and no. 10.098/2000 (BRASIL, 2000b). The first law refers to
priority of attendance, while the second "establishes general rules and basic criteria for the
promotion of accessibility for people with disabilities or reduced mobility, and makes other
provisions" (BRASIL, 2004). Decree no. 5.296 understands accessibility as

[...] condition for use, with safety and autonomy, total or assisted, of the spaces,
furnishings, and urban equipment, of the buildings, of the transport services and of
the devices, systems and means of communication and information, by people with
disabilities or reduced mobility. (BRASIL, 2004).

Furthermore, it is considered a barrier " [...] any obstacle or hindrance which limits or
prevents access, freedom of movement, safe circulation, and the possibility for people to
communicate or have access to information" (BRASIL, 2004), such as: urban barriers,
barriers in buildings, barriers in transportation and barriers in communication and
information. When dealing with the right to priority service, Decree no. 5.296 (BRASIL,
2004) specifies that people with disabilities2 are those with limitation or incapacity to perform

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2 The Decree uses the term "person with disability", which was quite popular in Brazil between 1986 and 1996. However, nowadays, this term is no longer used, being replaced by "person with disability", since disability refers to the condition the person presents, and is not characterized as something he or she may no longer "carry" at a given moment of his or her life (SASSAKI, 2002).
activities and that fall into the following categories: physical disability, hearing impairment, visual impairment, mental disability, multiple disability, and those with reduced mobility.

However, the Convention on the Rights of Persons with Disabilities (ONU, 2007) introduced a new concept of person with disability:

Persons with disabilities are those who have long-term impairments of a physical, mental, intellectual, or sensory nature, which, in interaction with various barriers, may obstruct their full and effective participation in society on equal [sic] conditions with others. (BRASIL, 2012, p. 26).

In 2015, the Brazilian Law of Inclusion/Statute of the Person with Disability (BRASIL, 2015) also uses the same concept of disability as the Rights of Persons with Disabilities, whereby disability is understood as an evolving concept. On this issue, the document Política Nacional de Saúde da Pessoa com Deficiência (National Policy for the Health of People with Disabilities) says:

The concept concerning this population has evolved over time, following, in one way or another, the changes in society and the very achievements attained by people with disabilities. The milestone of this evolution is the 1960's, when the process for formulating a concept of disability started, in which the "close relationship existing between the limitations experienced by people with disabilities, the conception and structure of the environment and the attitude of the population in general regarding the issue" is reflected (Coordination for the Integration of Disabled Persons - Corde - from the Ministry of Justice, 1996, p.12). This conception started to be adopted worldwide as from the disclosure of the document World Program of Action for People with Disabilities, prepared by a group of experts, and approved by the UN in 1982. (BRASIL, 2008a, p. 6-7). Inclusion/Statute of the Person with Disability.

Nepomuceno, Assis, and Carvalho-Freitas (2020) reiterate the ideas of Madyaningrum (2017), when they assert that the terms aim to resist the use of labels that carry the idea of deficit and that "[...] it is important to highlight that terminology should be understood according to the context and from the characteristics of the language where it is being used." (NEPOMUCENO; ASSIS; CARVALHO-FREITAS, 2020, p. 17).

In this sense and as an example of the evolution of the concept "disability", we can highlight the notion of mental disability, which was replaced by intellectual disability as of 1995 when the United Nations Organization held in New York the symposium Intellectual Disability: Programs, Policies and Planning for the Future, at which time the concept started to be officially used. Nevertheless, it was only with the Montreal Declaration on Intellectual Disability - prepared at an event organized by the Pan American Health Organization and the World Health Organization in Montreal, Canada, in 2004 - that the concept was widely disseminated and even more widely used (SASSAKI, 2005).

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3 The text on which the researchers rely is this one: MADYANINGRUM, Monica Eviandaru. Disability organizations as empowering settings: the case of a local disability organization in yogyakarta province, Indonesia. 2017. Thesis (Doctored of Philosophy) - College of Health and Biomedicine, Victoria University, Indonesia, 2017.
According to Iacono (2014), the existing divergences in studies on the concept of disability influenced the elaboration of the new terminology for "intellectual disability", in view of the load of pejoratively that weighed on the terms that were previously used: mental retardation and mental deficiency. For the author:

This change demonstrates the importance of linguistic issues when it comes to relating meaning and referent. That is, the signifier/referent has been modified (from 'mental retardation' to 'mental deficiency' and, currently, to 'intellectual disability'), even to reduce the pejorative charge that historically coated this concept [...]. (IACONO, 2014, p. 44).

Regarding the concept of reduced mobility, according to Decree no.5.296/2004, people with this limitation - either permanent or temporary - are considered those who do not fit in the concept of person with disability (BRASIL, 2004).

The priority service also comprises differentiated treatment, which includes: signaled preferential seats, accessible spaces and facilities; reception furniture adapted to meet the needs of people in wheelchairs; services in Brazilian Sign Language (LIBRAS); professionals qualified to meet the needs of people with visual, intellectual (mentioned as 'mental' in Decree np. 5. 296) and multiple disabilities, as well as the elderly; special area for boarding and disembarkation of people with disabilities or reduced mobility; environmental signs for the guidance of people who fit into the priority service; admission of guide dogs etc. (BRASIL, 2004). Decree no. 5,296 provides, therefore, about urban mobility, defining conditions for the construction of sidewalks, installation of furniture and equipment, public parking lots, in addition to defining universal accessibility standards which involve road (urban, metropolitan, intercity, and interstate), railway, waterway and air transportation.

Still regarding the legal landmarks involving accessibility issues, 12 years after Law of Directives and Bases of Education no. 9.394/96 (BRASIL, 1996) and four years after Decree no. 5.296 (BRASIL, 2004), there was the promulgation of a new Special Education policy document for Brazil, entitled National Policy for Special Education from the Inclusive Education Perspective (NPSEIEP) (BRASIL, 2008b). This policy determines that the education of people with disabilities should be carried out in a perspective of inclusive education involving all levels, stages, and types of education, in all educational spaces, from Kindergarten to Higher Education, to support, complement and supplement the special educational needs of these audiences. This new policy\(^4\) for Special Education in the country has become a much-debated legal provision and a milestone that has boosted the educational and social inclusion of people with disabilities/ Special Educational Needs.

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\(^4\) The first document that dealt with a policy for Special Education for the entire country was the National Policy for Special Education (BRASIL, 1994). In 2020, through the Presidential Decree no. 10.502/2020 (BRASIL, 2020b) a new Special Education policy document for Brazil was proposed, entitled Política Nacional de Educação Especial: equitativa, inclusiva e com aprendizado ao longo da vida (National Policy for Special Education: equitable, inclusive, and with lifelong learning), and which is suspended by determination of the Supreme Court (BRASIL, 2020b).
In addition to the legal provisions, other decrees, ordinances, service centers, resolutions, guidelines, and National Education Plans (the last one in force from 2014 to 2024) have been issued. In 2015, the Brazilian Law of Inclusion/Statute of the Person with Disability was enacted (BRASIL, 2015), which seeks to ensure and promote, under equal conditions, the realization of rights and basic freedoms and necessary for the person with disabilities, with a view to their social inclusion and citizenship (BRASIL, 2015).

In the state of Paraná, the Deliberation of the State Education Council no. 02/2016 (PARANÁ, 2016), in line with the legislation already mentioned, considers that the offer of Specialized Educational Services should: occur according to the needs of the learner, promoting accessibility and specialization of teachers (interpreter or translator teachers) and pedagogical teams; provide professionals who assist and support students who do not have autonomy in activities of daily living as to feeding, locomotion and personal care; to adapt the number of students per class; to make flexibilities and curricular adaptations; to offer bilingual education with the use of LIBRAS for deaf students; to make available assistive technologies for blind students; to guarantee home and hospital pedagogical attendance, as well as an itinerant teacher.

In the case of Higher Education, the international, national, and state regulations follow the same guidelines for Basic Education, with each university also establishing its own regulations for the accessibility of people with disabilities/ Specialized Educational Services. Moreover, in 2005, the Federal Government instituted the Programa de Acessibilidade na Educação Superior (Accessibility Program in Higher Education), responsible for proposing actions to ensure full access for people with disabilities in the Federal Institutions of Higher Education (FIHE’s). The Program, based on decrees no. 5.296/2004 (BRASIL, 2004) and no. 5.626/2005 (BRASIL, 2005), has as one of its main goals the encouragement to the creation of accessibility centers in the FIHE’s for the organization of institutional actions which ensure the access and permanence of people with disabilities in Higher Education, eliminating behavioral, pedagogical, architectural and communication barriers.

From the brief exposure of the Brazilian legislative path related to education, we see that there are several regulations that permeate Special Education in an inclusive perspective, which has also promoted the development of academic-scientific studies about inclusive education at all levels, including higher education. From this, we ask ourselves: Does the learning for people with disabilities/ Special Educational Needs happen in the same way as for people without disabilities? For Vigotski (1991), we are born human (as a species), but to humanize ourselves, we need the other, so that, in a process of social interaction and in a dialectical relationship, we can be transformed by the environment, at the same time in which we interfere and transform Vigotski (1991) breaks, then, with the idea that man is determined by his genetic heritage or by the social environment. The author defends the collective process in the constitution of the human psyche, which constitutes a reformulation of the Psychology and Pedagogy adopted until the mid-twentieth century. Thus, learning, and human development occur in cyclical processes and not in a linear way, since we are exposed
to social changes constantly in the inexorable movement of history; and what matters most for the teaching-learning process are the qualities of the mediations received (VIGOTSKI; LURIA; LEONTIEV, 1988).

This new way of conceiving Psychology was given the name of Cultural-Historical Psychology, thought, and organized by Vygotsky and some scholars who agreed with his thinking throughout the years. His work is important because the author did not intend only to describe psychological issues but was concerned with studying how these are developed by culture, clarifying that this would only be possible through abstractions and generalizations made with the use of instruments, such as language (VIGOTSKI; LURIA; LEONTIEV, 1988).

As for the appropriation of culture by the student with intellectual disability, it happens, according to Vigotski (1997), in the same way as for a person without disability, only through differentiated ways of knowledge, which do not interfere in the complexity of the systematized knowledge and do not decrease its social value in face of the school's function, which is to work with this knowledge, causing the development of the superior psychological functions of the subjects. For this to occur, it is necessary to focus on the potentialities of the person and not only on what is lacking.

Based on this understanding, we argue that one should fight for the guarantee of the right to education, since it is the scientific knowledge, intentionally mediated by the educational action and by the role of the other, which enables the student, with or without disabilities, to appropriate knowledge. Thus, this study is justified, which aims to understand how the issues of accessibility are presented in the websites of public universities in Paraná (state and federal), checking whether they meet the international, national, and state policies in force regarding the admission, permanence, and academic termination of students with disabilities/ Special Educational Needs in higher education. This study also aims to contribute to the dissemination of information and opportunities regarding inclusion at all levels, stages, and modes of education, especially in Higher Education.

In general, our goal is to verify if the websites of public universities in Paraná (state and federal) are accessible to people with or without disabilities/ Special Educational Needs, analyzing the following aspects:

a) Are the websites of public universities in Paraná organized so that any person, with or without disabilities/ Special Educational Needs, has broad online access to information from the HEI’s (e.g.: forms of entry to universities, information on projects and programs etc.)?

b) Do the websites of Paraná's public universities present information on the existence of accessibility centers or programs for accessibility/special educational assistance in the HEI’s?

c) From the data collection on the HEI’s websites, were barriers identified that may prevent accessibility for people with disabilities/ Special Educational Needs to public universities in Paraná?
The research of the information mentioned in items a, b and c helps in the identification of access barriers for entry and permanence in Higher Education (especially the communication barrier) for people with or without disabilities/Special Educational Needs, who aim to study at a public university in Paraná or obtain online information about the HEI’s. In turn, the identification of these possible barriers contributes to reflection about the information made available and to the suggestion of future research related to the barriers found on websites. Next, we explain the method used to answer the proposed questions.

Method

This study was based on the Cultural-Historical Theory, which presents several contributions regarding human development through theoretical and practical foundations that can be used in several areas of the educational field. Thus, this theory enables us to understand the teaching-learning process of people with and without disabilities/SEN. Moreover, the study took into consideration conceptual issues of special education and technical aspects of the accessibility area.

The research methodology, initially, contemplated a brief bibliographic review, both in special education and accessibility, presenting the understanding of man and the teaching-learning process based on Cultural-Historical Theory. We also carried out a documentary analysis focused on the educational policies that favor the inclusion of students with disabilities/Special Educational Needs in all levels of education, including higher education.

The searches on the websites of public universities were organized in a table containing: specification of the search period; number for sequential count; name of the Educational Institution; link to the University's website; description with the steps for accessibility of the site; description of the information found in the edicts for admission to the University; description about the centers or service programs aimed at people with disabilities/Special Educational Needs of the University, according to the model presented in Chart 1.

Chart 1. List of Public Universities in Paraná

<table>
<thead>
<tr>
<th>N°</th>
<th>HIGHER EDUCATION INSTITUTION</th>
<th>SITE</th>
<th>SITE ACCESSIBILITY</th>
<th>ISSUES</th>
<th>CORE / CARE PROGRAM</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>State University of Londrina (UEL)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>State University of Maringá (UEM)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: The authors (2022).

The search was conducted on the websites of the seven state and four federal universities in the State of Paraná, totaling 11 public HEIs. To facilitate the presentation of the results, they were named HEI’s plus the increasing numbering, from 1 to 11: HEI 1 - State University of Londrina (UEL); HEI 2 - State University of Maringá (UEM); HEI 3 - State
University of Ponta Grossa (UEPG); HEI 4 - State University of Western Paraná (UNIOESTE); HEI 5 - Midwestern State University (UNICENTRO); HEI 6 - State University of Northern Paraná (UENP); HEI 7 - Paraná State University (UNESPAR); HEI 8 - Federal University of Latin American Integration (UNILA); HEI 9 - Federal Institute of Paraná (IFPR); HEI 10 - Federal Technological University of Paraná (UTFPR); and HEI 11 - Federal University of Paraná (UFPR).

The analyses were carried out based on the following items: accessibility of the website, accessibility verified in the public announcements for admission to the HEI’s, and the existence of a support Center/Program. The data are organized in charts in the following section.

Results and Discussion

After collecting data from the websites of public universities in Paraná, we began the presentation and analysis of the results found in the 11 researched HEI’s, from 1 to 7 state and 8 to 11 feds.

Regarding accessibility, we checked what information was available on the homepage of the websites. Of the 11, only one university (HEI 9) has no information about accessibility on its homepage. As for the others, they all have information, but in different ways. Six HEIs use the word "Accessibility" itself on the homepage to indicate the link about the subject (HEIs 2, HEI 4, HEI 7, HEI 8, HEI 10, and HEI 11). HEIs 4 and 11 insert this word at the top of the site, HEI 2 presents it as the last information on the home page and, in turn, HEI 7, HEI 8 and HEI 10 expose it both at the top and at the bottom of the site. Three universities (HEI 4, HEI 6, and HEI 7), besides the word accessibility, display a picture of a person with open arms (similar to the accessibility symbol used by the United Nations Organization) - HEI 4 presents both the picture accompanied by the word accessibility and the word accessibility alone, and both links go to the same page -. The symbol of the LIBRAS interpreter informing the availability of the virtual interpreter was identified in three sites (HEI’s 6, 8 and 11). And HEI’s 3 and 5 represented the link to access the page on accessibility as the International Access symbol (the figure of a wheelchair user).

HEI 1 although it does not have the word accessibility or an indicative figure in the initial page of its site, indicates the link for access to the University's Accessibility Center. HEI 4 besides the word accessibility exposed individually and the word accessibility accompanied by an indicative figure (a person with open arms), makes available the access link to the page of the Institutional Program of Actions for People with Special Needs. HEI 10 presents in its homepage the link of the Superintendence of Inclusion, Affirmative Policies and Diversity, where is located the link of access to the Support Center for People with Special Needs of the Institution, however, as the access is not made directly by the homepage of the HEI’s, we did not consider this information in Chart 2.
Chart 2. Accessibility on the homepage of websites

<table>
<thead>
<tr>
<th>HEI 1</th>
<th>HEI 2</th>
<th>HEI 3</th>
<th>HEI 4</th>
<th>HEI 5</th>
<th>HEI 6</th>
<th>HEI 7</th>
<th>HEI 8</th>
<th>HEI 9</th>
<th>HEI 10</th>
<th>HEI 11</th>
<th>Total of Occurrences</th>
</tr>
</thead>
<tbody>
<tr>
<td>x</td>
<td>x</td>
<td></td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td>6</td>
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<td></td>
<td>3</td>
</tr>
<tr>
<td>Accessibility</td>
<td></td>
<td></td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Accessibility</td>
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<td>x</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Link to the HEI's Accessibility Center or Program</td>
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<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: The authors (2022).

We consider that the pictures are important to inform people with disabilities/SNI about which spaces can be used safely and autonomously, breaking especially with the communication barrier already mentioned above. The results obtained indicated that, when accessing most of the homepages of the public university websites in Paraná, people may find similar information about accessibility, but in different ways, which would imply, in some cases, the need for previous knowledge about the representations of the term accessibility, identifying, this way, the differences in its presentation.

It's also important to highlight the pictures which represent accessibility and were identified in the websites of the researched universities. The first image found was of a person with open arms and legs apart. The second symbol - Accessible in Libras - is represented by two flattened hands and the presence of two quotation marks, which indicate movement. There is a drawing of a collar, which also represents the interlocutor who uses this language. The blue color generates identification with the universal symbols of accessibility, besides representing the color of the social movements of the deaf. This symbol was created in 2012 by the Communication and Accessibility Center of the Communication Center of the Federal University of Minas Gerais (UFMG), with the objective of having an icon for visual identification of the services available in the area. Finally, the third was the international symbol for access, represented by a person in a wheelchair, consisting of a white pictogram.

5 Available at: [https://www.ufmg.br/marca/libras/](https://www.ufmg.br/marca/libras/#:~:text=A%20cor%20azul%20foi%20escolhida,presen%C3%A3o%20co%20escolhida%20em%20Libras, Access on: jan. 20, 2022.]

Rev. Inter. Educ. Sup. Campinas, SP v.10 1-31 e024004 2024
on a blue background, approved in 1969, with the purpose of showing that in that space there is access for people with disabilities (SASSAKI, 1996).

Virtually all universities (except for one) display the term or icon indicating accessibility, but none of the HEI’s that used the representative symbols/images defined them.

In 2015, the Graphic Design Unit of the United Nations Department of Public Information in New York created an International Symbol of Accessibility, with the purpose of raising awareness about disability issues as well as identifying places, products, and what can be accomplished for people with disabilities, whether physical, visual, hearing, or cognitive, since accessibility is not only about people with physical disabilities. Thus, the new symbol is a symmetrical figure connected by four points to a circle, representing harmony between human beings and society, and with open arms, symbolizing the inclusion of people of all levels, everywhere (NOVO SÍMBOLO DE ACESSIBILIDADE, 2015).

![Accessibility Symbol](source)

Figure 1. Accessibility Symbol

In Brazil, the Committee for the Defense of the Rights of Persons with Disabilities of the Chamber of Deputies approved the United Nations Organization proposal on the change of the symbol, presented in Bill No. 7.750/2017 (BRASIL, 2017), which requests the updating of the current signs in a period of up to three years after the publication of the Law. However, on the websites of the surveyed universities, we did not find this new symbol.

Regarding HEI 9, which does not present any information about accessibility, we understand that this absence can be understood as an access barrier for people with disabilities. It is worth pointing out that accessibility is not restricted to the physical aspect, but also involves the pedagogical, communicational, instrumental, and attitudinal dimensions (PLETSCH; MELO; CAVALCANTE, 2021).

The issues related to barriers in communication and information identified at HEI 9, either by the variety of forms of exposure of the term accessibility, or by the lack of standardization of this information, may generate for the candidate difficulties of access to information for entry into Higher Education. According to Cultural-Historical Theory, the development of language is driven by the need for communication, and it is in the relationship with the context, where there is mediation by means of culturally developed instruments and symbols, that aspects of human nature are understood, favoring its development (VIGOSTSKI, 2001). The communication failures, for lack of instruments or

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symbols needed in the websites for the reasons cited above, can hinder the development and the interest of the candidate for learning.

As for the accessibility options made available on the websites, we observed access difficulties for users due to the lack of standardization among the HEI’s surveyed. With the highest occurrence (eight) is the option contrast high/negative (HEI 3, HEI 4, HEI 5, HEI 6, HEI 7, HEI 8, HEI 10, and HEI 11), followed by navigation by keyboard and mouse, with six occurrences (HEI 4, HEI 6, HEI 7, HEI 8, HEI 10, and HEI 11). The options increase and decrease text/font size (HEI 3, HEI 4, HEI 5, HEI 6, and HEI 7), VLibras Software (HEI 4, HEI 5, HEI 6, HEI 10, and HEI 11) and World Content Accessibility Guide/Electronic Government Accessibility Model (W3C/E-MAG) (HEI 4, HEI 7, HEI 8, HEI 10, and HEI 11) had five occurrences each. The W3C and the e-MAG, following international guidelines, concern recommendations on accessibility for Brazilian government sites.

In three HEI’s (HEI 8, HEI 10, and HEI 11), Laws and Decrees on accessibility were cited and there was the option for the reader to make his/her criticisms, suggestions, and doubts (help). In two HEI’s, there were specifications both for compatibility with browsers and guidelines related to software for screen reading (HEI 4 and HEI 6). The other items (grayscale, light background, underlined links, reading fonts, reset (to undo the chosen adaptations), assistive technology and mention of projects for People with Disabilities/Special Educational Needs) had a single occurrence.

**Chart 3. Accessibility Options**

<table>
<thead>
<tr>
<th>HEI</th>
<th>HEI 1</th>
<th>HEI 2</th>
<th>HEI 3</th>
<th>HEI 4</th>
<th>HEI 5</th>
<th>HEI 6</th>
<th>HEI 7</th>
<th>HEI 8</th>
<th>HEI 9</th>
<th>HEI 10</th>
<th>HEI 11</th>
<th>Total of Occurrences</th>
</tr>
</thead>
<tbody>
<tr>
<td>High/Negative Contrast</td>
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<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
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<td>x</td>
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<td>x</td>
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<td></td>
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<td></td>
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</tr>
<tr>
<td>Software VLibras</td>
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<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>W3C/E-MAG</td>
<td></td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Mention of</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

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7 It was created to guarantee access for all, with the commitment to guide the development and adaptation of digital content for the Federal Government. Available at: http://emag.governoeletronico.gov.br/. Access on: jan. 15, 2022.

8 Browsers check the pages of a website or applications in various program versions, devices and platforms, with or without the use of a plugin. Available at: https://www.avellareduarte.com.br/. Accessed on: jan. 15, 2022.
As already mentioned, there are currently international documents that present accessibility rules or standards for the web. In Brazil, an Accessibility Model and a Technical Primer of the Federal Government were also created and serve as reference for web developers. The Model follows the Information Technology public policies employed by the Federal Government and was prepared to meet Decree number 5.296 of 2004 (TANGARIFE, 2007).

According to the Web for All Movement, web accessibility brings benefits to both companies and society in general. Furthermore, it enables access not only for people with disabilities and reduced mobility, but also for the elderly, people who do not know how to use computers, illiterate people, etc. However, when there is no accessibility, autonomy is also lost since people with disabilities and reduced mobility need to rely on the help of other people to perform common activities on the web. It is important to point out that the lack of accessibility does not necessarily mean the impossibility of use but refers to the barriers that may hinder it. In this way, we understand that an accessible site presents several benefits for different users, such as
People with low vision - whether or not they use screen magnifiers - have no difficulty with contrast, or identifying and clicking hyperlinks, bars, and buttons, or increasing the size of letters; People who are hearing impaired or deaf access information in audio and video with transcriptions, subtitles, and translations in Libras (Brazilian Sign Language); People with motor disabilities and reduced mobility who use only the keyboard to access content can easily navigate through all menus and their sub-items, services, forms, and available information; People who cannot identify some colors do not get confused or lose information, because all the information presented by means of colors is also transmitted in other ways. Blind people who use screen reader programs on the computer navigate without difficulty through websites, fill out forms, press buttons using keyboard commands, and are even able to access information that is in images, by means of alternative texts. People with intellectual disabilities adjust the speed of animations and have access to text, audio, and video content to enhance their studies. People with low computer experience can easily learn to use services that are fundamental to their daily lives and quickly find all the information they need. Older people can find all the information they need because of the good contrast, as well as the size of the texts, the navigability and the low complexity of the interactions. People with Internet connection problems access web pages easily and navigate with optimal performance. People with mobile devices access services and information on the web, even when using very small screens and keyboards and with reduced connection speeds and processing and storage capacity. (OS BENEFÍCIOS..., [20--], emphasis added).

Despite the benefits mentioned above, in a survey conducted in 2019, the Web for All Movement identified that among the two-thirds of Brazilian websites analyzed, less than 1% was considered accessible from accessibility tests for people with disabilities. This indicates that the Brazilian Law for the Inclusion of People with Disabilities (Law no. 13.146/2015), which reports on the mandatory accessibility of websites, is not being followed. However, there are no fines or specific guidelines for those who do not comply with it (PEREIRA; SILVA, 2020).

Although some commands that facilitate access have been verified in most websites of the universities investigated in our research, none of them occurred in all HEI’s, which indicates the possibility of improvement of the type of accessibility made available. On the other hand, the variety of information available in the access to the universities' websites may stimulate, in the user, the interest in research, since the best learning is that which anticipates learning (VIGOTSKI, 2001).

In Chart 4, it is possible to verify that, among the 11 HEI’s surveyed, nine (HEIs 1, 2, 4, 6, 7, 8, 9, 10 and 11) presented, in their edicts for admission to the institution, information on how the candidate can enroll, dispute the selection process and the necessary documentation, citing legal provisions that guide the preparation of the document. HEI’s 1 and 2, besides the edicts, make available the Candidate Handbook, and in HEI’s 3 and 5, we found only the Candidate Handbook, concentrating in a single document all the information that candidates with or without disabilities/Special Educational Needs need to know for admission to the institution. Both materials are rich in information for applicants, but,
specifically, the Applicant Handbook gathers it in a more practical way, due to the didactic way in which it is organized (division of subjects, with a summary indicating the respective pages, etc.). HEI’s 1 and 2, which present both forms of information, contribute even more to the candidate's understanding.

**Chart 4. Editals**

<table>
<thead>
<tr>
<th>HEI</th>
<th>HEI 1</th>
<th>HEI 2</th>
<th>HEI 3</th>
<th>HEI 4</th>
<th>HEI 5</th>
<th>HEI 6</th>
<th>HEI 7</th>
<th>HEI 8</th>
<th>HEI 9</th>
<th>HEI 10</th>
<th>HEI 11</th>
<th>Total of Occurrences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Editals</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td>9</td>
</tr>
<tr>
<td>Applicant Handbook</td>
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<td>x</td>
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<td></td>
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<td></td>
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<td></td>
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</tr>
</tbody>
</table>

Source: The authors (2022).

The 1998 World Declaration on Higher Education considers that this level of education, in addition to producing knowledge about different areas of knowledge, should be characterized as a plural space, with respect for differences and diversity, ensuring access for all people (PLETSCH; LEITE, 2017). In addition, Law no. 13,409, of December 28, 2016, amended Law no. 12,711, of August 29, 2012, and provided for the reservation of vacancies for people with disabilities in high school and college technical courses at federal educational institutions (BRASIL, 2016). Thus, there are legal provisions that guarantee the access of people with disabilities to Higher Education and, in the case of the universities surveyed, the documents for admission to the HEI’s seem to indicate that such laws are being complied with.

Another important fact concerns the increase in the number of Special Education students (people with physical, intellectual [mental], sensory, global developmental disorders, and high abilities) in Higher Education over the years, largely motivated by initiatives such as the University for All Program and the Student Financing Program, which contributed to the access to Higher Education. According to Pletsch and Leite (2017), based on data from the Anísio Teixeira National Institute of National Studies and Research, between 2004 and 2014, there was an 85.35% growth in the number of enrollments in Higher Education. Regarding specifically the Special Education public, this number is even higher, 520%, which corresponds to 33.377 enrollments. It is important to mention that, although the numbers show that access to Higher Education has occurred more frequently, this does not mean that this is an ideal number, since only 0.37% of students in Higher Education corresponded to the Special Education public (PLETSCH; LEITE, 2017).
The fact that all the HEI’s surveyed present information about the admission of people with disabilities in their edicts of admission or candidate handbooks should be considered relevant, not only for the compliance with the laws that guide the theme, but also so that, in fact, people have information about the rights of this public and that the access to higher education occurs without communication barriers. Besides the access to Higher Education, it is important that the HEI’s enable the permanence and the academic termination of these students, something that is directly related to the Specialized Educational Services carried out by the institutions and by the centers and/or programs made available, which are presented below.

In consonance with the legal provisions already mentioned in the introduction of this article regarding Special Education from the perspective of Inclusive Education, which permeate from basic levels of education to higher levels, we verified that five of the 11 HEI’s surveyed are the ones that have Care Centers: HEI 1 - Accessibility Nucleus at UEL; HEI 6 - Digital Accessibility Nucleus of UENP; HEI 9 (IFPR) and HEI 10 (UTFPR) - Nucleus of Assistance to People with Specific Educational Needs; HEI 11 (UTFPR) - besides People with Specific Educational Needs, it has the Nucleus of Communication Policies and Digital Accessibility and the Nucleus of Studies and Practices in High Abilities and Giftedness. All the Centers present pages with ample information, aiming at the elimination of physical, architectural, methodological, or attitudinal barriers, highlighting the educational monitoring offered - together with the colleges of the courses - to students with disabilities/Special Educational Needs enrolled in undergraduate or graduate courses.

With the same purpose of the Centers, in some of the researched universities, there are attendance programs aimed at people with disabilities/Special Educational Needs, such as: at HEI 2 (UEM), for example, there is the Multidisciplinary Program of Research and Support to the Person with Disabilities and Special Education Needs; at HEI 4 (UNIOESTE), the Institutional Program of Actions Related to People with Special Needs; At HEI 5 (UNICENTRO), there is the Inclusion and Accessibility Program; and at HEI 11 (UTFPR), besides the three cores, there is the Institutional Program of Support to Social Inclusion - Research and Extension . In the case of this last HEI, the management of the Centers and the Program are carried out by a Superintendence of Inclusion, Affirmative Policies and Diversity. HEI’s 7 (UNESPAR) and 8 (UNILA) despite not designating their services as cores or programs, also have services for people with disabilities/ Special Educational Needs, which are called Center for Education in Human Rights (HEI 7) and Division of Support to Accessibility and Inclusion of People with Disabilities/ (HEI 8). HEI 11 has the largest number of services provided, and HEI 3, despite not having mentioned a space for the service to students with disabilities/Special Educational Needs, has on its page brief information for applicants who self-declare as a person with disability and about the affirmative actions that are offered to master's and doctoral students, among them: students from the black, brown, indigenous, transgender, and disabled populations.
Chart 5. HEIs with an Attendance Center/Program

<table>
<thead>
<tr>
<th>HEI</th>
<th>HEI 1</th>
<th>HEI 2</th>
<th>HEI 3</th>
<th>HEI 4</th>
<th>HEI 5</th>
<th>HEI 6</th>
<th>HEI 7</th>
<th>HEI 8</th>
<th>HEI 9</th>
<th>HEI 10</th>
<th>HEI 11</th>
<th>Total of Occurrences</th>
</tr>
</thead>
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<td>Service Center</td>
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<td></td>
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<td></td>
<td>x</td>
<td>x</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Superintendence of Inclusion, Affirmative Policies and Diversity</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
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<td>1</td>
</tr>
</tbody>
</table>

Source: The authors (2022).

According to Pletsch, Melo, and Cavalcante (2021), the cores or sectors responsible for accessibility and inclusion of people with disabilities/Special Educational Needs in Universities "[...] should be understood in an intersectoral and transversal way in the institution." (PLETSCH; MELO; CAVALCANTE, 2021, p. 30). Moreover, according to the National Policy of Special Education from the Perspective of Inclusive Education (BRASIL, 2008b), these spaces should have:

Professional responsible for the organization of actions, articulation among the different organs and departments at the university for the implementation of the accessibility policy and effectiveness of the relations of teaching, research, and extension in the area. The Centers must act in the implementation of the accessibility to people with disabilities in all spaces, environments, materials, actions, and processes developed in the institution. (BRASIL, 2008b, p. 39).

In this sense, Chart 6 shows the services offered by the Attendance Centers in the five HEI’s (HEI’s 1, 2, 9, 10 and 11) that provide this service to students. With a total of three occurrences each, HEIs 1, 9 and 11 present their attributions/purposes on the centers' pages. With the same number of occurrences (3), in HEI’s 1, 6 and 10, we found extension projects in which students can obtain information about accessibility in remote learning (HEI 1), digital inclusion of blind, low-vision and deaf people (HEI 6) and the qualification of people with disabilities (HEI 10). With two results each, we found in the researched sites information regarding the "population served" by the Center (HEI 1 and HEI 11), the "publications" made by the Center (HEI 1 and HEI 6), the realization of "continued education" for teachers and students (HEI 1 and HEI 10), of "videos" (explanatory or translation) about the center and information about the disabilities or SEN’s (HEI 1 and HEI 6), of the offer of "interpreter specialized in LIBRAS" (HEI 6 and HEI 11) and of the monitoring of the "Multidisciplinary Team" for students with Disabilities/ Special Educational Needs (HEI 6 and HEI 9). The other services offered (14) had one occurrence each, verifying the variety of information among the HEI’s that offer them.
Chart 6. Service Center: services offered

<table>
<thead>
<tr>
<th>HEI</th>
<th>HEI 1</th>
<th>HEI 6</th>
<th>HEI 9</th>
<th>HEI 10</th>
<th>HEI 11</th>
<th>Total of Occurrences</th>
</tr>
</thead>
<tbody>
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<td>Presentation of the Nucleus</td>
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<td>x</td>
<td>x</td>
<td>3</td>
<td></td>
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<tr>
<td>Attributions/purpose of the Nucleus</td>
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<td>Videos (explanatory or translation)</td>
<td>x</td>
<td>x</td>
<td>2</td>
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<td>Specialized LIBRAS interpreter</td>
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<tr>
<td>Multidisciplinary Team: IT teacher, psycho-pedagogue, speech therapist, university scholarship holders, coordination, and special counselors, etc.</td>
<td>x</td>
<td>x</td>
<td>2</td>
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<td>Special Education Legislation</td>
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<td>Access in LIBRAS</td>
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<td>Study Guidelines</td>
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<td>Accessibility in remote classes</td>
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<td>Guidelines on accessibility in virtual interactions with people with disabilities</td>
<td>x</td>
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<td>Application for Specialized Educational Attendance</td>
<td>x</td>
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<tr>
<td>Special software aiming at the accessibility of deaf academics</td>
<td>x</td>
<td>1</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Support materials (computer classes)</td>
<td>x</td>
<td>1</td>
<td></td>
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</tbody>
</table>
We understand that the Centers/Programs are essential for the promotion and effectiveness of accessibility and inclusion in universities, since accessibility should not only be for the entry of students with disabilities, but also for their permanence and academic termination in Higher Education.

In four HEI’s, we found care programs that offer services to people with disabilities/SEN, as presented in Chart 7. In all the websites of the HEI’s with assistance programs (HEIs 2, 4, 5 and 11) there is information about the "definition and objectives of the program", about the "specific pedagogical mediation" and about the "team responsible for the program". In most HEI’s, there is information about the "public served" by the program and the "support offered" to students (three occurrences each). We also observed the concern of HEI’s 4 and 5 in informing the rights of people with disabilities/ Special Educational Needs, with the presentation of the "Special Education Legislation/Documents", of HEI’s 2 and 11 in describing the "research, teaching, and extension projects involving the Special Education theme" and of HEI’s 4 and 5 in presenting the "courses" in the area they offer. The other services provided had a single occurrence.

Chart 7. Program of Assistance: Services Offered

<table>
<thead>
<tr>
<th>HEI</th>
<th>HEI 2</th>
<th>HEI 4</th>
<th>HEI 5</th>
<th>HEI 11</th>
<th>Total Occurrences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program Definition and Objectives</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>4</td>
</tr>
<tr>
<td>Specific pedagogical mediation: LIBRAS translator/interpreter and special monitoring.</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>4</td>
</tr>
<tr>
<td>Team responsible for the program</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>4</td>
</tr>
<tr>
<td>Public served: People with disabilities/NEE</td>
<td>x</td>
<td>x</td>
<td></td>
<td>x</td>
<td>3</td>
</tr>
<tr>
<td>Support offered: curricular and resource adaptation, such as: Braille printouts, printouts with enlarged font size, digitized texts in accessible format for blind and low-vision students; extended time and physical space to carry out evaluations</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Legislation/documents on Special Education</td>
<td></td>
<td>x</td>
<td>x</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Development of research, teaching and extension</td>
<td></td>
<td></td>
<td>x</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Type of Project</td>
<td>Description</td>
<td>Projects</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>----------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>courses</td>
<td>It assesses the need for the special board, organizing and coordinating this process for candidates with disabilities/special needs enrolled in the vestibular competition.</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Training of students, teachers, and other professionals in higher and basic education</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Representation of the University in Councils and Forums that deal with propositions, implementations, and evaluations of public policies related to Special Education and Inclusion</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Forms</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Date of meetings (which are held by the program)</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Technical, scientific, and academic support necessary for the Teaching, Research and Extension activities developed in the area of education</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Advisory planning and execution of continued education projects for teachers in Special Education, developed for the internal and external community.</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contribution to the development of pedagogical practice, seeking new conceptual bases for Special/Inclusion Education</td>
<td>1</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Support for continued training in Special Education, at all levels of educational practice.</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Events</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
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<tr>
<td>Publications</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
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<tr>
<td>Software’s</td>
<td></td>
<td>1</td>
<td></td>
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<tr>
<td>Suggested Links</td>
<td></td>
<td>1</td>
<td></td>
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<tr>
<td>Tutoring</td>
<td></td>
<td>1</td>
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<td></td>
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</tr>
<tr>
<td>Informs about: Specific curricular adaptations for deaf students</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Informs about: Specific curricular adaptations for blind and low-vision students</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Informs about: Specific curriculum adaptations for students with motor difficulties or disabilities</td>
<td>1</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
Informs about: Specific curriculum adaptations for students with Global Developmental Disorders \(^9\)  
<table>
<thead>
<tr>
<th></th>
<th>x</th>
<th>1</th>
</tr>
</thead>
</table>

Informs about: Curricular adaptations for students in exact and technological science subjects/courses  
|   | x | 1 |

Awareness-raising, identification, training of social, educational, political, and health segments in ASD.  
|   | x | 1 |

Source: The authors (2022).

There were also the HEI’s that mentioned other forms of assistance, but that, like the centers and programs, inform the candidate of the forms of inclusion, access, and permanence in the institution, as is the case of HEI 3 (UEPG). This university does not mention a specific core/or program, however, on the website there is the following information: Browser Features: text size; Accessibility in LIBRAS (VLibras) and Software for screen reading.

HEI 7 has a Center for Education in Human Rights for socially vulnerable groups in Higher Education, which operates by means of services provided in the Centers for Specialized Actions, both as online pedagogical support and by telephone. These services are aimed at students with disabilities and other Special Educational Needs and their professors.

HEI 8, in turn, has a Division of Support to Disabled People, mentioned as the specific sector to deal with issues about accessibility for people with disabilities (physical, hearing, visual or intellectual), who are accompanied by a multidisciplinary team from the time they enter the university. This institution also mentions that there are people with disabilities who work as professors or in the administrative area, who are also assisted by the mentioned sector. Finally, HEI 11 has an inclusion superintendence, which organizes the operation of its centers and programs, as mentioned above.

Given the results obtained, through the analysis of the three categories listed (accessibility of the website, edicts, core/program of assistance to people with disabilities/Special Educational Needs) in the websites, the following are the final considerations regarding the accessibility and inclusion of students with disabilities/SNE in public universities in Paraná.

**Concluding Remarks**

The aim of this study was to verify if the websites of public universities in Paraná (state and federal) are accessible to people with or without disabilities/Special Educational Needs, based on the following aspects: accessibility of the site, edicts, and the existence or not of core / service program for people with disabilities/Special Educational Needs.

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\(^9\) Since the publication of the APA Manual (DSM-5), the term has changed from Global Developmental Disorder (GDD) to Autism Spectrum Disorder (ASD).
The results indicated that most of the initial pages of the websites of the public universities in Paraná present icons and/or the word accessibility which indicate the link to the features available on the web pages and which facilitate the access of people with disabilities/Special Educational Needs, for example, the possibility of increasing the font size, the availability of the virtual interpreter of LIBRAS etc. However, the way people find such commands and functionalities is different among the sites, which implies the need for prior knowledge about the representations of the term accessibility or even of the available resources so that the user can identify them. Only one HEI did not present any information about accessibility in its homepage. We understand that this absence is a possible communicational barrier to access for people with disabilities.

Although the Committee for the Defense of the Rights of Persons with Disabilities of the House of Representatives has approved the United Nations Organization proposal on the change of the accessibility symbol (Bill of Law no. 7.750/2017) and has oriented on the updating of the current signs in a period of up to three years after the publication of the Law, we did not locate this new symbol in any of the researched websites. Moreover, none of the HEI’s that used representative symbols/images presented their definition.

We also point out that, although several commands that facilitate user access have been verified in the universities' websites, none of them appeared in all the HEI’s, that is, it is still possible that the websites, besides including new functionalities, may standardize them, expanding the type of accessibility made available and the organization of information for the public with or without disabilities/Special Educational Needs.

The variety of ways in which the term accessibility appears in the HEI’s websites and the lack of standardization of the information made available on the pages of the researched universities may make it difficult to navigate the websites, which, therefore, could, for example, hinder the admission of candidates with disabilities/Special Educational Needs in Higher Education. Furthermore, we did not identify information on how the universities are organized in relation to architectural and attitudinal barriers.

As for the edicts for admission to HEI’s, we observed that all the universities present information on how the candidate can apply, what documentation is required, and the legal provisions on which these edicts are based. This is very important data, indicating the absence of communication barriers in the edicts, facilitating access to information for the user.

All the universities indicated ways of attending to students with disabilities/Special Educational Needs, either in centers/programs or in other sectors. These centers/programs and/or sectors are indispensable for the promotion and effectiveness of the accessibility and inclusion in the HEI’s, ensuring not only the admission of the student with disability/Special Educational Needs, but also the permanence and the academic termination in Higher Education.
We emphasize that this work did not intend to present what is done by the HEI’s surveyed for the inclusion of people with disabilities/Special Educational Needs, but to analyze the information made available in their respective websites. It is possible to assume that the HEI’s develop several activities that promote the inclusion of their students with disabilities/Special Educational Needs, however, they do not mention/update such information on their websites. Thus, future studies could identify what, in fact, is done in these institutions, using the information collected to update the websites to avoid communication barriers and expand the availability of important data on inclusion in these HEI’s. Other studies may also propose ways to standardize the information and functionalities of the websites, so that there is not so much variety in the way the information is presented to the public.

From the above, we conclude that the websites offer accessibility, but that there is the need to overcome barriers to access, to the permanence, to the academic termination of students with disabilities/Special Educational Needs and to their inclusion in Higher Education in public universities in Paraná.

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