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# Technological Tools in English Language Teaching Activities to Deaf Students

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**Abstract**---A study of the impact that technological tools have on the activities of teaching the English language to deaf students is shown. The difficulties that this segment of the student population has in relation to the resources or materials available for the teaching-learning process of the English language, in addition to the difficulties they have in the development of these language skills. In this sense, the research adopted a mixed qualitative-quantitative approach. The objective was to diagnose the technological tools used in learning the English language in the EGB student of the Liceo "El Oasis", and analyze the results obtained through the application of data collection instruments designed based on the declared variables. The result was that the causes that make learning the English language difficult for students with hearing disabilities is demotivation, according to 50%, indicating that they cannot establish fluid communication. The main conclusion revolves around that the EducaPlay Educational Software can contribute to the development of the English language skills of students with hearing disabilities; but now, teachers do not know about this type of application. It must be considered that the case studied does not learn at the same pace as his peers. Therefore, it is important that they are allowed to develop writing and reading skills through technological tools.

**Keywords**---deaf students, English language, teaching, technological tools.

## Introduction

Frequently, students with hearing disabilities are presented with various adverse scenarios that make communication within the educational process difficult. On the other hand, the lack of motivation in these students leads to dropping out and even having little participation, mainly due to the lack of effective communication with teachers and classmates. From the point of view of [Pupo et al. \(2020\)](#), "The problem of pedagogical communication and access to school information in a clear way prevents an effective and efficient understanding of academic content" (p. 421). In this sense, it is necessary to incorporate technological tools in teaching activities, since these currently constitute the only means by which the learning of the English language can be motivated in these students.

Based on the above, the research aims to demonstrate that the use of technological tools constitutes support to improve the teaching of the English language to deaf students at the Liceo "El Oasis". In this sense, it is important to consider that the classroom is a place where students come from different environments and different conditions, including hearing disabilities, which generates several problems at the level of the educational process and where educational needs activities require differentiated teaching tools and materials.

In aspects related to teaching English to students with hearing disabilities, the teacher must be aware of the different strategies that can be implemented to provide quality education. However, in this work group there will not only be integration problems, but many times the inclusion process of students with hearing disabilities requires new demands from the teacher.

In the field of educational inclusion, this can provide the opportunity to develop various skills that will allow students with disabilities to prepare to better face their educational stage. Additionally, it must be taken into account that students who suffer from this disability do not have the same opportunities, nor do they learn at the same pace as their peers. According to [Salazar et al. \(2019\)](#), "A student with disabilities is one who is far below or far above their peers in terms of cognitive abilities; they require special supports to be incorporated into their learning process" (p. 14). At the same time, [Izquierdo & Luna \(2023\)](#), "Students with hearing disabilities may have more difficulties and opportunities to learn English than their peers" (p. 2721).

The lack of motivation in students with hearing disabilities has an additional effect; This situation often leads to high levels of school dropouts or low educational attainment. The reasons may be diverse, but fundamentally the lack of an effective communication system discourages learning in these students since they must develop an additional effort to obtain knowledge, consequently, they require that this information be clear and understandable enough to achieve learning. significant. The opposite generates different levels of frustration in students with hearing disabilities that can lead to educational abandonment.

### *Technological tools*

Modern educational systems are based on the use of new and better teaching strategies with the purpose of motivating student learning, where technological tools are used as dynamic elements that optimize and facilitate the teaching-learning process. These tools must motivate and attract the attention of students, adapting to the learning generalities of each of them. In this regard, [Reyes Chávez & Prado Rodríguez, \(2020\)](#), "Technological tools offer didactic elements that support meaningful learning at any educational level" (p. 2). In this regard, [Pérez et al. \(2022\)](#), "The integration of technologies in education brings with it organizational changes not only in traditional classrooms, but also in digital platforms, and invites us to locate opportunities for educational innovation" (p. 1).

Therefore, the incorporation of technological tools in the educational process of students with hearing disabilities is considered essential, considering that the most important function of the incorporation of this type of technological tool in educational inclusion is the optimization of the educational process. Consequently, ensuring that hearing-impaired students can participate not only in academic aspects but also in closer communication with teachers and classmates. According to the publication of the Organic Law on Disability (2012), article 28 indicates that the national educational authority must give priority to inclusive education, and also indicates that the incorporation of technical-technological and human supports in establishments is pertinent. to education at the national level.

It can be noted that specialized technological tools constitute didactic elements that complement and favor the teaching-learning process in students with hearing disabilities; However, the teacher's support is essential for the student to have meaningful learning. According to [Mora-Monroy et al. \(2023\)](#), The use of technological tools in students with hearing disabilities, mediated by pedagogical knowledge and teaching support, feeds back the dynamics of the teaching-learning process (p. 139).

The use of technological tools in English language teaching activities for deaf students, by itself, does not solve the problem raised, that is, the student's lack of motivation to learn a language that is always difficult. The teacher is required to master these tools to adapt them to the needs of the student. It is worth mentioning that the tools in question are not designed to be used by a particular group of users, but rather they are designed to be used by a broad segment of the population. The teacher must then adapt these features to the specific needs of the hearing-impaired student.

From the point of view of [Vargas & Lojano \(2023\)](#), "The teacher must be constantly updating the benefits offered by technological tools, based on the contributions that arise in teaching, in relation to the management of the learning rhythms of each student, especially those with disabilities" (p. 113). According to [Ramírez Montoya \(2022\)](#), "Education 4.0 is presented as a means for digital transformation in the global integration needs of human beings and their complexity" (p. 11).

Currently, technology has been positioned to raise the quality of life of deaf children and fight against the main barrier they have to social and educational inclusion and learning. Although it is true that not all technologies developed for these people have managed to fully satisfy their needs according to the purpose for which they were created, the door is opened to facilitate their training process ([Pupo et al., 2020](#)).

### *Teaching English to deaf students*

On a general level, one of the subjects least appreciated by students is the English language. This probably occurs due to factors such as demotivation or obsolescence of the methodologies used in the teaching-learning process. On the other hand, due to the implicit difficulty that learning the English language represents. The truth is that, at the local level, learning levels do not correspond to those expected, especially when it comes to students with hearing disabilities.

Based on the above, currently, the quality of the teaching-learning process of the English language at the basic education level has been positioned as ineffective and the results are not as expected. This difficulty probably has its origin in the idiosyncrasy of students at the local level, where a majority segment of them come from the rural sector, where this type of subject do not have a practical use that can motivate their learning. In the case of teaching the English language to deaf students who come from this sector, their learning is much more complex, and even their cognitive development is compromised. To Galvis Peñuela (2021), "It is essential to identify the degree of linguistic and cognitive development since it constitutes a determining factor in learning and in the delimitation of knowledge/knowledge of a second language" (p. 286).

On the other hand, at the level of inclusive education, on many occasions the existing regulations are not met, that is, the teaching-learning process of this subject is not adapted to the specific educational needs of students with disabilities. This situation draws attention because many teachers have not been trained in methodologies that include students with disabilities and, above all, that guarantee adequate levels of inclusion, permanence, and learning (Feryok, 2008; Pennington & Hoekje, 2014; Abdallah & Fayyoumi, 2016; Banu et al., 2021).

In accordance with the Organic Law of Intercultural Education, LOEI (2023). Art. 10.- Curricular flexibility. Literal a. Curricular adaptations: When the national curriculum is complemented or adapted to the specific educational needs of students. It involves designing, applying and evaluating tools that allow individuality to be assumed in the teaching-learning process, in order to guarantee inclusion, permanence, learning, promotion and completion within the educational system.

However, for Lodi (2014), "Current educational policy appears as discursively contradictory by breaking, in a significant way, with the principles, rights and educational conditions offered to deaf people" (p. 289). From the point of view of Mora-Monroy et al. (2023), it is noted that inclusion as an institutional process requires the contribution of various instances where the diversity of deaf people is a priority in the generation of support strategies for the student community. (p. 140).

Based on the above, the inclusion criteria that are evident in the educational system are relatively low, that is, it can still be stated that many students from educational institutions are still excluded from the group of students. In this sense, to provide normality and facilitate the inclusion of students with hearing disabilities in daily life, it is essential that the teacher knows the reality of these students. To do this, you must inform yourself, train yourself and adopt new and innovative strategies to improve your English language learning. According to Torres et al. (2022), "As educators, it is sometimes difficult to make curricular adaptations to subjects to achieve the inclusion of students with special educational needs" (p. 107).

Current inclusive education ratifies the importance of analyzing and proposing strategies that allow diverse populations to have access to information, teaching and learning processes in the classroom, and the multiple social, cultural, academic and technological processes so that the can information is reached and knowledge and knowledge are achieved from the search for quality education (Fandiño, 2022).

In general, deaf students who attend these bilingual inclusion contexts do not share the same classroom with other deaf students, so they are linguistically and culturally isolated from the rest of the students. They only share the language with their interpreters, who only accompany them in the classroom. There is no interpretation service in the other areas that are part of the educational institution: breaks, meetings, study groups, etc. (Crespi, 2022).

The deaf subject knows the world and elaborates its representations through sign language; constitutes a subject, whose relationships with knowledge and with the world that it constructs, models, and transforms, are those of the logic of vision, space and silence, different from those constructed by the logic of hearing, time and sound. from a majority that sees him as a misfit because he appropriates the world with a different logic (Galvis, 2021).

The difficulties that students with hearing disabilities have during the teaching-learning process of the English language have become a concern on the part of teachers, especially if one considers the low level of knowledge related to this subject that is necessarily reflected in the level of qualifications presented by these students. The teaching-learning process of the English language is not an easy task to develop, due to various factors that demotivate the student. Among them, the unfavorable environment for the development of skills in this language, the lack of teacher training, the limited availability of support material for the teacher or even the student's family

environment led to a misconception regarding this subject (Ramsey, 1989; Mann et al., 2014; Hayes, 2009; Ahmad, 2012; Mukammal et al., 2018).

At the same time, the success of an educational process, with regard to students with hearing disabilities, lies in the support they have in their respective homes. Therefore, it is very difficult to assume that a student will have good academic results if they are not given the necessary support at home. In the case of the English language, unfortunately, the vast majority of the population does not have any knowledge, so they do not constitute support for the student, becoming part of the problem and not the solution..

## Materials and Methods

The research adopted a quantitative qualitative approach, which consisted of the exploration and collection of real data on the topic investigated. Its objective was to diagnose the technological tools used in learning the English language in EGB students at the Liceo "El Oasis", and analyze the results obtained through the application of data collection instruments designed based on the declared variables.

Different methods were used in the research, for example: the inductive method because the fundamental basis within the analysis of the problem is the observation of facts and phenomena that occur within the field of study. In turn, the deductive method was used because conclusions were established based on the criteria obtained, through the analysis that supported certain verifiable facts and rational foundations. The methodology used was synthetic because all the thematic elements of this research that emerged in each given investigative stage and that served for the respective analysis through synthesis were analyzed and conceptualized. Finally, it was statistical because it allowed the data obtained to be considered to verify the proposed hypothesis.

The techniques used were the survey directed at the teachers of the subject, the interview with the authority of the institution and the survey with the student involved (with the authorization of the representative). The population and sample of the research are made up of the teachers of the subject, the director, and students with hearing disabilities of the Educational Unit "El Oasis". Table 1 shows the respondents.

Table 1  
Respondents

Participants	Number
Student	1
Maestro	2
Director	1

## Results and Discussion

In the teaching-learning process of the English language, the development of skills (listening, writing, reading and speaking) is difficult when it comes to students with hearing disabilities. The development of these skills involves the application of all the vocabulary and pronunciation learned, however, the hearing-impaired student at the Liceo "El Oasis" shows that she has problems understanding the teacher's message, which is why she cannot put it into practice. a vocabulary he couldn't learn. Additionally, there is the problem of difficulty in pronunciation and especially in the semantics of the English language, since as teachers say, students must think and speak in English. For this, there is a wide variety of computer applications designed to facilitate the teaching of the English language, especially when it comes to students with hearing disabilities. According to the publication (García, 2022), the following applications oriented to translation software shown in Figure 1 are determined.

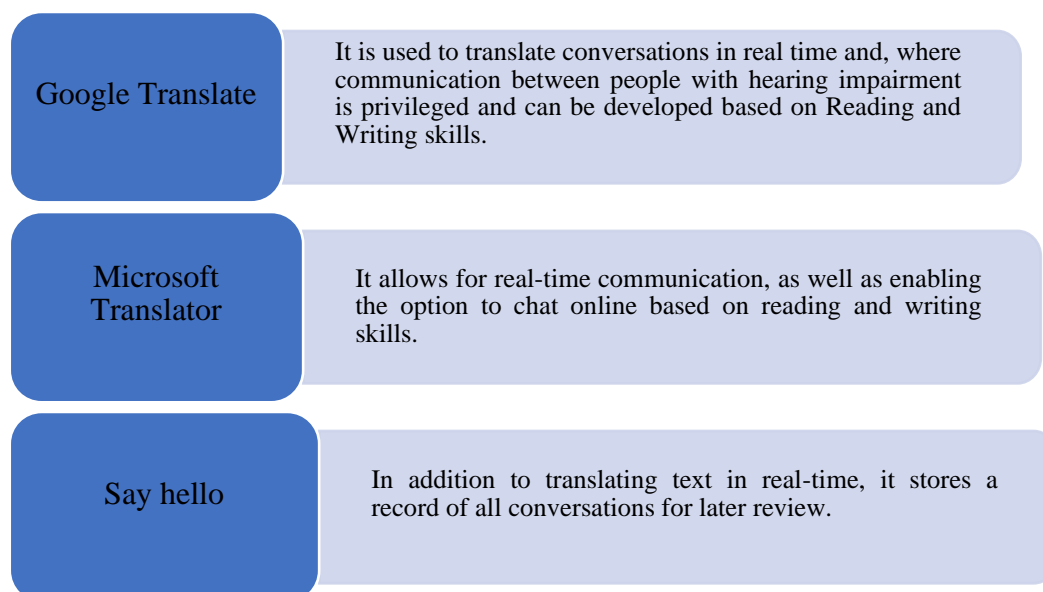


Figure 1. Applications aimed at translation software  
Source: (García, 2022)

According to [Espinár \(2021\)](#), there are a variety of online English learning platforms, including:

- a) EducaPlay. In the case of this platform, teachers are responsible for developing appropriate environments for teaching the English language online, especially when it comes to children with hearing disabilities where it is essential to work on the development of Reading and Writing skills.
- b) Rosetta Stone. It is a platform through which the teacher could program online activities based on the development of Reading and Writing skills (p. 88).

Once the information obtained from the English teachers was analyzed and compiled, it was possible to know the reality of teaching practice directly linked to students with hearing disabilities. In the research, it was found that in the case of hearing disabilities, 50% of teachers consider that it is a matter of demotivation, which is why they cannot establish fluid communication, influencing the student's learning process.

The evaluation carried out by the teachers regarding the level of language knowledge of the student with hearing disabilities, they consider that she is close to achieving the required learning, not agreeing with other teachers who suggest the opposite. For a student to acquire the knowledge provided by the teacher, they need special devices that improve the hearing problem. In this sense, it is proposed by ([Aguilar-Silva & López-Loor, 2023](#)), that students with this disability must have augmentative systems and other devices. which helps improve hearing difficulties.

Furthermore, they propose that in the context of the curricular intervention, it is necessary in some cases to make adaptations in the different areas, and these will be determined by the mastery of oral and written language and by the results of deafness. It is proposed that differentiation should be made between students with trained and non-trained ear canals. While the former can take the subject with non-significant adaptations, those with profound deafness have great difficulty in this area. This is influenced by the low command of the Spanish language, which makes it difficult for them to assimilate a foreign language since its structures can create confusion and conflict.

When consulting the teachers of this subject about whether they are trained in topics related to technological tools to improve the learning of the English language in students with hearing disabilities. 100% could indicate that they are not qualified now. This is one of the main difficulties that prevents more fluid communication with the student.

Another of the question to the teachers of this subject about whether they know what the EducaPlay Educational Software for the development of English language skills consists of all of them indicated that at the moment they do not know this type of application. It should be noted that children who suffer from this disability do not have the same opportunities, nor do they learn at the same pace as their peers. Therefore, it is important that they are allowed to put their linguistic skills into play through technological tools ([Hoffmeister & Caldwell-Harris, 2014](#); [Natalizi et al., 2023](#); [Marschark et al., 2013](#)).

Another of the elements consulted was related to the level of knowledge about this language that the student would achieve based on the use of the EducaPlay educational software, 0% of the teachers indicated that they are close to achieving the required learning, they exceeded the required learning in a 50% and master's the required learning by 50%. The difficulties that students with hearing disabilities have during the teaching-learning process of the English language have become a concern on the part of teachers, especially if one considers the low level of knowledge related to this subject, which necessarily it is reflected in the level of the grades presented by the student of the Liceo "El Oasis".

The impossibility of developing the skills of Listening and Oral Expression of the English language by the student with hearing disabilities is usually accompanied by pedagogical obsolescence, as well as the deterioration of the student-teacher relationship. On the other hand, constant setbacks demotivate the student, which deteriorates this relationship; Consequently, the teacher runs the risk of losing all types of communication with the student and the possibility of providing feedback on the knowledge taught. According to [Noro \(2019\)](#), "Obsolescence is wear and tear, loss of effectiveness and functions, as well as the progressive deterioration of methodologies that become obsolete and require replacement by others of greater effectiveness" (p. 3).

The teaching-learning process of the English language must be developed based on and in accordance with the well-being of the student, that there is adequate communication between the teacher and the students, but additionally the teacher must have sufficient sensitivity to create an emotional work environment. Therefore, the teacher must work on an important issue called affectivity, which has become the most important tool for the development of English language skills in students with disabilities.

On the other hand, it was important to know the criteria of the authority of the Liceo "El Oasis", through the interview it was possible to know their narrative and real experience with students with disabilities, the following questions and answers that represent their criteria. When asked about the influence that the use of technological tools has on the learning of the English language in students with hearing disabilities. The authority was able to indicate that it has a lot of influence because, in fact, the student, by not listening, has means in which he can observe and can process the information in a better way.

Regarding the technological resources used by teachers in the activities of teaching the English language to students with hearing disabilities. It was indicated that the institution does not have adequate resources to resolve hearing disability problems and that teachers have not been trained. In the case of teachers of this subject, they use the projector to present the corresponding information, which would be the technological resource used. From the point of view of [Pérez et al. \(2022\)](#), "The integration of technologies in education brings with it organizational changes not only in traditional classrooms and invites us to locate opportunities for educational innovation" (p. 1).

Communication barriers are another aspect that negatively affects meaningful learning of the English language. It often happens that students isolate themselves drastically reduce their range of socialization and are even subjected to bullying by their peers. The situation of the student with hearing disabilities is no different from that of other students with the same condition. In the authors' opinion, it is necessary to comply with current regulations.

Based on the criteria obtained, the aspects related to teaching the English language to students with hearing disabilities are common, English teachers feel that they work without a guide that allows them to work efficiently, and the teaching material is difficult for students who only have school texts. Designing content for each case of disability is an arduous task. On the other hand, teachers do not feel capable or do not have the preparation in the use of technological tools.

The teaching-learning process of the English language does not develop in accordance with and in accordance with the well-being of the student with hearing disabilities since their learning does not follow the same pace as their peers. Technological tools can contribute to the development of the English language skills of students with hearing disabilities. However, now teachers have not been trained in a specific computer application. It must be considered that the student does not learn at the same pace as her classmates. Therefore, it is important to be able to motivate the development of writing and reading skills through technological tools. Although the development of writing and reading skills is only motivated through the EducaPlay application, the most important achievement is the motivation it produces in the student. The dynamics offered by this application improve attitude and performance in class.

## Conclusions

The main reason for the student to reach the appropriate level is a lack of motivation and a low level of communication with the teacher. By not listening to what the teacher indicates, the student loses all coordination with the dynamics of the class and, consequently, their learning is low or non-existent. Furthermore, the only way the teacher teaches writing and reading skills is through the teacher. Textbook. The information obtained showed that the



teachers of this subject are not trained in topics related to technological tools to improve the learning of the English language in students with disabilities.

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