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AN ALTERNATIVE COMMUNICATION TOOL: USING LIBRAS TO SUPPORT PEOPLE WITH COMMUNICATION DISABILITIES

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ABSTRACT: The Alternative media, along with new technologies and the advancement of the Internet, which are amplified year by year, can overcome the communication barriers of individuals with disabilities in oral, permanent or temporary communication. The improved prototype in this project, implemented with the Brazilian Sign Language (LIBRAS), as well as items to assist the interaction of individuals in an alternative way linked to assistive technologies, intending a better use of the tool and aimed at a functionality related to the activity and the participatory use, through their autonomy and independence, can reduce their social exclusion.

KEYWORDS: Alternative Communication, LIBRAS, Assistive Technology, Digital Inclusion.

INTRODUCTION

According to data from IBGE (Brazilian Institute of Geography and Statistics)(2014), the increase in the Internet access and the use of new communication technologies, bringing ease and speed to the diffusion of information. A process, which is marked by progressive irreversible changes in both technology and society, in order that allow digital inclusion, however, requiring much more than a computer and Internet access to become concrete it is necessary that technologies provide the solution of social problems of communication and interaction among all, since the difficulty of communication generates several barriers to information exchange and the difficulty of interaction culminates in digital exclusion. It is with communication techniques sought to reduce the segregation of the individual, with permanent or temporary oral communication deficiency. Through the alternative means of communication that are proposed, with the use of several alternative and assistive communication techniques, such as the Brazilian Sign Language (LIBRAS) and the use of images.

In this context, with the implementation of items that will facilitate communication in an alternative way, linked to assistance technologies with the intention of being accessible, supporting people with oral communication deficiencies, through the development of LIBRAS functionality, where the individual will have the possibility to learning another form of communication, crossing the communication barrier and by itself seeking and assimilating information available through the dissemination of information, as well as learning ways of communication and interaction to minimize the social exclusion of these individuals.

THEORETICAL FOUNDATION

Each year the increase in the number of Brazilians with Internet access grows. According to the IBGE (2014) more than half of Brazilian homes have Internet access. An increase that does not express the reality of people with special needs.

In the alternative area there are several free and paid tools on the market, although during this research was founded only two accessible and free LIBRAS's tools, HandTalk and ProDeaf, although both tools do not accommodate users with motor deficiency and multiple deficiency. Because of this, the development of LIVA comes to expand the group of users served.

Information Technology and Digital Inclusion

The advancement of technology brings facilities and speed in the diffusion of information to society. Even these improvements are not democratic, often marginalizing people, and making the unintended effects of this process of evolution unimaginable. (TAVARAYAMA, SILVA, MARTINS, 2012). Being much more than just computer and the Internet access to possess concrete digital inclusion, it is necessary to use the technology critically. According to Tavarayama, Silva and Martins (2012, p.271) "digital inclusion can be understood as a process of giving opportunity to the communities to integrate into the information society as transforming agents."

Social interaction

Digital inclusion through the skills of processing information in the context of each need, provides the individual with social inclusion, because of self-recognition and the ability to understand and solve social problems (OLIVEIRA, NETO, 2016).

It allows us to reconsider values regarding individual differences and create digital inserted individuals and socially. The increasing diffusion of information has changed the social interactions, generating a digital and social exclusion of marginalized individuals, whether by a disability, social status comes others. "This exclusion can generate digital illiteracy and consequently lead to communicative lethargy, the isolation and blockage of collective learning." (NEVES, 2011, p 102). The wide communication difficulties including prejudice the individual's communication.

Communication Disability

The communication disability "perversely compromises the quality of life of human beings." (SILVA; BARROCO; BOLSANELLO, 2012, p.101). Because the greatest barrier in the communication of individuals with disabilities, whether oral, motor, etc., is the spoken language, which does not interrupt the communication alternatives, it only makes the use of other communication techniques essential. "For people without disabilities technology makes things easier. For people with disabilities, technology makes things possible." (RADABAUGH, 1993). Several Alternative media are used as writing, gestures with the LIBRAS, images, among others. The Alternative Communication intends to supply the communication deficiencies.

Alternatives Communication

The Alternative communication (AC) is employed as a possibility to impairment of communication of people with disabilities, whether it is oral, motor or other. It is of great necessity in the struggle for social exclusion. The counted between man and the environment not only carries sensory experiences, but also rational, and it is through this that the conclusions are drawn. According to Silvia, Barroco and Bolsanello (2012, p.104) "there are more complex forms of reception and processing of the information, the immediate perception and, we would say, immediate expression."

The AC has several communication options, among which are the Communication Boards, a communication process that allows the individual to express themselves through boards where images are arranged in the form of photographs or drawings, and may contain a description. The individual should point out the images that best express what he wishes to express.

Another Alternative communication technique is the LIBRAS (Brazilian Sign Language), the communication process of LIBRAS is through gestures, facial expressions and body that enables the exchange of information between two or more people. All parts of the conversation must have knowledge of sign language.

LIBRAS

Unlike what many many believe the LIBRAS (Brazilian Sign Language), like all sign languages, is a language. It is composed of "universal language, for presenting the phonological, morphological, syntactic and semantic-pragmatic" (ALBRES, 2005, p.8).

It is a visual sign language made effective by Federal Law no. 10,436, dated April 24, 2002 and regulated by Decree 5,626, dated December 22, 2005:

“Article 1 is recognized as a legal means of communication and expression the Brazilian Sign Language - LIBRAS and other associated expression resources.

Single paragraph. It is understood as the Brazilian Sign Language - LIBRAS the form of communication and expression, in which the linguistic system of a visual-motor nature, with its own grammatical structure, constitute a linguistic system of transmission of ideas and facts, coming from deaf communities in Brazil”.

LIBRAS had influence of Portuguese language by having contact, but did not have origin in it. Part of the individuals whose natural language is LIBRAS does not know Portuguese language and, therefore, find it difficult due to the structure of the sign language, which when passed to the written language does not resemble the structure of Portuguese language. Many words, concepts and Portuguese expressions do not exist in LIBRAS, causing difficulty for native individual LIBRAS understand texts in Portuguese. To assist this individual can be use assistive technology in the media, whether television, Internet, among others, always aiming at the inclusion.

Assistive Technologies

Assistive Technologies

In Brazil assistive technology (AT) was established by Decree No. 142, the Technical Assistance Committee (CAT), established by Decree No. 5.296 / 2004 under the Special Secretariat for Human Rights of the Presidency of the Republic, as follows:

“Assistive Technology is an area of knowledge, with an interdisciplinary characteristic, which compass products, resources, methodologies, strategies, practices and services that aim to promote the functionality related to the activity and participation of people with disabilities, inability or reduced mobility, aiming at their autonomy , independence, quality of life and social inclusion”.

As a means to accessibility feature facilitating resources and services and providing digital inclusion that put social inclusion of individuals with disabilities to communicate. It can be used in many day-to-day scenarios and also favors the resolution of functional problems. According to Freire (2000) provides assistive technology to disabled individual independence and social inclusion as well as quality of life.

MATERIALS AND METHODS

This is a theoretical and empirical research in order to generate knowledge for practical applications aimed at solving specific problems, carried out as a continuation of studies of IVA - Acessibilidade Interativa (Silva, 2014). Regarding the problem approach, this research fits the qualitative paradigm, supported by quantitative data that will emerge throughout the work. For technical procedures are used the bibliographical research and field studies.

RESULTS AND DISCUSSION

As a result of the submitted article was implemented items in the previous prototype IVA, developed previously as a project of Scientific Initiation of the Campus Araraquara of the IFSP, during the year 2014

(Silva, 2014) and presented in (Rossi; Abib; Rodrigues, 2015), is directed to individuals with Cerebral Palsy and deficiencies in oral communication, for developing the current prototype LIVA.

LIVA - Interactive Accessibility with LIBRAS

The prototype of LIVA - Interactive Accessibility with LIBRAS was developed individuals need to learn another form of communication other than oral. Therefore, through items implemented in the LIVA that teaches LIBRAS, linked to assistive technologies, aiming for the individual to have more social interaction.

The tool also helps people without disabilities, since they are shown and taught a simple way of communication, for which only the body itself is needed, thus allowing a better interaction with people with disabilities.

LIVA's amendments

In the screens of the LIVA was implemented a LIBRAS button (FIGURE 1. Prototype LIVA - Home Screen), upon clicking the user will be redirected to the prototype LIBRAS Screen. Changes can be seen from IVA (FIGURE 2. Prototype IVA - Home Screen).



FIGURE 1. Prototype LIVA - Home Screen.

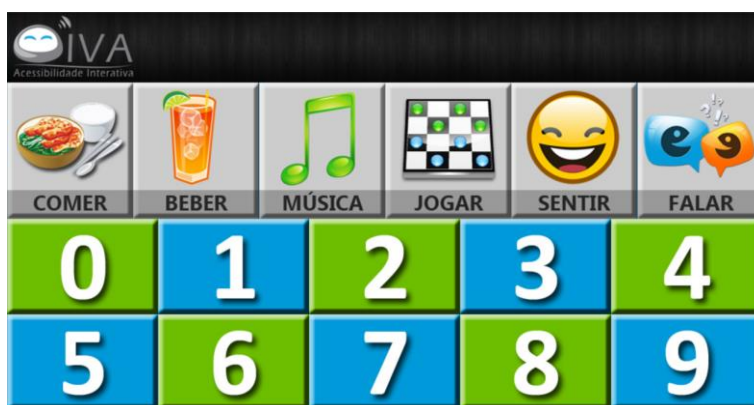


FIGURE 2. Prototype IVA - Home Screen.

The LIBRAS button and an PÁGINA PRINCIPAL button were implemented in the existing IVA windows (FIGURE 3. Prototype LIVA - Screen Comer). Once the user clicks the button PÁGINA PRINCIPAL it will be forwarded to Home Screen. Which did not occur in IVA, to return to the Home Screen should click in the button VOLTAR until you reach the Home Screen (FIGURE 4. Prototype IVA - Screen Comer).



FIGURE 3. Prototype LIVA - Screen Comer.

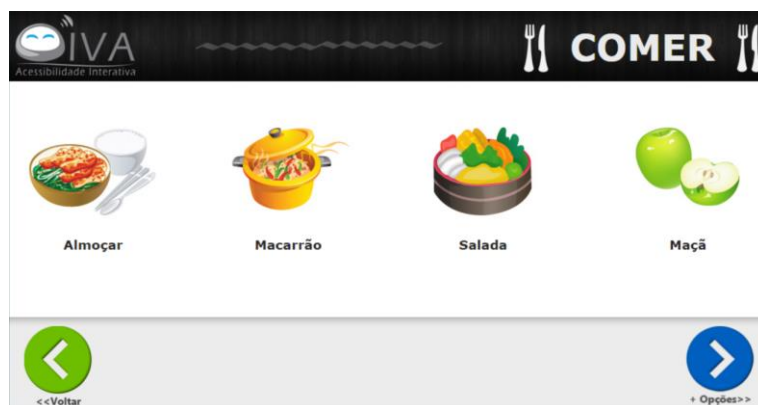


FIGURE 4. Prototype IVA - Screen Comer .

By accessing the LIBRAS Screen (FIGURE 5 LIVA Prototype - LIBRAS Screen), which does not include the button LIBRAS because otherwise it will self-direct it. The user can select what he would like to learn, which when clicking on an option will be directed to the Screen that contains a video for learning.



FIGURE 5. Prototype LIVA - LIBRAS Screen .

CONCLUSIONS

This paper has illustrated the prototypes developed to help the lack of oral communication. Where the development of people with disabilities should be the purpose to be reached, thus making technology more inclusive. That's what is intended with the implemented of LIBRAS in the LIVA, no longer marginalizing individual with oral disability, but aiding the individual and increasing their social interaction.

Since the study is under development, the future works will be the continuous developments, application of prototype tests with people with disabilities, track the users progress and adapting the features to the technologies adopted. That will show the necessary improvements to the tool.

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