

Case study on the inclusion of special education students in higher education

Estudo de caso sobre a inclusão de alunos da educação especial no ensino superior

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Abstract

In Brazil, discussions related to inclusive education in higher education are still relatively recent, playing a crucial role in advancing legal frameworks and democratizing access for the target audience of special education. In the inclusive context, higher education institutions (IES) have a fundamental social role in the development of a fairer and more inclusive education, responsible for the dissemination of knowledge, critical formation, and promotion of debates. This study aims to address the main actions adopted by a university to provide a more inclusive education for the target audience of special education, focusing on access, retention, and success in higher education. The information was obtained through interviews with staff members and a student with physical disabilities from the Civil Engineering course. The results showed that the institution has been constantly adapting to public inclusion policies, developing several supporting actions to enhance and smooth the learning process and, as a consequence, ensuring that these students fulfill all the requirements to successfully graduate.

Keywords: accessibility; higher education; special education; inclusion.

Resumo

No Brasil, debates relacionados à educação inclusiva no ensino superior ainda são recentes, sendo cruciais no avanço de marcos legais e na democratização do acesso do público-alvo da educação especial. No âmbito inclusivo, as instituições de ensino superior (IES) possuem um papel social fundamental para o desenvolvimento de uma educação mais justa e inclusiva, sendo responsável pela difusão de conhecimentos, formação crítica e fomentação de debates. O presente estudo tem como finalidade abordar as principais ações adotadas por uma universidade para fornecer uma educação mais inclusiva para o público-alvo da educação especial, no âmbito de acesso, permanência e êxito no ensino superior. As informações foram obtidas através de entrevistas com servidores e um acadêmico, com deficiência física, do curso de Engenharia Civil. Os resultados mostraram que a instituição vem se adequando às políticas públicas de inclusão, desenvolvendo ações de apoio à aprendizagem para que estes alunos concluam os cursos com êxito.

Palavras-chave: acessibilidade; educação especial; ensino superior; inclusão.

INTRODUCTION

The global objective of special education is to endure access to an inclusive educational system that would provide lifelong learning experiences to people with disabilities (physical, intellectual, mental or sensory), global learning disabilities or giftedness/high ability (Brasil, 1988, 2008; United Nations, 2015). The responsibility to provide quality special education is

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attributed to the State, family, school and society since, for decades, these individuals were prevented from fully experiencing life with respect and dignity (Pinto, 2018).

Starting from the 1990's, Brazilian federal law evolved to acknowledge inclusive education. The Federal Constitution (Brasil, 1988) enshrined rights to previously marginalized social groups by stating that education was a basic right and should be ensured by providing equal admission and enrollment in schools. Currently, the greatest hurdle to special education students is enrollment and graduation in higher education programs. Consequently, supporting actions from the State through inclusive educational policies are fundamental to this issue.

The primary objective of this study was to evaluate educational initiatives implemented at a public university aimed at special education students. These initiatives comprised policies and inclusive practices focused on admission, enrollment, participation in university activities and graduation of these students at the undergraduate level. These policies and practices were also viewed through the experience of staff and a student with disabilities. This study was separated into six sections: national historic scenario on the issue and evolution of special education laws; inclusivity in higher education; initiatives on admission, enrollment, participation in university activities and graduation; methodologies; results and discussion and final considerations. The constant debate over this issue contributes to the improvement of State educational policies and legal frameworks, which improve and provides greater quality of life to these students.

National historic scenario on the issue and evolution of Special Education laws

The 1988 Federal Constitution (Brasil, 1988) enshrined education as a universal right. After its proclamation, conferences and forums were increasingly held on the issue and public policies were developed towards inclusive education. These efforts evolved into several measures such as the Statute for Children and Adolescents of Lei nº 8069/90 (Brasil, 1990); World Conference on Education for All (1990); World Conference on Special Needs Education (1994); Salamanca Declaration (1994); National Policy on Special Education (Brasil, 1994b) and Law on Guidelines and Basis of National Education of Lei 9394/96 (Brasil, 1996a).

Despite the passing of several legal frameworks, the implementation of inclusive initiatives in education has been slow and subjective (Filippou; Acquah; Bengs, 2025; Kristina; Hendrowati; Ratnaningsih, 2025; Odeh, 2000). However, these initiatives were fundamental to implement inclusion at the primary and secondary school level and became the foundation for inclusivity plans for higher education. As noted by Silva and Carneiro (2016), a school must be a democratic, welcoming and just place without prejudice or stereotypes. However, accessibility to resources differed according to geographic location and increased the uneven implementation of inclusive educational practices (Dayso et al., 2025). On the other hand, educational reforms implemented by international institutions since the 1990's established inclusivity as an educational initiative targeted at students usually marginalized in a traditional system (Silva; Carneiro, 2016).

In higher education, the first public universities in Brazil were established in the states of Paraná and Rio de Janeiro in the 1910's and 1920's, respectively. However, access to these institutions at the time was restricted to a specific segment of society, namely middle class youth, whose admission was seen as a mechanism to maintain the status quo by the formation of an intellectual elite (Ferrari; Sekkel, 2007).

Since 1990, discussions on inclusive education became increasingly relevant which increased the possibility that segments of the population historically excluded from higher education could gain access to it (Mendes; Bastos, 2016). Noteworthy, the course titled "ethical, political and educational aspects of normalizing and integrating special needs individuals" became recommended across all degrees in pedagogy, psychology and education in 1994. Chart 1 presents a compilation of the main legal frameworks that were implemented since 1994 in order to promote special education in institutions of higher learning.

The legal frameworks of Chart 1 denoted the efforts conducted by the State to address special education and the HEIs commitments to provide admission, enrollment and graduation to special needs students. The implementation of State policies aimed at special needs students was fundamental to the concept and practice of inclusive education. This ensured equal

Chart 1. Main legal frameworks in special education in institutions of higher learning.

Year	Legal Framework	Description
1994	Directive nº 1793 (Brasil, 1994a)	Implementation of course titled “ethical, political and educational aspects of normalizing and integrating special needs individuals”.
1996	Law on Guidelines and Basis of National Education – Lei nº 9.394 (Brasil, 1996a)	Chapter V – special education: comprehending special education from preschool to higher education,
1996	Memorandum nº 277 MEC/GM (Brasil, 1996b)	Sent to the provosts of higher education institutions (HEI) requesting adequate implementation of educational policies for students with special needs.
1999	Decree nº 3298 (Brasil, 1999)	Regulated Lei nº 7.853:1989, addressed National Policy for the Integration of People with Disabilities, determined that HEI’s must adjust exams and offer additional support and time when required by the student.
2003	Directive nº 3284 (Brasil, 2003)	Established accessibility requirements for people with disabilities so that compliant educational institutions could receive authorizations and certifications.
2004	Decree nº 5296 (Brasil, 2004)	Directed educational institutions to comply with some accessibility directives in order to establish and operate new programs or renew current ones.
2011	Decree nº 7611 (Brasil, 2011)	Addressed special education, specialized educational services and other directives.
2015	Stature on People with Disabilities – Lei nº 13146 (Brasil, 2015a)	Chapter IV: determined that the educational system must be inclusive at all levels for all ages, and opportunity access to higher, trade and technical education must be provided equally to all persons.
2015	Lei nº 13234 - replaced Lei nº 9394:96 (Brasil, 2015b)	Set identification, registration and provision of services to gifted or high ability students in primary, secondary and higher education.
2016	Lei nº 13409 (Brasil, 2016)	Provided quotas for people with disabilities in technical courses at the secondary and higher level of federal educational institutions.
2017	Decree nº 9034 (Brasil, 2017)	Addressed admissions in federal universities and technical federal institutions at the secondary level.
2021	Resolution CNE/CP nº 1 (Brasil, 2002)	Art. 3, XI – denoted special needs of people with autism spectrum disorder (ASD), high abilities or giftedness so that educational and social participation opportunities could be fully granted under equal conditions.

Source: Elaborated by the authors.

opportunity and promoted diversity – especially when considering the increase in inequalities derived from the global pandemic (Camacho-Zuñiga; Julio-Ramos; Zavala, 2023; Somani, 2022). From the above scenario, it can be shown that HEIs have understood the importance of addressing the specific needs of students with different abilities and limitations (Lockmun-Bissessur; Samy; Peeroo, 2024). This commitment resulted in the adoption of inclusive policies, new initiatives and a supporting environment that promoted accessibility and active participation.

Among these initiatives, physical accessibility, support services and personalized educational methodologies were of noteworthy importance (Kauffman et al., 2023; Camacho-Zuñiga; Julio-Ramos; Zavala, 2023). Thus, in addition to fulfilling an ethical responsibility, HEIs also contributed to wider social goals contained in Sustainable Development Goals (STGs) (United Nations, 2015), more specifically, those related to promoting quality education and decreasing inequalities.

Higher Education inclusivity

The adoption of adequate educational practices for teaching and evaluation of each group within special education is fundamental to build an inclusive society. To this end, modern and efficient public policies must be complemented by specialized professional training based on understanding, recognizing and respecting differences (Pinto, 2018).

Since the implementation of the National Policy on Special Education from the Perspective of Inclusive Education in 2008 (Brasil, 2008), the number of students with personalized educational needs increased significantly. This was a result of the policy making mandatory the admission of all students of school age in educational institutions. This created an incentive for special needs students to further their education in technical schools and universities (Bridi Filho; Oliveira; Rodrigues, 2018).

The National Policy on Special Education from the Perspective of Inclusive Education (Brasil, 2008) established that students in need of specialized educational services must receive effective support to promote admission, enrollment and participation in all academic activities at an HEI. Inclusive initiatives must include not only physical accessibility but also measures regarding communication and teaching such as adapting written materials and textbooks and policies that advanced participation of special needs students in all academic opportunities such as scholarships, research and extra-curricular activities. It should be noted that these students faced the most adversity in federal HEIs after the admission process (Cantorani et al., 2020).

According to the Higher Education Census of 2023 (Brasil, 2024), the number of registered students with disabilities, developmental disorders or high abilities/giftedness in undergraduate programs was 92,756, which amounted to 0.90% of the total. The previous census in 2013 found 29,034 special education students or 0.40% of the total. This represented an increase of 219% in registered special needs students between 2013 and 2023.

The inclusion of the target demographic of special education in HEIs has been gradual and dependent on structural and administrative changes of the institutions. These included adequate professional training and removal of untoward attitudes. According to Ferreira (2007), this could only be possible with the sharing of information and awareness actions with respect to diversity and promoting human differences. It should be noted that in the HEI environment, there was still a degree of misinformation regarding special education and the inclusive process in both staff and students (Pacheco; Costas, 2006; Rocha; Miranda, 2009).

The production and sharing of scientific knowledge also belonged in the process of awareness and elimination of prejudices. In the HEI environment, academic research, publication of scientific texts and production of technical knowledge improved and disseminated information. These produced advances not only in science, technology and culture but also shaped State policy (Hayashi et al., 2005).

Research on special education has advanced qualitatively. This was determined from a survey of scientific publications on Scopus database and citation analysis on VOSviewer software to produce a visual map rendering citation webs. The survey applied "inclusive," education," and "university" as keywords and obtained 4,599 publications. Filtering with the keyword "disabilities" narrowed the search to 915 publications. This was considered an acceptable number considering the trending level of the topic in scientific circles. Figure 1 presents the yearly number of publications with a clear recent rising trend.

Figure 2 displays the most used individual and connected keywords in publications. It should be noted that VOSviewer software linked related and repeated keywords in clusters. Each cluster had a separate core with its displayed size proportional to the number of usages in the text. Figure 2 demonstrates that the most used keywords were "inclusive education", "higher education", "disability", "accessibility" and "education."

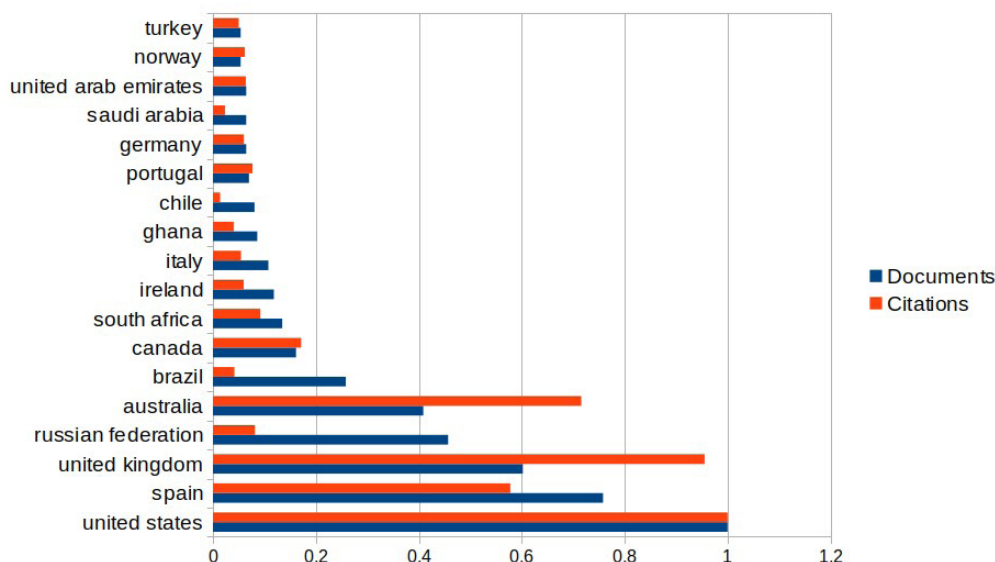


Figure 3. Number of publications (blue) and citations (red) normalized with respect to country.
Source: Elaborated by the authors.

on expanding the concept of learning and removing the belief that a classroom was the only or ideal learning environment. The HEI, in turn, should provide the students with exposure to different cultural, technological, scientific and human aspects which contributed significantly the quality of the learning experience (Alfallaj; AL-Ma'amari; Aldhali, 2023; Quintana et al., 2017). After admission in an HEI, special education students might lag behind due to their previous experience in primary and secondary education. This issue could be dealt with the implementation of specific initiatives and the training of professors to mentor these students during their transition phase (VanTassel-Baska, 2023). The school history of each student directly determined their ease or difficulty of conducting their academic career (Rodríguez Hernández; Cascallar; Kyndt, 2020). Thus, in the same classroom, one might find students from public or private schools or students from grade equivalency programs such as Brazil's "Educação de Jovens e Adultos" (EJA). In addition, families offered different forms of support so that the combination of these diverse of factors affected learning speed and how content was absorbed by each student (Bridi Filho; Oliveira; Rodrigues, 2018; Camacho; Messina; Barrera, 2017; García; González, 2019).

According to Rocha and Miranda (2009), most special education students enrolled at HEIs were from private schools. This was based on interviews with 15 students with disabilities at a federal university, out of which 12 were from private schools. This confirmed that the admission of people with disabilities in public universities was highly linked to social, economic, cultural and political factors (Mukhwana; Kande; Too, 2017; Nawire et al., 2025). In addition to private schooling, additional contributing factors were found such as learning aids, financial assistance, assistive technologies and special services such as speech and physical therapists, etc.

Rocha and Miranda (2009) also noted that interviewed students positively ranked the accessibility initiatives adopted by the university in the admission process such as increased time for exams, exams in Braille and physical accessibility. However, after admission, it was also acknowledged that enrollment initiatives were not as efficient in promoting inclusion. There was a general lack of resources such as accessible desks, assistive technologies, tactile floor surfaces, handrails in hallways, reserved parking spaces and campus transportation for the physically disabled. There was also a need for qualified staff to assist in specific student demands.

Other initiatives that contributed to enrollment of special education students were surveys on the views and awareness level of the academic community (professors, staff and other students) with respect to inclusion; teaching, research and extra-class activities for special education students; selection and evaluation strategies to register, address and attend students that require specialized support; an evaluation of the general physical accessibility of the institution; the establishment of an office responsible for the implementation of inclusive policies; the use of assistive technologies and

personalized learning techniques such as AI to increase classroom engagement, etc. (Damyanov, 2024; Mitre; Zeneli, 2024; Parenti; D’Agostini, 2024).

In addition to implementing policies that promote enrollment, HEIs must attend to special needs and allow this demographic to actively participate in the defense of their rights. This approach allowed the refinement of inclusive policies and construction of a more accessible and equitable academic environment (Li et al., 2024; Lopes, 2024).

In the case of high abilities, it was commonly found that these students faced difficulties in traditional teaching environments, which often did not have adequate methodologies to fit their specific learning demands and produced negative effects in their academic performance (Bundotich, 2024; Gonzales, 2020). The lack of specialized support could compromise their development potential and result in underutilized talents and inefficient use of academic resources (Cazco et al., 2024). On an individual level, the lack of support also could contribute to feelings of isolation and frustration as these students encountered difficulties in creating bonds with classmates and professors (Anghel, 2019).

It was essential to acknowledge that there was no single inclusivity model for students with special education needs. Each individual had a specific history and demands which necessitated the adoption of several personalized initiatives to best attend to their needs and promote a genuine and inclusive educational experience (Cazco et al., 2024; Galicia, 2023; Vantassel-Baska, 2023).

Methodologies

This study adopted a qualitative exploratory and descriptive approach to evaluate the perceptions and experiences of a student and several staff on the issue of inclusion in higher education. The study was conducted at a federal university through 2 sets of semi-guided interviews with predefined questions combined with supplementary questions that emerged as the interviews proceeded. The objective was to appraise the initiatives set by the institution to ensure admission, enrollment, participation in university activities and graduation of special education students. The study focused on 14 undergraduate programs in the schools of Architecture, Computer Sciences and Engineering.

Initially, two staff from the Educational Support Department (Setor de Apoio Pedagógico) and the accessibility division of the Educational Action Coordination Office (Coordenadoria de Ações Educacionais, CAED) were contacted to conduct a review of special education students currently registered. From this assessment, a questionnaire with predefined questions was elaborated as guide for staff interviews as shown in Chart 2.

The purpose of the Educational Support Department is to provide pedagogic support to lecturers, technical and administration staff and students by planning, executing and

Chart 2. Predefined questionnaire for staff interviews.

1. Admission in higher education
1.1. What inclusive initiatives the university offers to promote the admission of special education students?
1.2. How many special education students requested admission since 2020?
2. Enrollment and Participation in University Activities
2.1. How many special education students are currently enrolled?
2.2. What changes in methodologies and teaching were adopted for students with autism spectral disorder (ASD) and difficulty with abstract thinking?
2.3. How many students participate in extra-curricular activities promoted by the university? What are those extra-curricular activities?
2.4. What programs or specific actions are offered to high ability of gifted students?
2.6. What resources or adaptations professor utilize in the classroom to assist special education students?
2.7. Does the university offer support or orientation courses for lecturers on inclusive education? Do the professors have interest in attending these courses?
2.8. Is there a multidisciplinary group to assist students? How many staff are in this group and what is their background?
3. Graduation and Professional Career
3.1. How many special education students graduated in the last 10 years?
3.2. Does the institution monitor these students entrance in the workplace after graduation?

Source: Elaborated by the authors.

supervising educational initiatives. On the other hand, the Educational Action Coordination Office (CAED) develops strategies to promote student admission and enrollment. These strategies promote learning, accessibility and inclusion in the classroom as well as healthcare initiatives. This study focused on the accessibility subsection of CAED, which provides services to adapt books and images, provides sign language interpreters, offers support for classwork and academic research and more.

The second set of interviews was conducted with an undergraduate civil engineering student with physical disability enrolled at the institution. The interview sought to gauge the perception of inclusion in the academic environment with the predefined questions shown in Chart 3.

Chart 3. Predefined questionnaire for student with disability.

1. Admission in the program
1.1. What were the main challenges faced to be admitted in the Civil Engineering program?
1.2. Did the university offer any specific support initiatives during the admission process?
2. Enrollment and Participation in University Activities
2.1. What were the main difficulties faced throughout the program (i.e. physical accessibility, teaching methodologies, access to course material, laboratory activities, internships, etc.)?
2.2. What is your assessment of physical accessibility at the university? What improvements could be implemented?
2.3. Were your studies affected during the global pandemic? Were the adjustments implemented at the time adequate?
2.4. Do you currently or at some time made use of special educational initiatives offered by the university? What is your assessment of their quality?
3. Graduation and Professional Prospects
3.1. What are your future plans in Civil Engineering? Do you wish to acquire further specializations?
3.2. Do you believe there are obstacles to find work in your area? If so, what are those?

Source: Elaborated by the authors.

RESULTS AND DISCUSSION

The analysis and discussion of results was conducted with content analysis technique, which is widely used and recommended in qualitative studies. This method allowed information collected in interviews or observed directly to be organized in categories or themes for a deeper understanding of the topic (Campos, 2004; Moraes, 1999; Silva; Fossá, 2015).

Interviews with educational support department (setor de apoio pedagógico) and educational action coordination office (CAED)

As noted in Chart 2, the university has adopted a quota system since 2007. This system was adjusted in 2018 alongside the university's policy in the admission of people with disabilities as required by Federal Law nº 13 409 (Brasil, 2016).

The university has implemented learning initiatives since 1970. Over the decades, support services were reorganized until the Educational Action Coordination Office (CAED) was established in 2016. One of the first CAED initiatives was a survey of students considered for special education. This survey conducted in 2016 identified 39 enrolled students that required special educational support. Results were used to identify students and their needs so that specific supporting actions could be implemented throughout their academic career. Survey answers noted physical accessibility issues in some buildings and communication barriers for students with hearing impairment, especially since most classes relied on oral lectures.

University initiatives regarding admission, enrollment, participation in university activities and graduation were made known to the students from the start of the admission process. These

were tailored to the specific needs and abilities of each student such as providing readers, scribes, Braille displays etc. After admission, the student had to confirm the desire to enroll in the university through CAED. This step included an interview with the Academic Admission and Accessibility Subcommittee which confirmed or rejected the disability status of the student.

Currently, the university makes use of the Teaching Information System (Sistema de Informações para o Ensino, SIE). It is an application platform that integrates several sectors of the institution such as library, human resources management, healthcare, administration and academics and greatly automates processes. In academics, SIE allows students to request support in classes. However, incorrect usage could occur and there are instances in which special education students chose not to use CAED resources. In these cases, despite special education students being registered in the system, the university is unable to identify and address specific needs.

Currently, as reported by SIE, there are 39 registered special education students at the university. Their number, disability and choice of program are listed in Chart 4. Out of 39 students, 90% were male-identifying and 59% reported some form of physical disability. This

Chart 4. Special education students by program and disability over the period of this study.

PROGRAM	NUMBER OF STUDENTS	DISABILITY
Civil Engineering	1	Low vision
	3	Physical disability
Mechanical Engineering	1	Visual Impairment
	1	High abilities or gifted
	3	Physical disability
Chemical Engineering	1	Low vision
	1	High abilities or gifted
	3	Physical disability
Computer Science (Undergraduate)	2	Visual Impairment
	2	Autism spectrum disorder (ASD)
	2	Physical disability
Environmental and Sanitary Engineering	1	Physical disability
Automation and Control Engineering	1	Physical disability
	1	Other
Acoustic Engineering	1	Hearing impairment
	4	Physical disability
Compter Engineering	3	Physical disability
Production Engineering	1	Autism spectrum disorder (ASD)
Information Systems (Undergraduate)	1	Blindness
	1	Autism spectrum disorder (ASD)
	1	Physical disability
Aerospace Engineering	1	Intelectual disability
	1	Other
	2	Physical disability
	Total: 39	

Source: Elaborated by the authors.

represented the most common group found in special education students. Only one case was identified with intellectual or developmental disability but the student did not request support from the designated offices. Interview with staff revealed that students sometimes mistook intellectual disabilities with mental disorders and were incorrectly registered in the system. This lack of precise diagnostics could negatively affect identification of special needs and supporting actions.

The admission period evaluated was from the 2nd semester of 2013 to the 2nd semester of 2023. Figure 4 shows detailed admissions along this period broken down by semester and year and encompassed all registered 39 special education students. The largest number of admissions occurred in 2023 which could be a reflection of the demand for higher education. It should be noted that at the end period of this study, 21 of the 39 special education students had graduated representing a 54% rate.

The findings reported in this study must be fully understood to evaluate the effect of institutional and academic conditions in the student's academic career and to allow the search for further improvements in teaching and support. Knowledge of the needs and characteristics of the students is essential to the implementation of efficient measures to support learning. One of these initiatives is "rooming," in which classrooms are assigned to courses at the beginning of each semester based on accessibility needs such as those located at ground floors. Another initiative is to notify each department of the specific needs of each student through a sharing process across different programs. Thus, each program office receives the necessary information and could notify professors to provide adequate support to the student.

Regarding maintaining enrollment, the Accessibility Office provides a digital resource collectively known as "Accessibility Strategies." This resource contains specific information for each special need and offers guidance, suggestions and adaptations. There are also tutorials on how to add subtitles to videos, resources on image-to-speech conversion and a digital version of the book "Accessibility of digital scientific publications" (Ferreira, 2022) for authors and editors. This resource is provided to raise awareness, promote and guide the adoption of accessibility practices by the staff and professors.

Teacher training was also addressed with internal orientation courses on the topic of inclusion in higher education. However, the most recent course only attracted two professors which signaled the need of larger engagement of the teaching community on this issue. Continuous

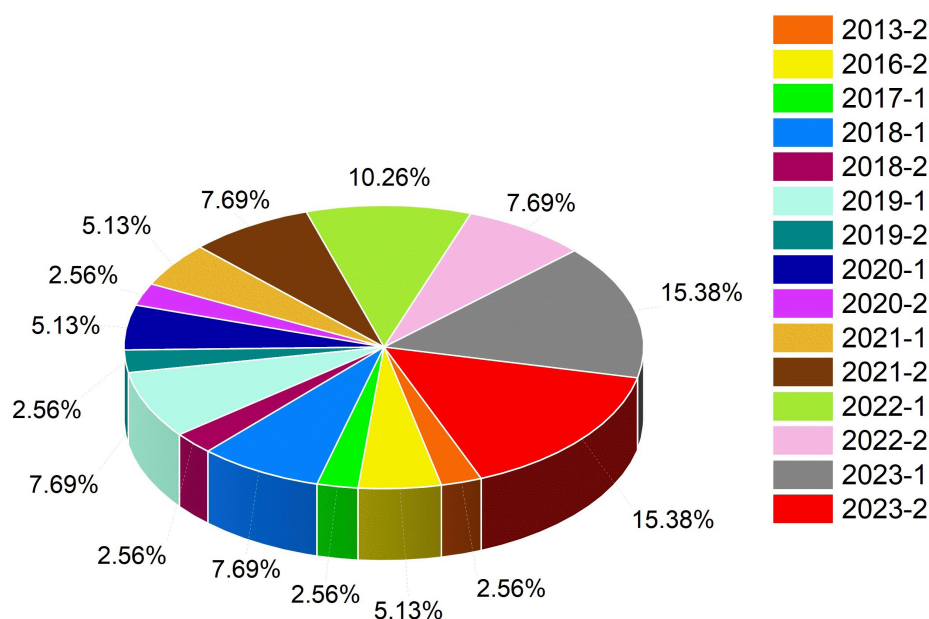


Figure 4. Breakdown of special education student admissions over the period of this study.
Source: Elaborated by the authors.

training provides professors with the necessary abilities to implement inclusive practices in their work (Nga Anna Ng et al., 2023; Bakogiannis, 2024).

Interview with student of the Civil Engineering program

The student interview for this study was male, enrolled in the 9th semester of the Civil Engineer program and had been identified as having disabilities since 2008. This was his first undergraduate degree and he was admitted at the university in 2019. The choice of civil engineering was due to his past work as a carpenter prior to 2008 during which he was in constant contact with civil construction professionals and architects. After being diagnosed with physical disabilities, he sought a new profession that would allow work despite his disabilities and provide technical knowledge on physical accessibility. To him, education was a path to improve quality of life for himself and his family.

In the first few semester of the Civil Engineering program, the student faced challenges with class content, especially calculus. One of the reasons was his long hiatus from school since he had completed secondary education in 2002. However, the university offered support through teaching assistants and he also received help from his classmates, for which he was grateful from being so welcoming and accepting of his situation.

At the halfway point of his degree, he developed an interest in projects related to physical accessibility and sought to make this his career focus. Currently, he participates at a university project that evaluates physical accessibility on campus and forwards the findings to school administration. The student stressed the awareness raised by this project since only people directly affected with reduced mobility could identify critical accessibility issues. This project also recorded videos demonstrating the difficulty of access and the need of improvements or repair to infrastructure such as uneven sidewalks and lack of tactile surfaces in some areas of the university campus.

During the global pandemic the student reported improvements in learning. The student faced difficulties in a traditional classroom environment due to upper limb disabilities limiting his ability to write. However, online classes allowed greater freedom and allowed pauses for note taking. Consequently, there were no drawbacks from this period and the student even felt better prepared than previously when classes returned to the traditional format.

At the time of the interview, the student utilized support from CAED through an occupational therapist. The university also provided him with transportation when off-campus activities are conducted.

Regarding the teaching staff, the student reported that most professors were quite accessible and willing to go meet with him to answer doubts. However, physical accessibility to professor's offices and classrooms remained in need of improvement.

Post-graduation plans were to continue his studies into a master's and doctorate. The objective was to become a technical reference in physical accessibility and participate in conferences, debates and hearings on standards in order to promote accessibility around the country.

Regarding standard NBR 9050 (Associação Brasileira de Normas Técnicas, 2021), the student noted that it established only minimum requirements for accessibility and some recommendations should have been addressed with participation of people with disabilities. For example, the standard minimum door clear width requirement of 80 cm was, based on his experience, insufficient depending on the type of wheelchair. This was an example of the standard not fully accounting to the diverse needs of people with disabilities and should be corrected since physical accessibility had the potential to significantly affect quality of life, both positively and negatively.

Finally, the student pointed out that although physical accessibility was being addressed nowadays, it should not be allowed to become a temporary fad. Significant delays still occurred in implementing inclusive initiatives and disability should not be associated to persons but to the spaces that were improperly projected to not be inclusive. Accessibility should not be a privilege but a fundamental right.

FINAL CONSIDERATONS

This study confirmed that governmental entities have developed public policies to make higher education more inclusive. These policies addressed admission, enrollment and graduation of special education students from undergraduate programs. However, in addition to directives and laws, higher education institutions must implement effective initiatives. To this end, deeper knowledge regarding student needs was needed so that more efficient strategies could be implemented and expanded to increase engagement and promote academic advancement.

A citation analysis determined that advances in inclusive education were directly related to the level at which this topic was debated and researched in each country. These promoted updates to legislation and allowed the evolution towards a more accessible educational system. The United States led the world with the most publications and number of citations on the topic while Brazil held only the 15th place in number of citations. This denoted a need of greater international recognition and relevance of studies conducted in Brazil on this topic.

At the university evaluated by this study, several institutional directives promoted accessibility and specific offices provided support to students. There was an overall concern over the practical application of inclusive education with periodic reviews of initiatives focused on continuing enrollment of these students. In these reviews, it was essential the participation and engagement of special education students in order to ensure that their needs were being addressed and ensuring their rights.

Interviews conducted at the university indicated that there were qualified staff to attend special education students and specific administrative offices responsible for integrating projects and initiatives and monitor the conditions of each student. According to the special education student interviewed, the university was receptive to physical accessibility needs but implementation was often slow due to bureaucratic processes.

Regarding teaching, specific initiatives to address student's classroom needs were identified. However, the attendance of teaching staff in orientations and events targeted at understanding diversity was deemed low and denoted a need for greater awareness and engagement of these activities.

Thus, it was the conclusion that there was still a long road until the university could become fully inclusive. To achieve this objective, all barriers had to be eliminated and prejudice and excluding attitudes must be deconstructed. This collective and permanent process required full social and institutional commitment.

It should be noted that this study was grounded on Brazilian geopolitical realities and evaluated a single higher education institution. However, the methodology used could be adapted to other locations, be it other Brazilian institutions or countries with similar characteristics such as those in South America.

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APCQ: Conceptualization, Methodology, Data collection, Data analysis, Writing of the text. RQR: Writing, Data analysis, Review. JAOF: Supervision, Project administration, Review.

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