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Teaching Libras to a blind student in the Computer Science degree program: an experience report

Teaching Brazilian Sign Language (Libras) to a Blind Student in the Computer Science Undergraduate Program: An Experience Report

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SUMMARY

This experience report describes the process of teaching Libras to a blind student in the Computer Science undergraduate program at IFPE – Afogados da Ingazeira Campus. The research aimed to reflect on methodological practices, adaptations, and resources used, analyzing their successes and limitations. The methodology adopted consisted of semi-structured interviews with the teacher in charge and the student, complemented by observation of the pedagogical process. Strategies such as tactile Libras, production of embossed materials, use of audio description, adaptation of slides, and development of content in Braille and digital formats compatible with screen readers were applied. Support from the class, the work of the Support Center for People with Disabilities (NAPNE), and peer tutoring also contributed to the inclusive process. However, difficulties related to fine motor coordination, assimilation of facial expressions, and lack of time for practice outside of the school environment were identified. Despite the challenges, the study shows that, with appropriate strategies and ongoing teacher training, it is possible to promote the effective inclusion of students with visual impairments in Libras teaching. It is noteworthy that the inclusive process benefits not only the student with disabilities but the entire academic community, encouraging more accessible and reflective pedagogical practices.

Keywords: Libras. Tactile Libras. Assistive technology. Methodological adaptations.

ABSTRACT

This experience report describes the process of teaching the Brazilian Sign Language (Libras) course to a blind student enrolled in the Computer Science degree program at IFPE – Campus Afogados da Ingazeira. The study aimed to reflect on methodological practices, adaptations, and resources used, analyzing both achievements and limitations. The methodology included semi-structured interviews with the instructor and the student, along with observation of the teaching process. Strategies applied involved tactile Libras, production of embossed materials, use of audio description, adaptation of slides, and development of braille and digital content compatible with screen readers. Support from classmates, assistance from the Center for Support to People with Disabilities (NAPNE), and tutoring through the peer mentoring program also contributed to the inclusion process. However, challenges were identified regarding fine motor coordination, understanding of facial expressions, and lack of time for practice outside the classroom. Despite these difficulties, the study highlights that, with appropriate strategies and continuous teacher training, it is possible to effectively include visually impaired students in Libras education. Furthermore, the inclusion process benefits not only the student with a disability but the entire academic community, fostering more accessible and reflective teaching practices.
Keywords: Libras. Tactile Libras. Assistive technology. Methodological adaptations.

1. INTRODUCTION

The Libras discipline has become a mandatory curricular component in degree, and optional in other higher education courses, as of decree 5.626/2005.

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This discipline is important in teacher training, since the teaching and learning process learning of a deaf student is different from that of hearing students. Language Brazilian Sign Language - Libras is recognized as a Language by Law No. 10,436/2002, which states:

> Brazilian Sign Language - Libras is understood as the form of communication and expression, in which the linguistic system of a visual-motor nature, with a structure their own grammatical structure, constitute a linguistic system for transmitting ideas and facts, originating from communities of deaf people in Brazil (BRASIL, 2002).

Because it is a language of visual-motor nature, the use of the sense of sight is essential for learning this language. However, learning for students with visual impairment is possible through specific strategies and methodologies. This is the base scenario of the experience report that was experienced at the Federal Institute of Education, Science and Technology - IFPE campus Afogados da Ingazeira, in the semester of 2022.2. A student with total blindness, enrolled in the Computer Science Degree course, during the period night, took the Libras course, a mandatory curricular component of the eighth period, with a total workload of 60 hours.

This experience report aims to reflect on methodological practices used and the adaptations made, observe how successful or not these strategies were, as well as propose possibilities for better pedagogical practice in future scenarios. This reflection will be based on an interview with the teacher and the student, both involved in the process of teaching and learning.

2 THEORETICAL FRAMEWORK

Libras is the natural language of deaf people, it is not universal, it is not artificial, it has its own grammar, is complex and complete. It is not a signed version of the language Portuguese, according to Audrei Gesser (1971, p.33): “Sign language has its own structure, and it is autonomous, that is, independent of any oral language in its linguistic conception”. The The origin of Libras came from French sign language, that is, its origin comes from another sign language and not in an oral language, such as Portuguese. Thus ensuring that your structure is totally different from spoken languages.

The short teaching hours for Libras in undergraduate courses raises a problem regarding the teaching of this language. The objective of the Libras discipline in undergraduate courses is not to guarantee proficiency in the language, but to allow future students teachers understand the specificities of students with deafness, how they learn, how your first language is structured - Libras - which assistive technologies can be used to ensure success in the teaching and learning process, as well as an introduction the practical use of the language.

> For consistent training for teaching work with deaf subjects it would be necessary not only an academic background that discussed in depth different issues related to the education of the deaf and that would form individuals linguistically qualified for Libras. It would also be necessary for providing the teacher in training with contact with deaf students in an environment school so that the graduate could reflect on issues related to education of the deaf based on social realities, and not just through theories. (Rech; Sell, 2016, p. 107).

The challenge of teaching Libras becomes greater when it needs to be taught to a student with visual impairment, since there is, at first sight, the need for vision to practical language learning. Some methodological strategies can be adopted to ensure the teaching and learning process, such as: use of tactile libras, high-quality materials relief and personalized service.

Tactile Libras refers to the adaptation of sign language for communication with people deafblind, in this form of communication, Libras becomes tactile, instead of visual. The blind person understands what is being said by touching the person's hands signer (the one who speaks), so communication becomes gestural-tactile (Oliveira; Lessa-de-Oliveira, 2021).

Embossed materials are produced using a fusing machine, also called of thermal printer. Using specific paper and a laser printer, it is printed what you want to be embossed, this printing goes through the fusing machine that embosses information on paper. Embossed materials are essential for teaching blind people.

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Individualized educational support is essential for students with disabilities or specific needs. This service allows the teacher to identify and work more assertively with students, providing “adjustments and adaptations in the different areas that directly interfere in the teaching and learning process of student” (Poker, 2013, p.11). This service is provided for in Law No. 6,541/08 and Law No. 9,394/96 (LDB).

2. MATERIAL AND METHOD

This research is based on the experience report model, as it aims to present the methodologies, adaptations, assistive technology and resources used in the teaching process Libras in higher education for a visually impaired student, checking the points positive and negative, reflecting and presenting possibilities for future cases. The report of experience follows a descriptive model, carried out through interviews semi-structured. The semi-structured interview consists of a pre-established script, but is not completely closed, allowing flexibility in the structure of the questions and the possibility of collecting unforeseen information. The interview was recorded and, later transcribed by the author.

The agents directly linked to the teaching and development process participated in the research. learning, they are: teacher of the Libras curricular component and student with visual impairment. The research took place from March to April 2023, at the Federal Institute of Education, Science and Technology (IFPE) Afogados da Ingazeira campus. The offer of The course took place from August to December 2022, in person, in the eighth period of the Bachelor's Degree in Computing.

3. RESULTS AND DISCUSSION

More and more people with disabilities and/or specific educational needs have entered higher education courses, demanding training from teachers specific continuing education, aiming at the effectiveness of the teaching and learning process. During the research, the importance of this continuing education related to the areas of inclusion was noted

by teachers who need to reinvent themselves and be resilient every semester, because they need adapt to the specific characteristics of your students.

Among the adaptations mentioned by the teacher in her theoretical classes are: adaptation of the materials used, development of new materials in Braille, adaptation of class slides, use of image description, inclusive reading, audio description, preference for using videos, prior availability of content in .pdf text compatible with screen readers.

Practical moments were prioritized due to the importance of meeting all needs. students enrolled in the course, both hearing and blind. Practical classes were marked by moments of conversation, dialogue, sentence creation, and video analysis. Students contributed a lot to supporting the inclusive process of blind students in classes, they helped with the description of the slides, the use of tactile Libras and the integration in the activities. The entire class had a very successful experience in the subject.

There were some difficulties in the teaching and learning process. For example, the student was offered after-school care, but due to his/her employment relationship employment, he was unable to attend appointments at the available times. Thus, due to limited time, the student did not have time available to practice or participate extension projects, events, workshops and others offered by the institution with a focus on Libras.

Some difficulties were observed for the student in learning Libras. Because he had difficulty with fine motor coordination, it was difficult for the student to learn the hand configurations, movements, location and facial expression - which are the parameters of Libras. Among them, the main difficulty was with facial expressions, both identifying how to reproduce, as they are not part of the daily lives of people with visual impairment.

The student states that his main difficulty was related to interpretations and memorization of the signs, even with a lot of effort from the teacher and other students, who used Tactile Sign Language, identifying which signs were being spoken was challenging. Another difficulty was related to the lack of time to practice, causing most of the signs were not internalized.

There is a fusing machine available for high relief printing at the institution, generally used for printing graphs and tables. Material with the manual alphabet in Libras and

Braille was designed and printed in high relief, but it was difficult for the blind student to identify the configuration of hands present in the print. The difficulty was greater in differentiating the letters of the alphabet with movement and/or with the same hand configuration, such as: P, H and K.

The production of braille materials was done by the teacher herself in her personal notebook and made available to the student, as well as the adaptation of the slides to contain audio description and less visual format. The teacher also used the computers in the institution to prepare and/or adapt their classes for the class. The institution also has a braille line, but the student prefers the materials in .pdf format to read through the screen readers.

The Support Center for People with Disabilities - NAPNE, on the Afogados campus of Ingazeira, received 48 textbooks and supplementary books from the Benjamin Constant Institute (IBC). These books were made available to the student. Another help offered to the blind student was a tutor, through the Peer Tutoring Program. This tutor provided academic support to student during the school term.

FINAL CONSIDERATIONS

The completion of this experience report highlights that it is possible to teach Libras to visually impaired students through inclusive mechanisms and strategies. It was notable that the initial and continuing training of the Libras teacher, who mastered the techniques of audio description, braille transcription, knowledge of screen reader software, contributed significantly to the success of the discipline.

To properly serve students with disabilities and/or specific needs, it is necessary the collective construction of the potentialities and possibilities of the teaching process learning. Materials and strategies cannot be generalized. That is, it is not because a certain strategy worked for one blind student that will work for everyone. Each student has its particularities. Through the teacher-student relationship it was possible to identify what the student's preferences are, what their difficulties are, what strategies worked and what adaptations were necessary.

The teaching and learning process goes beyond the school walls, the time for Practice is necessary when learning any language, and Libras is no different. The lack

of time to practice and of people who knew Libras outside the school walls, made it difficult the student's learning, who only had time in the classroom and with other classmates discipline for learning Libras.

Thus, this work showed the importance of thinking about education in a unique and inclusive, the inclusion process is not only beneficial for students with disabilities and/or specific needs, but for all students in the class, as well as for the teacher and the institution. The intention of this work is to contribute to the training and teaching performance of teachers who teach Libras to visually impaired students and encourage new studies on methodologies and inclusive technology in the teaching and learning process.

REFERENCES

BRAZIL. **Law No. 10,436, April 24, 2002.** Provides for Brazilian Sign Language - Libras and other measures. Official Gazette of the Union. April 25, 2002, P. 23. April 24, 2002.

BRAZIL. **Decree No. 5,625, December 22, 2005.** Regulates Law No. 10,436, of April 24, 2002, which provides for Brazilian Sign Language - Libras, and art. 18 of Law No. 10,098, of December 19, 2000. Official Gazette of the Union. December 23, 2005, P. 28. December 23, 2005.

FLICK, U. **Introduction to Qualitative Research.** Translated by Joice Elias Costa. 3rd ed. Porto Alegre: Artmed, 2009.

OLIVEIRA, Émile Assis Miranda 21; LESSA-DE-OLIVEIRA, Adriana Stella Cardoso 22. **TACTILE LIBRAS: A BIBLIOGRAPHICAL STUDY.** Federal University of São Carlos (UFSCAR) - Postgraduate Program in Linguistics (PPGL), p. 66.

GESSER. Audrei. **Libras? What language is that? Beliefs and prejudices surrounding sign language and the deaf reality** - São Paulo, Parábola Editorial, 2009.

RECH, GC; SELL, FSF. **Teacher training for deaf education:** what the law provides and what universities offer.

R. ROCHA; JP OLIVEIRA and MR dos REIS (org.). **Deafness, Bilingual Education in Libras: current perspectives.** Curitiba: CRV, p. 105-122, 2016.

POKER, Rosimar Bortolini et al. **Individual development plan for specialized educational services.** Oficina Universitária Publishing House, 2013