


## Accessibility and equity: a look at the experience of deaf students in higher education


### Acessibilidade e equidade: um olhar para a experiência de acadêmicos surdos na educação superior

### Accesibilidad e igualdad: una mirada a la experiencia de los estudiantes sordos en la enseñanza superior

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**Abstract:** This paper focuses on the inclusion of deaf students in higher education. This study aims to analyze the perceptions of deaf students in an undergraduate program concerning their experiences in higher education. A qualitative survey was conducted using semi-structured interviews with two deaf students from a pedagogy course, and the data were interpreted through content analysis. Among the main results, it was found that: i) accessibility: lack of teaching materials adapted to Brazilian Sign Language (Libras), limited presence of Libras interpreters in class, and absence of assistive technologies; ii) inclusion: difficulties in interacting with teachers and classmates, coupled with weak institutional support; iii) academic performance: lack of curricular adaptations and inclusive teaching methodologies; iv) overall satisfaction: specific adaptations made to materials and support from teachers and classmates as key factors for their success (learning). Finally, it is concluded that sharing experiences among students can foster the creation of support and collaboration networks, contributing to a more cohesive and inclusive university community.

**Key words:** Inclusive education. Libras. Degree.

**Resumo:** Este artigo tem como tema a inclusão de estudantes surdos no contexto do Ensino Superior. De tal modo, tem por objetivo analisar as percepções de acadêmicos surdos de um curso de graduação em relação às experiências vivenciadas na Educação Superior. Realizou-se uma pesquisa qualitativa do tipo levantamento com uso de entrevista semiestruturada com participação de dois acadêmicos surdos de um curso de Pedagogia, sendo os dados interpretados por meio da análise de conteúdo. Dentre os principais resultados, verificou-se que: i) acessibilidade: falta de materiais didáticos adaptados em Libras, a presença limitada de intérpretes de Libras nas

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aulas e ausência de tecnologias assistivas; ii) inclusão: dificuldades na interação com professores e colegas somado à fragilidade no suporte institucional; iii) desempenho acadêmico: carência de adaptações curriculares e metodologias de ensino inclusivas; iv) satisfação geral: as adaptações pontuais realizadas nos materiais e o apoio de professores e colegas como fatores principais para o sucesso (aprendizagem) deles. Por fim, conclui-se que a troca de experiências entre os acadêmicos pode fomentar a criação de redes de apoio e colaboração, contribuindo para uma comunidade universitária mais coesa e inclusiva.

**Palavras-chave:** Educação inclusiva. Libras. Graduação.

**Resumen:** Este artículo científico trata sobre la inclusión de estudiantes sordos en el contexto de la educación superior. Por lo tanto, su objetivo es analizar las percepciones de los estudiantes sordos de un curso de grado en relación con sus experiencias en la educación superior. Se realizó una investigación cualitativa del tipo encuesta con el uso de entrevistas semiestructuradas con la participación de dos estudiantes sordos de un curso de Pedagogía y los datos se interpretaron mediante el análisis de contenido. Entre los principales resultados se observó que: i) accesibilidad: falta de materiales didácticos adaptados al lenguaje de signos brasileño, presencia limitada de intérpretes de lenguaje de signos brasileño en las clases y ausencia de tecnologías de apoyo; ii) inclusión: dificultades en la interacción con profesores y compañeros, además de la fragilidad del apoyo institucional; iii) rendimiento académico: falta de adaptaciones curriculares y metodologías de enseñanza inclusivas; iv) satisfacción general: las adaptaciones puntuales realizadas en los materiales y el apoyo de profesores y compañeros como factores principales para su éxito (aprendizaje). Por último, se concluye que el intercambio de experiencias entre los académicos puede fomentar la creación de redes de apoyo y colaboración, contribuyendo a una comunidad universitaria más cohesionada e inclusiva.

**Descriptor:** Educación inclusiva. Libras. Programas de grado.

## Introduction

In the essence of inclusive education, the goal is to create educational environments that recognize, respect, and meet the diverse needs of students, regardless of their abilities or characteristics. In this way, inclusive education goes beyond mere access, as it recognizes the need to transform the educational system into a truly inclusive and equitable space, promoting not only enrollment but also the effective participation of all students.

Inclusive education is strengthened by the existence of special education, which for years has developed studies, resources, and strategies to promote learning among those considered 'unable' (Prais, 2020). In this context, in Brazil, the target audience for special education (students with disabilities, global developmental disorders, and high abilities/giftedness (Brazil, 2008) has been assured a set of support and services aimed at guaranteeing their inclusion in regular classrooms. Among the students targeted by special education are deaf students, who are the focus of this research.

Throughout history, the deaf community has faced numerous barriers in the pursuit of quality education, such as the lack of recognition of the sign language as a legitimate form of communication, the imposition of the oralist approach — which favors speech over sign language — and the scarcity of adapted educational resources. In addition, the social stigma associated with deafness contributes to discrimination and isolation, hindering access to schooling and full participation in society (Campello, 2007).

According to Jacinto (2021), the inclusion of deaf people in inclusive schools has several consequences: the lack of a linguistic environment in which to learn sign language; the lack of professionals and peers fluent in this language; inadequate methods for teaching the written form of Portuguese; and the difficulty in acquiring curricular knowledge due to the lack of a language of instruction and interaction with other students. Therefore, developing language skills and acquiring curricular knowledge in conditions appropriate for deaf students becomes the focus in this process.

Oliveira (2022) points out that the lack of interaction with their peers can hinder the autonomy and empowerment of deaf people, potentially leading to a situation of segregation, similar to past practices that sought to weaken their identity and independence. Jacinto (2021) points out that attitudinal and structural barriers, such as those found in the school environment, can result in isolation, educational delays, and dropouts. Thus, Quadros (2003) states that quality education is essential to empower deaf people; however, there are still challenges to overcome these barriers, especially considering that, in Brazil, the educational system has historically prioritized oral-based approaches, to the detriment of deaf culture and Brazilian Sign Language (Libras).

It should be clarified that Article 2 of Decree No. 5,626 (Brazil, 2005) defines a deaf person as someone who interacts with the world mainly through visual experiences, using Libras as their primary form of communication. Libras was officially recognized as a language by Brazil in Law No. 10,436 (Brazil, 2002), establishing it as the means of expression and communication for the deaf community, with written Portuguese being taught as a second language. This legislative recognition is an important step toward promoting inclusion and equity for deaf people.

Thus, deaf people use Libras, a visual-spatial language that incorporates the needs of the deaf community into its own form of communication. According to Avelar (2016, p. 13):

[...] Deaf people who have Libras as their first language (L1) and Portuguese as their second language (L2) are considered bilingual. In order for deaf students to achieve this bilingual status, schools must offer bilingual education (Libras/Portuguese), using bilingual teaching methods.

Complementing this perspective, Quadros & Karnopp (2004) emphasize that bilingualism for the deaf is not limited to the acquisition of two languages but involves the recognition of two cultures — the deaf and the hearing — with the school acting as the mediator of this encounter. This concept shifts the focus from disability to difference, promoting pedagogical practices that value Libras as the language of instruction and Portuguese as a second language.

In summary, this linguistic duality lies in understanding bilingualism and valuing linguistic and cultural diversity. This approach recognizes Libras as a legitimate language, distinct from Portuguese.

Recognizing this linguistic duality is fundamental to promoting inclusive and equitable education, respecting and valuing linguistic and cultural identities.

Mesquita (2018) emphasizes the importance of recognizing bilingualism, highlighting that each language offers a unique view of the world. Valuing Brazilian Sign Language (Libras) as a language distinct from Portuguese not only promotes inclusion but also celebrates cultural diversity, which contributes to inclusive and equitable education. However, it is questionable whether the current educational model is truly capable of providing effective education for the deaf community, respecting and promoting its cultural and linguistic uniqueness.

According to Skliar (1998), thinking about the inclusion of deaf people implies understanding that they belong to a linguistic and cultural minority, whose identity is constructed through visual experience and sign language. In this sense, Strobel (2008) argues that deaf culture must be recognized and valued in pedagogical practices so that the school environment can truly become a space for intercultural dialogue.

Rezende (2012) attributes the reluctance to accept deaf culture to historical violence against this group, such as the denial of rights and the imposition of oralist policies. Skliar (1998) adds to this, highlighting that this resistance is based on a pathologizing view of deaf people, rather than recognizing them as a legitimate cultural community.

However, in the contemporary context, discussions about accessibility and equity are expanding, reflecting a global movement toward inclusion and the appreciation of diversity, as Silva (2024) argues. This movement is linked to multiculturalism, which transforms the acceptance of minority cultures. Multiculturalism can be understood as a perspective that recognizes and values the coexistence of different cultures within the same society, advocating respect for cultural identities and equal rights among different social groups. This approach seeks to promote intercultural dialogue and combat discriminatory practices that marginalize ethnic and cultural minorities (Hall, 2003).

According to Silva (2021), multicultural education seeks to restore cultural values and ensure equal rights and opportunities, promoting the overcoming of social and communicative barriers. Deaf multiculturalism, in turn, values the culture of the deaf community, including its language, history, and traditions, and defends the right of deaf people to participate fully in society, as highlighted by Navegantes, Kelman e Ivenick (2016). Education must be inclusive, respecting this linguistic and cultural diversity, to avoid limiting deaf identities.

The pursuit of an inclusive and equitable society is a global goal, with Brazil, a signatory to the Salamanca Statement (UNESCO, 1994), committing to creating inclusive educational policies and promoting adaptive teaching practices. This statement is a milestone for inclusive special education, recognizing that all students, including those with disabilities, should have their learning needs met.

Between 2012 and 2022, Brazil saw a 199.3% increase in enrollments of students targeted for special education in higher education, according to data presented by the Anísio Teixeira National Institute for Educational Studies and Research (Inep, 2022). In addition, 2,591 people with deafness enrolled in undergraduate courses, representing 3.06% of the enrollment of target students enrolled in 2022, with a total of 4% in 2023 and 2024 (Inep, 2023; 2024). These figures highlight the need to analyze the barriers that persist for deaf people to access higher education fully and equally.

Higher education, by its very nature, should provide an intellectually challenging and socially enriching environment, but for deaf students, access is often limited by structural barriers and inappropriate attitudes. Communication difficulties, a lack of specific resources, and a lack of understanding of individual needs create a scenario of unequal opportunities. Jacinto (2021) points out that, in practice, the Portuguese language predominates in Brazilian education, especially in materials and assessment methods, while bilingualism, which is essential for teaching deaf people, is still little discussed, hindering the development of the academic literacy skills necessary to adapt to this environment.

Lourenço (2023) highlights that the educational system continues to be inefficient in integrating deaf students, pointing to the lack of trained professionals, the lack of public policies, the scarcity of teaching materials, and the absence of appropriate pedagogical practices, all of which are factors that hinder the inclusion of these students in the academy, thus limiting the scope of knowledge they can acquire.

According to Perlin (1998), the inclusion process is only effective when teaching practices are based on recognizing deaf differences and valuing their language and culture. Lacerda (2006) reinforces that the work of interpreters and bilingual teachers is essential for communication mediation and the academic success of deaf students in higher education.

In higher education, accessibility and equity play fundamental roles in the inclusion of deaf students, a historically marginalized group. According to Lodi and Lacerda (2009), Libras is essential to ensure that these students have access to written language and participate in academic practices, promoting communication and interpretation of materials. The focus on accessibility has increased, with an emphasis on ensuring that everyone, regardless of their abilities, can fully participate in academic and social life.

Law No. 13,146/2015, in its Article 3, defines accessibility as a fundamental human right and an ethical principle, encompassing attitudinal barriers and communication, including Libras as a legally recognized form of interaction. Furthermore, equity, as emphasized by Barros (2016), is the practice of eliminating disparities, ensuring equal access to rights in a fair manner, and considering the individual needs of each student.

Accessibility, according to Law No. 10,090/2000, involves the possibility of safe and autonomous use of and access to spaces, equipment, and services, ensuring the full participation of people with disabilities. Carneiro e Leite (2017) expands on this concept, highlighting that accessibility goes beyond the physical aspect, including communication and information, ensuring that everyone can understand and access materials and media. Technological advances have facilitated this process, especially for the deaf community, with resources such as sign language interpreters.

In short, accessibility is crucial to ensuring equity in opportunities and social participation, respecting diversity, and promoting dignity and autonomy for all. UNESCO (2019) emphasizes that equity in education requires that all students be treated fairly, ensuring equal opportunities. The implementation of policies that promote these principles is essential to creating a more just and inclusive society.

Given this context and conceptual starting point, we recognize that promoting accessibility and equity in higher education is essential to ensuring that deaf students have a full educational experience. The inclusion of these students is not only an ethical imperative but also contributes to the diversity and enrichment of the academic environment.

Thus, the problematic question of this research emerges: What challenges do deaf students face in their process of inclusion in higher education? To this end, we have listed as our main objective the analysis of the perceptions of deaf students in a pedagogy course regarding their experiences in higher education.

Following this, this paper is structured into the following sections: methodology, presenting the type of research, location, participants, procedures, data collection instruments, and analysis technique; results and discussion, which analyzes the participants' profiles, schooling process, and academic experience at the university; and finally, we present our final considerations, based on the response to the problem and objective proposed in this study.

## **Methodology**

This study is part of the Research Project entitled "LIBRAS in all hands: a space for training and dissemination of Brazilian Sign Language," approved by the Research Ethics Committee (CEP) with Opinion No. 5,439,410, linked to the Research Group on Inclusive Education and Methodological Accessibility (GPAM).

Qualitative research was conducted for this study, in accordance with Leão (2017). This type of research consists of collecting information from a group of people regarding their perceptions of a topic defined by the researcher, which is carried out through interviews. To this end, it adopts the

inductive method in which this study starts from particular data (statements, experiences, perceptions of participants) to construct general understandings or inferences about the phenomenon studied.

As discussed by Leão (2017), interviews in qualitative research are a complex mechanism that poses several challenges for researchers. They serve as a means of accessing the dynamics of social groups and allow interaction with the individuals involved. However, there is an intersection between the reality expressed and the researcher's interpretation.

Martins (2018) complements this view, highlighting the advantages of interviews in the scientific research process, such as their adaptability and ability to explore responses, motivations, and emotions in depth. Developing a well-planned script with guiding questions is essential to encourage the interviewee to provide valuable information for the specific study.

Based on this type of research, Table I presents the stages and a description of the activities that were developed in this research.

TABLE I – Development of the stages of qualitative survey research

Stages	Description
Specification of objectives	Analyze the perceptions of deaf students in an undergraduate course regarding their experiences in higher education.
Operationalization of variable concepts	Analyze the perceptions of deaf students in an undergraduate course regarding their experiences in higher education. Accessibility: Verification of the availability of teaching materials in Brazilian Sign Language, the presence of Brazilian Sign Language interpreters in classes, and access to assistive technologies. Inclusion: Evaluation of interaction with teachers and colleagues, institutional support, and accessibility in the academic environment. Academic Performance: Identification of difficulties and advantages in the learning process and curricular adaptation. Overall Satisfaction: Measurement of students' perceptions of the adequacy of inclusion policies and the academic environment in general.
Development of data collection instruments	Semi-structured interview with 10 questions.
Sample selection	Intentional sample: deaf students from a university located in the North Region of Brazil, studying pedagogy.
Data collection and verification	Interview conducted by: Interviewer, interviewee, and Sign Language Translator and Interpreter - Portuguese (TILSP).
Data analysis and interpretation	Content analysis (Bardin, 2016): I) Pre-analysis: Skimming and organization of the data found. II) Exploration of the material: Coding, categorization, and thematic analysis of the responses. III) Treatment of results: Interpretation and synthesis of the data into meaningful categories.
Data presentation	Categorization of data into main themes.

Source: Prepared by the author (2024), based on Leão (2017).

Based on the description of the survey research stages outlined in Table I, we clarify that the research instrument used was a semi-structured interview for data collection in a survey. This is a qualitative technique that utilizes a pre-established set of questions, while also offering flexibility to

explore emerging topics during the interview. This method allows the researcher to ensure that all important points are addressed, while enabling a deeper exploration of interesting or unexpected responses that arise during the conversation. The semi-structured approach is especially valuable when seeking to understand the nuances and complexities of participants' experiences, opinions, and behaviors, providing a wealth of data that can reveal meaningful insights for the study.

The interview was recorded (audio and video), with video of the interviewee (a deaf person signing in Libras) and the voice of the TILSP performing the translation. The audio was then transcribed for reading and analysis. It should be noted that the sample size was limited to deaf students at a federal university located in northern Brazil, namely, two undergraduate students, both studying pedagogy. We observed that there were no deaf students enrolled in the other courses offered during the period in which the research was conducted.

To interpret the data, a Content Analysis was performed, according to Bardin's (2016) procedures, which is divided into three stages: I) Pre-analysis, which involves skimming and organizing the data; II) Exploration of the material, with coding, categorization, and thematic analysis of the responses; and III) Treatment of the results, with interpretation and synthesis of the data into meaningful categories.

Content analysis is a qualitative technique that seeks to interpret and understand textual or visual data systematically and objectively. It involves coding data into thematic categories, allowing for the identification of patterns, trends, and relationships, and facilitating the interpretation of results according to the research objectives.

## **Results and discussion**

For the presentation of results and discussion, the data were categorized into three categories, namely: i) Participant profile; ii) Schooling process; iii) Academic experience at university.

### **I) Participant profile**

As mentioned above, two deaf students from a pedagogy course participated in the research, one a 26-year-old female and the other a 21-year-old male.

It should be noted that Undergraduate 1 already had a degree in Language studies and Libras, and she was in the seventh semester of her second degree in pedagogy. Undergraduate 2, on the other hand, was in his fifth semester of the pedagogy course, and it was his first degree.

The history of deaf education and the movement for inclusive education have emphasized the importance of environments that recognize and respect the linguistic and cultural needs of deaf people.

The bilingual approach, which values both sign language and oral/written language, is advocated as crucial for the integral development of deaf students (Avelar, 2016; Quadros, 2003).

However, access to higher education for deaf people is an important step towards full inclusion and equal opportunities. Brazilian legislation, such as Law 10.436/2002, recognizes the importance of Libras and promotes access for deaf people to different levels of education (Brazil, 2002; Brazil, 2005).

## II) Schooling process

During the schooling process, it was observed that both participants faced significant challenges related to accessibility and curriculum adaptation. While Undergraduate 1 benefited from her previous experience and a teaching environment that was more adapted to her schedule, Undergraduate 2 had to work hard individually to overcome difficulties in understanding academic content, highlighting the need for continuous and effective educational support.

Thus, as has been observed, the participants in this study completed high school in different years, reflecting different educational stages and contexts. Undergraduate 1 completed high school in 2013, while Undergraduate 2 completed it in 2020. Both received their basic education in inclusive schools, suggesting that they attended institutions that strove to provide an accessible and equitable educational environment.

In the case of Undergraduate 1, who completed high school in 2013, it is possible that she faced an educational scenario in transition, with inclusion policies still being consolidated. The experience in an inclusive school may have provided an important foundation, although the challenges of accessibility and curriculum adaptation were more pronounced at that time.

On the other hand, Undergraduate 2, who completed high school in 2020, likely benefited from a more mature implementation of inclusion policies. The inclusive school they attended may have offered better resources and support, reflecting an advancement in inclusive educational practices over the years.

Despite the time difference in completing high school, both participants shared the experience of attending inclusive schools, which highlights the importance of an educational environment that promotes the effective participation of all students. However, the evolution of inclusive practices over the years may have provided different experiences and challenges for each, influencing their academic trajectories and their perceptions of accessibility and inclusion in higher education.

It is worth mentioning that the participants in this study entered their undergraduate programs in different years, reflecting their academic trajectories and decisions. Undergraduate 1 completed the Language studies and Brazilian Sign Language program in 2016. After that, she enrolled in the Food Engineering program. However, after taking a few disciplines, she realized that the program did not

match her professional profile and decided to change fields. In 2017, she transitioned to the pedagogy program, which was better aligned with her interests and future goals, especially in teaching Libras to deaf children.

In contrast, Undergraduate 2 enrolled in undergraduate studies in 2021, coming from an inclusive school, indicating an educational experience that already involved inclusion and support practices. This direct path to university, immediately after completing high school, suggests continuity in their education, taking advantage of the previously established inclusive foundation to face the challenges of higher education.

These different trajectories show how individual experiences and decisions can influence academic paths. While Undergraduate 1 found her true calling after changing courses, Undergraduate 2 followed a more linear path, possibly benefiting from more recent preparation in an inclusive environment. Both stories highlight the importance of flexibility and support in the university environment to meet students' needs and aspirations.

Undergraduate 1 chose to study pedagogy to become a teacher and work with deaf children, especially teaching them Brazilian Sign Language. Her choice was driven by her passion for education and her desire to promote inclusion, in line with her future goals of contributing to the development of these children.

Undergraduate 2, on the other hand, chose his undergraduate course out of genuine interest and a desire to deepen his knowledge. His motivation was the pleasure of learning and the desire to explore his field of study at a deeper level, demonstrating a commitment to intellectual and personal development.

These distinct trajectories demonstrate how students align their personal interests with their academic and professional choices. While Undergraduate 1 has an approach more focused on inclusive education, Undergraduate 2 follows an exploratory approach to knowledge.

Undergraduate 1 - Because the education course enabled me to become a teacher and work in the field of teaching deaf children in Libras (Brazilian Sign Language) to deaf children, which was more in line with my profile, my professional profile for the future.

Undergraduate 2 - Because I liked it, I wanted to learn for the sake of learning.

The literature on inclusive education for deaf students emphasizes the importance of providing teaching materials in Brazilian Sign Language (Libras), the constant presence of Libras interpreters in the classroom, and access to assistive technologies as crucial elements for the effective inclusion of deaf students (Prais, 2020; Campello *et al.*, 2012).

Undergraduate 1 decided to change courses to pursue an education more aligned with her professional and personal aspirations, especially in teaching Libras to deaf children. Her choice reflects an awareness of the importance of promoting bilingual education and valuing the cultural identity of deaf people. Undergraduate 2, on the other hand, chose pedagogy motivated by a genuine interest in learning, which suggests an intrinsic motivation focused on inclusive education.

The appreciation of deaf culture and the promotion of bilingualism are essential for training professionals to work in deaf education, ensuring quality education that respects the identity of these students (Mesquita, 2018; Silva, 2024). Bilingualism, which involves proficiency in Libras and the dominant spoken/written language, is fundamental for the academic and social development of deaf students. However, although both Undergraduates 1 and 2 are studying pedagogy, they are not enrolled in an explicitly bilingual course, which limits their training in order to completely meet the needs of deaf students.

Deaf culture, focused on Libras, needs to be valued and recognized to create an inclusive educational environment. The inclusion of Libras in the curriculum is a step forward, but academic training needs to provide a deeper immersion in bilingualism, integrating both languages and cultures. Professionals with bilingual training are better able to integrate Libras and Portuguese, which helps deaf students learn.

However, the lack of specific bilingual training in pedagogy courses represents a significant gap in the preparation of future educators. For inclusive education to be effective, it is essential to implement bilingual training programs that cover both proficiency in Libras and an understanding of bilingual pedagogy (Avelar, 2016; Quadros, 2003). The absence of such training can limit educators' ability to meet the needs of deaf students and perpetuate barriers to inclusive education.

The literature points out that the difficulties faced by deaf students are often related to the lack of adequate linguistic environments and adapted teaching methods (Jacinto, 2021; Oliveira, 2022). The participants' experiences confirm the need for more effective curriculum adaptation and specialized support, highlighting that the choice of course by Undergraduate 1, for example, reflects a search for this type of adaptation.

Furthermore, the satisfaction of deaf students is closely linked to the adequacy of inclusion policies and the academic environment, which should value their needs and identity (Brazil, 2005; Quadros, 2003). Although satisfaction was not directly mentioned, the reasons for choosing courses indicate a search for environments that better meet their needs.

Despite advances in public policies aimed at inclusive education in Brazil, such as the National Policy on Special Education from the Perspective of Inclusive Education (Brazil, 2008) and Decree No.

5,626 (Brazil, 2005), students' reports highlight the gap between what is provided for in the regulations and what is actually implemented in everyday school and university life.

Undergraduate 1 - I had a lot of difficulty because I didn't have an interpreter. I didn't have one at all. When I enrolled, I was the first deaf person to enroll at this university. When I arrived, I tried to ask for help, I made several requests, I filed documents, and I didn't succeed. We went to the public prosecutor's office, to the courts, to try to get help, and then an interpreter arrived.

Academic 2 - So, I studied a lot, often alone, I read a lot, I trained a lot to be able to understand, to have clarity, and I managed to develop and understand better.

The intermittent presence of interpreters, the scarcity of accessible materials, and the lack of adapted curricula demonstrate that, although guidelines are in place, their implementation often depends on the individual efforts of deaf students to ensure their continued attendance and academic success. This reality creates a contradiction between the institutional discourse of inclusion and fragmented practices that often neglect the linguistic and cultural diversity of deaf people.

The trajectory of Undergraduate 1, who had to resort to the Public Prosecutor's Office to secure her rights, illustrates a model of inclusion that still functions on demand rather than as part of a systematic structure. This highlights a structural problem: inclusive policies, although legal, are not properly accompanied by effective mechanisms for oversight, funding, and continuing education for the professionals involved. Furthermore, the need to resort to the courts shows how the rights of deaf students continue to be treated as an exception rather than the rule within universities. This scenario reinforces the criticism that inclusion, in many contexts, remains at the level of intention, without being realized equitably and universally.

On the other hand, the experience of Undergraduate 2, who faced difficulties understanding the content and had to invest in independent study, points to an institutional omission in specialized pedagogical support. Even though he came from a more recent inclusive school, with supposedly more consolidated policies, his previous education did not sufficiently prepare him for the challenges of higher education. This shows that simply attending an inclusive school does not, in itself, guarantee the quality of inclusion. These institutions need to develop consistent bilingual practices, with infrastructure, trained human resources, and adapted curricula, so that deaf students not only attend school but actually learn on an equal footing.

Therefore, analysis of the experiences of the two students reveals that the success of inclusion policies depends on their concrete implementation, with investment in linguistic accessibility, teacher training, and individualized pedagogical support. The contrast between what the guidelines propose and what students experience demonstrates that the effectiveness of inclusion lies not only in written policies but in their translation into sensitive, coherent, and continuous educational practices. For

inclusion to cease being a distant ideal and become an everyday reality, more than political will is needed. A firm institutional commitment is required, one that goes beyond legal compliance and is based on educational justice and respect for the unique characteristics of deaf individuals.

Finally, the comparative analysis reveals that, although the theoretical principles of inclusive education are well established, there are still significant gaps in practice. The accessibility of teaching materials, effective inclusion, and the satisfaction of deaf students depend on the consistent implementation of inclusive policies, with ongoing support. The experiences of participants indicate progress, but also persistent challenges, reinforcing the need for an ongoing commitment to improving inclusive educational practices.

### III) Academic experience at university

The 26-year-old Undergraduate 1 has previous experience in the field of education, having graduated with a degree in Language studies and Libras, which has given her a solid foundation for tackling academic challenges. The 21-year-old Undergraduate 2, despite not having the same experience, has shown resilience and determination in overcoming barriers in the learning process and social interaction.

The academic experience of deaf students at university involves significant and varied challenges, ranging from adapting to academic content to social interaction and access to educational materials and support. The responses of Undergraduates 1 and 2 reveal different perspectives and strategies for overcoming these difficulties.

Regarding difficulties in the learning process, Undergraduate 1, due to her previous experience working in schools, reports that she did not encounter any major difficulty in learning the academic content. Her familiarity with the educational environment and teaching methods contributed to a smoother adaptation to the pedagogy course.

In contrast, Undergraduate 2 faced difficulties from the outset and continues to struggle with understanding academic content. This student had to devote extra time to studying by himself and practicing reading, which eventually helped him improve his comprehension and academic performance.

From a social interaction perspective, Undergraduate 1 initially encountered barriers, as her classmates had never had contact with a deaf person before. However, with time and effective communication, she was able to integrate and establish a closer relationship with the other students. Undergraduate 2 also faced a significant communication barrier at first but managed to overcome it by teaching basic Libras signs to his classmates, which considerably improved communication and social interaction.

In terms of participation in academic activities, it was observed that both students encountered significant challenges, but for different reasons. Undergraduate 1 initially had only one interpreter, which limited her full access to activities. With the help of a classmate who knew a little sign language, she was able to interact better with other students. Undergraduate 2, on the other hand, had difficulty understanding the readings and materials, but compensated with a lot of study and practice. His persistence in reading and training on his own helped him develop a better understanding of the content.

Regarding access to materials, Undergraduate 1 faced significant problems related to the lack of specific signs and the inadequate adaptation of materials, especially in technical subjects such as chemistry and mathematics. The limited availability of interpreters also contributed to these difficulties. Meanwhile, Undergraduate 2 did not report any difficulties in passing coursework but emphasized the importance of ongoing support from teachers and interpreters for his academic success.

Given these facts, the importance of educational support for the success of deaf students is clear. Undergraduate 1 was required to seek this support initially, even resorting to the Public Prosecutor's Office to ensure the presence of interpreters. Over time, the university increased the availability of interpreters and knowledge about deaf culture, significantly improving accessibility. Undergraduate 2, on the other hand, mentions that he always received help when needed, both from teachers and interpreters, which was essential to overcoming difficulties.

Both students actively sought help to overcome their difficulties. Undergraduate 1, in addition to relying on interpreters, sought to adapt her study strategies and communication with teachers. Undergraduate 2 also highlighted the importance of regularly asking for support and adapting content with the help of teachers and interpreters, especially in more complex subjects such as Neuroscience.

The academic experience of deaf students is marked by unique challenges that require adequate support and effective strategies to overcome. The presence of interpreters, the adaptation of materials, and the awareness of the university community are essential to creating an inclusive environment. The stories of Undergraduates 1 and 2 highlight the importance of a proactive approach by both students and educational institutions to ensure quality and inclusive education.

According to Prais (2020), adapting the educational system to meet the needs of students with disabilities is crucial for the effectiveness of inclusive education. Undergraduate 1, with prior training in Brazilian Sign Language, was able to adapt more easily to the pedagogy course. Her previous experience allowed for a smooth transition and more efficient access to academic content, reflecting the importance of specific prior training in overcoming educational barriers.

On the other hand, Undergraduate 2, who faced significant difficulties from the outset, exemplifies the common challenges faced by students without a solid foundation in Libras or adaptive

learning strategies. His need to devote extra time and practice reading reinforces Jacinto's (2021) perspective on the lack of an adequate linguistic environment for the development of academic skills. This highlights the importance of additional support and adapted teaching strategies to promote the academic success of deaf students.

The process of social integration is an essential aspect of inclusive education, as highlighted by Quadros (2003). While Undergraduate 1 encountered initial barriers in interacting with peers due to a lack of familiarity with the deaf community, she was able to overcome these barriers through effective communication and relationship building. This account is consistent with the importance of raising awareness and educating peers to promote the social inclusion of deaf students.

Undergraduate 2, who taught basic signs in Brazilian Sign Language to his classmates, demonstrated a proactive approach to improving communication and interaction. This reflects Oliveira's (2022) idea that coexistence and mutual understanding are fundamental to overcoming isolation and strengthening the empowerment of deaf students.

The difficulties faced by both students in participating in academic activities can be understood in light of the barriers described by Campello (2007). Undergraduate 1 faced problems with the limited availability of interpreters and the inadequate adaptation of materials, especially in technical subjects. This reflects the need for more robust support and more effective adaptations to ensure full accessibility to academic content, as mentioned by Rezende (2012) and Skliar (1998).

Academic 2, who managed to overcome difficulties through dedication and continuous support, illustrates the importance of constant and personalized support for academic inclusion. His statement highlights the relevance of a proactive approach and continuous support, as described by Mesquita (2018), who emphasizes the importance of bilingualism and the appreciation of linguistic and cultural identities.

Inadequate access to materials and the need for interpreters are central issues in inclusive education for the deaf, as pointed out by Decree No. 5,626/2005 and Law 10,436/2002. Undergraduate 1 had to fight for additional support and adaptation of materials, which reflects the difficulties described by Quadros (2003) regarding the influence of predominant pedagogical approaches and the need for specific adjustments for the deaf community.

The experience of Undergraduate 2, who received ongoing assistance from teachers and interpreters, highlights the effectiveness of tailored educational support and the importance of an inclusive approach to meeting the specific needs of deaf students.

The analysis of the academic experiences of the two deaf students demonstrates that the effectiveness of inclusive education depends on several interrelated factors, including the adaptation of materials, adequate support from interpreters, and awareness within the academic community. The

experience of Undergraduate 1, with a solid foundation in Brazilian Sign Language, underscores the importance of specific prior training, while Undergraduate 2 exemplifies the need for ongoing support and adaptive strategies to overcome difficulties. Both cases highlight the need for a proactive and adaptive approach to ensure truly inclusive, quality education, as discussed in the theoretical framework.

To promote truly inclusive higher education for deaf students, educational institutions must take concrete actions that include the implementation of specific assistive technologies, such as real-time transcription software (e.g., Hand Talk, AVA, Transcriber), videoconferencing platforms with support for Portuguese Sign Language translators and interpreters, and applications that assist with reading and writing in Portuguese. The availability of videos with translation into Brazilian Sign Language is also essential to ensure the accessibility of academic content (Oliveira, 2016). In addition, universities must have an adequate number of trained interpreters who accompany students not only in theoretical classes, but also in practical activities, research and extension activities, academic meetings, and institutional events (Jacinto, 2021).

Curriculum adaptation should be planned collaboratively, involving teachers, interpreters, educators, and deaf students themselves. This may include, for example, reorganizing content into smaller units, using visual aids and graphic diagrams to facilitate understanding of complex concepts, and designing assessment activities that respect the linguistic and cognitive specificities of these students. In highly complex subjects, it is recommended to use bilingual Libras–Portuguese glossaries, as well as to develop standardized technical signs, in partnership with the deaf community and specialists in the field, to minimize semantic gaps and promote greater understanding.

Another key point is the promotion of training activities for the academic community, aimed at raising awareness and literacy in Libras, such as regular Libras workshops/courses for teachers, technicians, and students, which can foster a culture of inclusion and belonging. The creation of permanent accessibility centers, which continuously monitor the implementation of inclusive policies, is a strategic measure to ensure that adaptations and support are not just one-off, but systematic. These actions, when implemented in a coordinated manner, contribute to the construction of a more equitable university environment, where deaf students can fully develop their academic and social potential.

## **Final remarks**

Accessibility should not be viewed merely as a corrective measure, but rather as a fundamental principle in the design and implementation of educational policies. Thus, it is imperative to create an environment where equity is not a distant aspiration, but a tangible reality for all students.

Returning to the research problem regarding the challenges faced by deaf students in their process of inclusion in higher education, it should be noted that four dimensions were considered: accessibility, inclusion, academic performance, and overall satisfaction.

The research revealed that accessibility is one of the main challenges for deaf students in the university environment. Both students mentioned the need for assistive technologies and emphasized that the mere presence of interpreters is not enough without the proper adaptation of study materials. The need for adequate institutional support is evidenced by Undergraduate 1's struggle to secure interpreters, highlighting the importance of robust institutional inclusion policies.

In terms of inclusion, interaction with teachers and classmates, and curricular adaptation proved equally essential. Undergraduate 1, with her previous experience in educational settings, was able to adapt easily, using her familiarity with the environment and teaching methods to overcome obstacles, as already demonstrated. In contrast, Undergraduate 2 faced significant communication barriers at the beginning, but his initiative to teach basic Libras signs to his classmates substantially improved social interaction.

In terms of academic performance, both students highlighted the need for ongoing support and curricular adaptation as critical factors for their success. The overall satisfaction of deaf students, therefore, is closely linked to the adequacy of inclusion policies and the academic environment in general. Students' positive perceptions of improvements in accessibility and inclusion, such as an increase in the number of interpreters and greater awareness of deaf culture, reinforce the need for ongoing institutional commitment to ensuring a truly inclusive and accessible educational environment.

We believe that the main objective of this study, which was to analyze the perceptions of deaf students in an undergraduate program regarding their experiences in higher education, was achieved by presenting an understanding of the barriers faced by two deaf students studying for a degree in pedagogy at a university in northern Brazil.

The results revealed an overview of the difficulties and institutional support available, offering valuable insights into the effectiveness of inclusion policies and the suitability of the academic environment to their specific needs.

Although this study has provided a comprehensive overview of deaf students' perceptions of their experiences in higher education, several areas remain unexplored or require further investigation.

Future research could focus on analyzing the effectiveness of specific assistive technologies, such as transcription software and sign language translation apps, in the learning process of deaf students. In addition, it would be important to evaluate the ongoing training and capacity building of higher education teachers to improve inclusion and pedagogical effectiveness. Compare the experiences of deaf students in different areas of knowledge to identify specific challenges and develop more effective support strategies. Exploring these students' participation in extracurricular activities and their integration into the academic community can provide insights into the impact on emotional well-being and academic success. Finally, a comparative study among higher education institutions could evaluate inclusion and accessibility policies, identifying best practices for effective implementation.

By highlighting the importance of sign language interpreters, the adaptation of teaching materials, and the use of assistive technologies, it is hoped that higher education institutions will become more aware and invest in resources that promote accessibility and the full inclusion of deaf students.

Another important aspect is raising awareness and training teachers and other education professionals. By highlighting the need for ongoing training to meet the demands of deaf students, research can encourage the creation of training programs that enable educators to use more inclusive teaching methodologies and strategies.

Furthermore, by providing a space for deaf students themselves to express their experiences and opinions, the research strengthens the voice and participation of this group in building a more just and equitable academic environment. Sharing experiences among students can foster the creation of support and solidarity networks, contributing to a more cohesive and inclusive university community.

Finally, the research aims to inspire future investigations into topics related to deaf education, expanding scientific knowledge, and promoting debates that result in increasingly inclusive educational practices. By identifying areas that need study and exploration, this research also paves the way for discoveries and advances in the field of inclusive education.

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