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EFFECTIVE STRATEGIES FOR EFL TEACHERS OF VISUALLY IMPAIRED LEARNERS: A RESEARCH SYNTHESIS

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DEDICATION

This research is dedicated to my entire family.

To my parents Payo and Yovi, for giving me everything I need to be who I am.

To my siblings Adrian, Cristian, and Priscila, for being my support.

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RESUMEN

La discapacidad visual ha sido una problemática social en el mundo y pocos países invierten en recursos para capacitar a docentes EFL y así educar a estudiantes con esta deficiencia. Además, hay pocas investigaciones que proponen estrategias y metodologías de enseñanza para este grupo poblacional. En otras palabras, los estudios centrados en personas con discapacidad visual son escasos en general. Promover la educación inclusiva es responsabilidad de todos para garantizar el desarrollo de los alumnos con discapacidad. El instructor debe proporcionar un entorno de enseñanza-aprendizaje inclusivo que apoye la enseñanza eficaz del idioma inglés. La presente investigación tiene como objetivo identificar estrategias efectivas para los profesores de inglés como lengua extranjera en el proceso de enseñanza para estudiantes con discapacidad visual. Se realizó un estudio analítico observacional de carácter retrospectivo, priorizando la recopilación de datos de artículos científicos de alto impacto, meta-análisis y encuestas a profesionales expertos en el tema con abordaje cualitativo y cuantitativo. Los datos recolectados se obtuvieron mediante encuestas a 55 docentes expertos en el tema que han obtenido resultados pedagógicos eficaces. Los profesores mencionaron que algunas de las estrategias más eficaces eran las herramientas auditivas, los instrumentos sensoriales y sistemas tecnológicos de lectura. Al concluir este estudio, se identificaron las estrategias ineficaces y los modelos obsoletos, así como nuevos enfoques y actividades para apoyar la mejora continua en las cuatro habilidades lingüísticas. Una vez realizado el estudio se elaboró una guía de estrategias de enseñanza para apoyar a los profesores EFL de alumnos con discapacidad visual.

Palabras Claves: Educación, EFL, estrategias, discapacidad, visual.

ABSTRACT

Visual impairments have been a social problem worldwide and very few countries invest in resources to train EFL teachers and thus educate students with these impairments. In addition, there is a limited amount of research that proposes teaching strategies and methodologies for this student group. In other words, studies focused on people with visual impairments are scarce in general. Promoting inclusive education is everyone's responsibility to ensure the development of students with disabilities. Instructors must provide learners an inclusive teaching-learning environment that supports successful English language teaching. The present research aims to identify effective strategies for teachers of English as a foreign language (EFL) in the teaching process for learners with visual impairments. A retrospective, observational, and analytical study was carried out, prioritizing the collection of data from high-impact scientific articles, meta-analysis, and surveys with teachers that have experience with visually impaired learners, with a qualitative and quantitative approach. The data collected was obtained through surveys with 55 expert teachers in the subject that have had effective teaching results. Teachers mentioned that some of the most effective strategies included auditory tools, sensory instruments, and reading systems technology. At the conclusion of this study, it was identified the ineffective strategies and obsolete models, as well as new approaches and activities to support the continuous improvement in the four language skills. Once the study was carried out, a guide of teaching strategies was developed to support EFL teachers of students with visual impairments.

Key words: Education, EFL, strategies, disability, visual.

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INTRODUCTION

Visual impairments are a challenge in the field of education worldwide. This is because so few teachers have received inclusive training and most of them are unaware of how to teach a foreign language to students with blindness or visual impairments using supportive methodologies. Furthermore, very few countries invest resources to train teachers and teach students with special educational needs (Hewett et al., 2016).

In Latin America, educational integration is still a long way off, especially for students with disabilities. The opportunity to learn English as a foreign language for students with visual impairments is diminished by the lack of adequate resources and preparation processes (Almog, 2018). In Ecuador, this situation is similar to the general educational reality. However, it is important to mention that the Ecuadorian educational reform seeks to integrate everyone in the educational process, recognizing the right of all people with disabilities to attend school and offer quality education with teachers prepared to work with them (Lengua Extranjera – Ministerio de Educación, n.d.).

The educational system in Ecuador requires teachers to be capable of providing a favorable learning environment, which is not an easy task. Therefore, it is necessary to learn integration techniques and procedures, and teachers must receive training in an ordinary classroom, in order to have sufficient knowledge to be able to instruct students with visual impairments. The reality of this situation is common in educational organizations, since all students must have equal access to quality instruction despite an intellectual or physical disability (Bravo & Alves, 2019).

On the other hand, it is significant to consider the role of the teacher who finds himself for the first time in this context of integrated teaching, carrying a great responsibility and a challenge to impart his knowledge in this complicated situation, in most cases it is difficult to intuit how to reach these students (Milian & Ferrell, 1998).

Sometimes there are learners with visual impairments in the classroom, with whom the procedure is often the same as for learners without these impairments, enlarging texts, and adding more light, among other solutions. However, visual impairments are a broad concept because a learner with a visual field problem is not the same as a learner with a visual acuity problem or a learner with partial visual impairment with a learner with total visual impairment (Hewett et al., 2016).

For this reason, this research has focused on offering support and guidelines to teachers in this educational area, to improve teaching skills and know how to support this vulnerable group of students. The present research aims to identify effective strategies for teachers of English as a foreign language in the process of teaching students with visual impairments, as well as identify the factors that support the reading and writing process by creating a set of guidelines to improve the English language skills.

In order to conduct this study, the following hypothesis has been posed:

How can the teaching-learning process of English as a foreign language be effectively implemented for students with visual impairments?

The general objective established in the present research is:

To identify effective strategies for teachers of English as a Foreign Language (EFL) in the teaching process for learners with visual impairments.

On the other hand, the specific objectives are the following:

- To analyze how visually impaired students learn a foreign language.
- To identify effective strategies to be applied during the teaching process of a foreign language among visually impaired students.
- To create a set of guidelines for teaching a foreign language based on effective strategies.

- To determine support resources in the teaching process of a foreign language of visually disabled students.

To find the effective strategies for EFL teachers of learners with visual impairments in the teaching-learning process of English, it is important to apply a bibliographic and documentary review of previous research that will be adapted to the research topic.

After this, the present research study will answer the question: How can the teaching-learning process of English as a foreign language be effectively implemented for visually impaired learners? To answer that question, it is necessary to set up the hypothesis: The use of effective strategies help visually impaired students in the development of foreign language learning.

The research was applied to 55 teachers with experience in teaching a foreign language to students with visual impairments. To collect the data, a survey with six questions was carried out and teachers had to answer the structured questionnaire based on their own experience. The questions were related to general factors about teaching students with visual impairments, teacher's resources, and adaptations.

Once the results of the survey were obtained, the data was tabulated and analyzed. This was completed with the purpose of learning effective strategies for teaching English to students with visual impairments. Based on these results, a support guide for EFL teachers was developed, describing some educational guidelines involved in the process of teaching English as a foreign language to students with visual impairments. Finally, a research thesis was written with the relevant information gathered and main findings obtained by other similar scholars.

This research demonstrates the fact that many EFL teachers are unaware of methodological guidelines and appropriate strategies for teaching English as a foreign language to students with visual impairments. Most professors who teach English are not specifically trained to teach students with visual impairments. For that reason, preparation and training are required in order to have sufficient

knowledge to be able to attend to these types of students with visual disabilities because there is no doubt that it is a challenging task without proper knowledge.

The knowledge of teaching strategies for teaching English as a foreign language allows the teacher to create an enriching teaching-learning process of the English language. In other words, being informed of methodological strategies makes a great difference, since it facilitates both the teacher's work and the student's learning. This makes the development of the present research work important.

The proposal for this research is justified by the following reasons:

Learning English is considered a necessity because in a work environment, the use of a second language has become a requirement.
Teachers must learn specific strategies to generate knowledge in the classroom, while considering the specific needs of students with visual impairments.
Pedagogical strategies in an inclusive education setting must respond to the needs of all students in the classroom. In this respect, the intention is to plan strategies that favor student diversity and to emphasize the application of these strategies in the classroom for teaching learners with visual impairments (Park, 2019).

Hearing ability plays a key role in learning English since in order to understand the spoken language, it is necessary to become sensitive to the sound of the language. Therefore, it is fundamental in learning English to work on the auditory system, and even more important with visually impaired students in view of the fact that it is necessary to take advantage of the most developed perception channels of these students (Rivera et al., 2012).

Active tactile perception also takes an important role in the learning process of a visually impaired person. Therefore, visually impaired people need appropriate resources to facilitate the learning process (Park, 2019). Providing multisensory education to blind and visually impaired students is beneficial, since these resources allow the development of learning and information, especially through tactile, auditory and visual channels if there is visual rest (Migliarini & Stinson, 2020).

In many Latin American countries, the facilities for a student with special educational needs have been established through public policies that guarantee equity and social well-being, providing the opportunity to develop a real contribution to the country. Therefore, people with visual disabilities deserve the same conditions of receiving an education that meets the basic needs demanded by society. (OPS, 2022).

In Ecuador, the National Institute of Statistics and Census (INEC) and the National Council on Disability Equality (CONADIS) describe that 12% of the population has some type of disability. In a population of 16 million there are approximately: 592.000 people with physical disabilities, 432.000 with mental and psychological disabilities, 363.000 people with visual disabilities, 213.000 people with hearing and language disabilities (CONADIS, 2020)(INEC, 2022).

In Tungurahua province, there are 5.826 people with disabilities registered by CONADIS, of which 519 people are blind. Four education institutes have been created: “Instituto Juan Montalvo”, “Instituto especializado Ambato”, the “Unidad Educativa Camilo Gallegos” and the “Unidad Educativa Especializada para no videntes Cardenal Julius Dophner” (CONADIS, 2020).

English teachers should reduce the difficulties that visually impaired students have in their learning through the use of appropriate strategies that allow the student to understand the content. In the same way, working with visually impaired students is also very difficult for the teachers of English as a foreign language. For that reason, work with protocols should be established to support students with visual impairments, such as reading materials in Braille for the development of this skill in the English language.

The Ministry of Education should provide and promote the use of resources for teachers of visually impaired students. However, since it does not have the economic resources for this purpose, it will have to train teachers. This is a challenge because not every student learns the same way with the same strategies and methods as a sighted student (*Lengua Extranjera – Ministerio de Educación*, n.d.).

Strategies for teachers should include assessing a learner with visual impairments learner by first taking into account the learner's needs in learning a second language. Teachers need to be aware of the characteristics that blind learners have, such as motivation to learn, their learning style, the strategies that students have for learning another language, their maturity, and their past experiences of learning this language. Teacher experience is crucial with visually impaired students.

CHAPTER I. STATE OF ART AND PRACTICE

1.1. Visual impairments

A visual impairment is defined as the limitation of the perception of visual stimuli such as images, colors, or gestures. The International Classification of Diseases (ICD) describes a visual impairment as an eye condition that affects the sensory system and functions of vision. It is common to think that people with visual disabilities do not have any vision, but in fact, people with visual disabilities are part of a very heterogeneous group.

This heterogeneous group of people includes both people who have a total limitation of vision, as well as those who retain some useful visual elements that allow them to distinguish objects with the help of optical tools (Harrison et al., 2021).

In addition, visual impairment is a term that includes low vision and blindness. This pathology is one of the main causes in the world of limitations in functioning since it is part of sensory impairment and it is one of the most prevalent disabilities. The main clinical criterion in a visual impairment is visual acuity in the better eye, which shows the degree of deficiency, impairment, or deficit in the visual function of the afflicted. In other words, when a visual acuity condition is present, there are problems perceiving the figure and shape of objects. In addition, it causes difficulties in distinguishing details.

The reduced vision encompasses moderate and severe visual impairment, which are equivalent to visual acuities between 20/60 and 20/200, and 20/200 to 20/400, respectively (Harrison et al., 2021).

Table 1. Visual Standards

Visual impairment categories	Vision	Visual condition
0	20/20 – 20/60	normal or acceptable
1	20/70 – 20/200	visual impairment
2	20/200 – 20/400	severe visual impairment
3	20/400 – 5/300 Visual field 10-5	Blindness
4	5/300 – light perception Visual field < 5	Blindness
5	No light perception	Blindness

Note: This table indicates the categorization of vision using the best achievable visual acuity in the best eye.

Source: taken from (OMS, 2020a)

As can be seen, there are different degrees of visual impairments, which is why it is necessary to work with strategies that allow visual simulation and training in order to get the maximum benefit from vision. It is also essential to distinguish between learners whose abilities are altered according to the type of visual impairments. It is important to establish the difference between learners with field loss and those with acuity loss, without forgetting the blind learners with whom it will be necessary to work on aspects other than visual stimulation and training, such as access to a different reading and writing code.

Blindness

Blindness is the deprivation of sight, in other words, blindness is the characteristic of those people who have no vision at all, or who do not have the ability to distinguish between light and dark. While partial blindness is when the person has limited vision or can only distinguish lights and shadows, total blindness is when the person sees absolutely nothing and cannot distinguish any light. Although the terms blindness and visual impairment are used to differentiate people with visual limitations according to the characteristics they present, it is important to point out the common factor is partial or complete visual impairment (Flaxman et al., 2017).

Blindness is defined by the World Health Organization (WHO) as a visual impairment in which visual acuity is less than 20/400 to the non-perception of light.

Low vision includes visual acuities in the better eye of less than 20/60, and better than 20/400, with potentially usable vision. In October 2019, the WHO reported a prevalence of 2.2 billion people with visual impairments. The majority of these people correspond to an adult population over 50 years old, and these statistics are the most current data on the topic (Flaxman et al., 2017).

The World Health Organization (WHO) divides visual impairment into four groups: mild, moderate, severe and blindness. This means that visual impairment is a general term that refers to blindness or a visual impairment since it refers to the conditions presented by people who have a total or partial limitation of sight.

Based on the designation noted above, and according to a criterion of functionality, blindness means the lack of vision or the sight perception of light. On the other hand, a visual impairment is described as the distention of a visual field, but with great difficulty even within a very short distance and generally with considerable effort and using special aids (PAHO, 2022).

Degree of vision refers to visual acuity and visual field. When acuity is considerably reduced, it can affect the perception of letters in a text, causing readers to resort on many occasions to the use of audio books. Whereas, if there is visual field damage, the individual has reduced peripheral vision. To give an example, they have great difficulty in seeing objects that are located outside their central vision, which corresponds to the sharpest point of vision. However, they usually have the ability to read printed books even without the need to magnify the text (Stanley Thompson et al., 1982).

Regarding both parameters, visual acuity and visual field; they affect the course of life and the execution of activities that concern this research work, such as access to reading, information, and education (Burton et al., 2021). For this reason, the research of the present work, since it seeks to provide help for adequate development within the educational context, emphasizes the importance of a deep understanding of all aspects that affect visually impaired learners and establishes different ways of working in class.

Visual perception

Visual perception is fundamental because its efficiency helps the student to learn to read, write and perform operations. Visual perception is the ability to recognize and discriminate visual stimuli and to interpret them by associating them with previous experiences. Visual perception is not only the faculty of seeing, as the interpretation of visual stimuli occurs in the brain and not in the eyes (Scheiman, 2006) (Groffman, 2006).

Visual acuity

Visual acuity is determined in each eye separately and with the best glasses or contact lens correction required by the individual. For the examination, the person is placed in front of the optotype at the distance for which he or she is prepared, usually 6 meters. If he or she sees all the figures, the visual acuity will be unit 1. In other words, it will correspond to normal vision. If he or she cannot see all the lines, the smallest line that he or she can see is the determinant of a visual acuity problem (Groffman, 2006)

Visual field

Visual filed refers to the total area in which objects can be seen by side or peripheral vision, while the eyes are focused on a central point. In the classroom, it is essential to be able to see the entire blackboard or book with a single look in order to not miss any detail. A reduced field of vision can be a problem for a person's academic performance (Groffman, 2006).

Once this process of analysis and reflection on the aspects that affect learners with low vision and blind learners has been exposed, it is possible to conclude by stating that knowledge of all the aspects that affect learners with visual impairments allow different ways of working with appropriate strategies to be established.

The task of the professionals is to help the student to develop and use vision in an optimal way, because even if vision is minimal, it can be of great use in their learning and autonomy. Although it cannot be said that the pathology will not disappear, it will allow a better use and optimization of the remaining vision in the case of learners with low vision and greater autonomy in the case of blind learners.

1.2. Teaching English to learners with visual impairments

Visual impairments may impact the learning of vocabulary words. This is possibly due to the absence of a mental image of the object. However, researchers have shown that visual impairments will not always be an obstacle to learning a foreign language (Sokolova & Balakova, 2019).

The procedures for teaching English as a foreign language are supported by verbal and non-verbal strategies, as well as gestures, dramatization, and illustrations. These principles and methods, which are common and facilitate the teaching-learning process in this area, should not be avoided or eliminated, but should be adapted and enriched.

While Belova, in his journal called "Accessible Language: Foreign Language Teaching Strategies for Blind and Visually Impaired Students", points out that technology makes it easier to create and adapt new strategies and materials for foreign language teaching (Belova, 2017).

The subject content of the education of the visually impaired is basically the same as those in regular education, including the contents in the area of English. With regard to English teaching methodologies, the educator needs special training and resources to adequately guide the learning process. The visual experiences of the common educational process must be replaced by auditory, tactile, olfactory, and movement experiences. The visually impaired learner needs an environment rich in stimuli to achieve normal development.

On the other hand, inclusive education for the visually impaired population implies considering the transformation of a society and educational systems which commonly exclude them. It should be mentioned that teacher training for visually impaired students must take into account the educational context, since in some cases students may be subject to social vulnerability and exclusion.

In this sense, although there is no method especially designed for visually impaired students, teachers should make an effort to integrate the use of all senses in the learning process. There are certain aspects to consider in the inclusive process of educating the visually impaired. Visual impairments result in a qualitative and quantitative decrease of the information received from the environment due to the lack of vision. Perception is analytical, starting from the concrete to the generalization of concepts, however with a visual impairment perception takes place mainly through the sense of hearing and touch.

It is necessary to mention the difficulties of visually impaired and totally blind students. According to Nikolić (1986) the most common problems according to the vision condition are outlined below.

Problems derived from the lack of visual field; the main difficulties are:

- Lack of global perception of the screen.
- Lack of anticipation of movements on the screen.
- Difficulties in reading and writing.
- Problems in orientation and mobility

Problems derived from a lack of visual acuity; the main difficulties are:

- Difficulties in interpreting symbols.
- Difficulties in seeing colors, distinguishing the contrast, reading, and writing.

Problems resulting from total blindness are:

- Difficulties in daily living activities.
- Difficulties in orientation and mobility.
- Difficulties in reading and writing.

In order for the teaching/learning process of an L2 to be successful, it is necessary to have qualified and prepared teachers to support students with blindness or a visual impairment. In this area, the more qualified and motivated one is to teach English as an L2 to people with this disability, the greater the learning response from students, because it will be completed in an effective manner and with greater learning results.

There is a certain slowness in the process of learning or acquiring knowledge for some students due to the way in which they acquire information, or their learning style. For this reason, it is necessary to guide the learning process with games, habits, and correct techniques to perform tasks, or through imitation.

1.3. Strategies for teaching English to learners with visual impairments

This research will not stop at the study of the different classifications of visual impairments since the aim of the research is to generate information to find out what kind of strategies can be offered to students with visual impairments to facilitate the learning of a foreign language.
The specific needs of students with visual impairments require specialized didactic strategies.

The training of future generations of teachers who are more aware of the needs of students from diverse populations is becoming more urgent and necessary every day. To this end, in the following section some approaches are adapted to these students will be discussed.

Good visual stimulation is necessary, because it allows an enrichment and development in the teaching and learning process, since the most important aspect is not the learner's pathology, but the limitations that exist and the capacities that the learner can develop with his or her vision.

For that reason, it is not only important to take into account the visual aspects of perception (shape, contrast, size, color, etc.) and cognitive aspects (attention, memory, previous experiences) but also the subjective aspects (interests, sensations perceived by other organs, needs, etc.) in order to ensure that the visual stimulation is as optimal as possible (Morrow, 1999). In this way, it is possible to provide the student with strategies that allow them to develop greater learning autonomy and general independence.

Each adaptation will make a significant difference in the integration of students in the classroom. Moreover, teachers must adapt their strategies to the current requirements of students, so the teaching will be more effective. It is clearly the importance of knowing the student's disability and making the appropriate changes in the way of teaching to help the disabled student to learn (Belova, 2017).

For an effective process of teaching-learning English, it is necessary for teachers to obtain information about the students such as possible learning difficulties, and for teachers to have a strong background in pedagogy. Utilizing useful strategies and powerful aids to teach languages and to strengthen students' skills with a better perspective in special education (Susanto & Nanda, 2018).

Different intervention strategies need to be considered by schools to meet the specific needs of students with visual impairments. One of the important points to be addressed is the recognition by a teacher to what should be provided for the learner, taking into account the following strategies:

It is necessary and important to establish a link with the learner on a personal level, without considering the visual impairments. According to Lewin-Jones and Hodgson (2016) some work strategies could be:

- Allow learners with visual impairments to be autonomous. In other words, do not help they if they do not need it in order to help them to know their own possibilities.
- Do not deny that they have limitations. Ask what they need.
- Identify yourself so they know who they are dealing with.
- Be clear in your communication.
- Act normally so the student can see how valuable they are as a person, over and above the visual deficit.

Another important point according to Lewin-Jones & Hodgson is to take into account the channels through which the learner receives information from the environment.

For this, the following strategies will be needed:

- Multisensory stimulation, emphasizing touch and hearing.
- Verbalize all situations.
- Anticipate events verbally, especially if the environment in which they occur is unfamiliar, in order to avoid surprises.
- Give additional information for the learner to perceive.
- Control the level of noise in the classroom.

In conclusion, the teacher must identify and develop specific strategies to favor the inclusion of learners with visual impairments, promoting actions that allow for greater autonomy and better learning. The teacher must be able to offer both individual and group learning opportunities, encouraging individual and group differences according to each individual or group. Teaching strategies cover a range of resources and procedures that intend to ensure an adequate processing of new knowledge considering the specific requirements of each learning situation.

The Braille system

Braille is a raised relief reading and writing system designed to be explored tactilely. It is not a language, it is not a tongue, it is a raised alphabet and its main unit is the generating sign. One of the great contributions of the Braille system is to give blind people the possibility to access written information, allowing a comprehensive educational formation for students with visual impairments. The braille system has been universally adapted. It uses 64 combinations of 6 tactile points that integrate and express different aspects of languages.

It also contains punctuation marks which can express similarities and differences. In total, there are 256 characters in Braille, many of which have meaning related to the one that precedes or follows them. There is even a translation of musical notes into Braille. This system increases receptive skills since it implies the need to understand the text word by word, and comprehension is related to reading ability. Blind people, like sighted people, need reading and writing to access education, culture, and in general, to receive and produce information and communicate. Braille, through the sense of touch, is the code that currently allows the blind around the world to achieve these fundamental goals. (Spratt et al., 2011).

The Braille system is not only a special code for reading and writing. It is, above all, an alternative means to visual communication, which triggers entirely different psychic and neurophysiological mechanisms than those involved in conventional literacy through eyesight. Therefore, in teaching and learning the Braille system, everything concerning such mechanisms must be taken into account by teachers.

The teaching of braille begins from a very early age among those who were born blind, and for those who became blind at an older age, they are able to learn it quickly. Braille is perhaps the most important door of communication from and to the world for the visually impaired, replacing the sense of sight with that of touch in an intelligent and orderly way (Spratt et al., 2011).

Multisensory strategy

Multisensory strategy involves the development of sensory perception at an early age and is relevant for both visually impaired and sighted students. It is important to understand that it is vital to prepare environments and spaces that provide experiences in which all the capacities and intelligences can be stimulated through the development of the senses (Fernández et al., 2019).

This strategy creates meaningful experiences in the visually impaired population because it creates opportunities for vocabulary enrichment, knowledge of the world, and creates a conceptual basis for understanding. While sight provides immediate stimuli and information, touch and hearing are sequential, which means that they provide a narrative type of knowledge because the information input comes to the student in a holistic way (Fernández et al., 2019).

It is also recognized that the sense of touch can be a complement to visual input which may be incomplete, and many objects can be more deeply conceptualized through touching them. In addition, blind people are able to make conclusions about communication based on the facial gestures of a person, as well tone of voice, since sound contains a lot of information about the physical world (Fernández et al., 2019).

This multi-sensory stimulation is fundamental to human development. But these stimuli must be presented in an adequate manner in terms of quantity and quality, as well as at the right time. In this way, it is important to keep in mind that this type of stimulation can sometimes be exhausting for the person receiving it. In the field of foreign language learning, it can be concluded that this didactic strategy offers the teacher many of the necessary tools to be applied in the development of class activities for the benefit of visually impaired learners, and even of the whole group (Naghmeh-Abbaspour, 2022).

Nevertheless, the multisensory strategy establishes some specific criteria that must be met with some adaptations of teaching according to Naghmeh-Abbaspour (2022):

- Clear and systematized information, without too many useless distractions.
- Detailed description of illustrations.
- Include multisensory activities, not only those based on visual observation.
- Do not include too many activities and exercises that require the completion of pictures and sentences from the same book.

In conclusion, it can be said that multisensory stimulation is essential to compensate the lack of vision. This methodology will increase confidence, good feelings, and foster a positive attitude towards language learning. It is very important for both teacher and learner to share objectives and meanings in this teaching/learning process. In addition, teachers are most effective if they have adequate knowledge in didactic preparation, adapted materials, and use of right methodology.

Finally, multisensory strategies respond to the needs of the blind or visually impaired learner to work with different senses to construct meanings and acquire concepts that allow him or her to interact with other classmates in class and in society.

It is clear that multisensory stimulation for students with visual impairments seeks to reinforce the development of information, favoring learning and the relationship with the world too. Moreover, it is an authentic methodological strategy that uses the senses, taking into account the difficulties of the learner and responding effectively to student needs. The main objective of multisensory stimulation is to improve the abilities and development of people with disabilities. It works on the basis of stimulation of sensations, perceptions, etc.

Through the stimulation the student can assimilate and learn the qualities and information of the environment around them. In this respect, the study explored a series of strategies that provide specific guidance to teachers about different options for adapting the teaching and learning process to the educational needs of the visually impaired student population. Furthermore, multisensory strategies allow students with visual impairments to work with different senses for the acquisition of

concepts and the construction of meaning because they seek to enrich the student's sensory experience by exposing the learner to a series of controlled stimuli.

Motivational strategy

Motivational strategy opens the way to recent theories and their relationship to the process of learning English as a foreign language in people with blindness or a visual impairment.

In the same way Gardner and Lambert, through their motivational theories, focused on two types for learning a language. The instrumental, which seeks social recognition and hence the interest in learning a language. Secondly, the integrative, which seeks through the learning of an L2, to get to know other groups or to identify with them.

These instrumental and integrative motivations influence all language learners, but they are especially important for a student with blindness or visual impairment, since learning an L2 gives them self-confidence, allows them to relate to others, and improves their social integration and job prospects (R. Gardner & Lambert, 1969). The variables have been distinguished as motivational and affective factors that are decisive for the process of language acquisition and learning by an L2.

Cooperative learning strategy

Cooperative learning is an ideal methodology to educate and teach people with disabilities, because it allows students to reinforce knowledge and improve their skills. Many students have barriers when understanding a topic, but with collaborative work they can work together and also use technology that supports the learning objectives. Teachers can gradually incorporate this strategy in various activities for people with visual impairments and learning disabilities (Bryant & Bryant, 1998).

In relation to categorization there are different classifications, but in this paper we will follow the conceptualization developed by (Oxford, 1990) which divides strategies into two main categories, direct and indirect.

Cooperative Learning Strategy is extremely useful for students with visual impairments due to the fact that this teaching strategy increases the communicative skills of students, improves the level of knowledge that students can obtain, and the interactions in class will be greater and encourage teamwork.

Direct strategies

Direct strategies contribute significantly to language learning and all of them require mental processing of the language. Oxford classifies the direct learning strategies into three main subcategories: memory, cognitive and compensatory. Memory strategies refer to the storage and retention of language learning, but the focus is precisely on the process of storing and retaining information. For example: grouping, associating, placing new words in context, etc.

Cognitive strategies are processes by which knowledge is essentially acquired in order to reflect on one's own learning. For example: reasoning, analyzing, note-taking, summarizing, etc. Compensatory strategies enable the learner to maintain a state of mind conducive to learning.

They include strategies to promote motivation and concentration, reduce anxiety, to direct attention to the task and organize study time. For example, using synonyms or gestures to convey a meaning, and guessing meaning from context (Oxford, 1990).

Indirect strategies

Indirect strategies provide indirect support for learning. Oxford also classifies the indirect learning strategies into three main subcategories: metacognitive, affective, social. Metacognitive strategies are actions on the processes of self-management

of learning through planning, monitoring and evaluation. The learner plans his or her learning by selecting and focusing on certain aspects of the language in order to set goals. For example, paying attention, planning tasks, and monitoring errors.

Affective strategies allow the learner to be exposed to the new language. For example: encouraging oneself and rewarding oneself. Social strategies allow the learner to be exposed to the new language by helping the learner in the practice process. For example: cooperating with peers, asking questions, working with one or more peers to get feedback (Oxford, 1990).

To support the analysis of the strategies, it is also possible to work with these specific methods, which will be mentioned below.

Methodological strategies applied to the teaching of a foreign language to learners with visual impairments

Total Physical Response Method

The Total Physical Response (TPR) Method has had great results, is used extensively, and provides instant feedback to the teacher. Furthermore, students learning through TPR frequently demonstrate greater comprehension and fluency. In addition, retention is easier when listening, acting, or performing a physical activity, due to the motor-entertainment pattern, generating spontaneity when speaking and perceptual readiness when listening (Asher, 1969).

The American psychologist James Asher is the creator of this method in order to help with the learning of a foreign language. The author developed this method based on how children learn a language, considering that they first internalize a message and then decipher it. Asher (1969) states that the human brain is biologically programmed to respond through the body to verbal commands and naturally disposed to learn other languages.

Learners acquire a new language through skill acquisition, comprehension and retention through body movement. The Total Physical Response method creates genuine experiences for learners with great benefit to visually impaired learners, as the method includes physical movements and eliminates linguistic demands, in order to reduce anxiety and create a positive attitude to facilitate learning a new language.

Through this method, students will learn the vocabulary as they do actions. This is very beneficial for them as it helps them to create a brain link between speech and action. In addition, the aim is that the students become interested and motivated to learn the foreign language and therefore to value it as a tool for communication. However, it is well-known that such benefits relate not only to communicative competences but also to personal enrichment, motivation and integration, aspects which allow and motivate their use not only in the foreign language classroom but also in other real-life contexts (Asher, 1969).

On the other hand, TPR is characterized by the association between language and movement in an attempt to create a learning environment that is playful and facilitates learning. This learning method is also based on the natural approach, which means that learners are exposed to the language over a long period of time in order to ensure that they learn and that they record in their minds a kind of map of the language which will later serve as a source and help them to enter the activation or input stage (Asher, 1969).

The Audio-Lingual method

The Audio-Lingual method, also called audio oral or structural, emerged in the margin at the end of the Second World War. It is mainly based on language acquisition through repetition, with emphasis on speaking and pronunciation. The teacher focuses on using English or the target language, while the students acquire speech patterns through repetition and analysis of spoken language. It became the first method that focused mainly on communicative language competences.

The aim of this methodology is to achieve oral proficiency in the target language and to make the learner speak automatically, without having to resort to translation from the mother tongue (Arévalo, 2004)

According to Brooks (1964), in order to learn another language, the first priority should be given to what is spoken and the second to what is written. Basic words should be taught by repetition and complex vocabulary should be taught by pictures, objects or photographs. Language is seen here as a structural system that relates elements such as morphemes, phonemes, words, sentence structures and sentence types.

The term structural refers to elements of a language, which are linearly produced within established languages. Given that many languages have no written form, and that we learn to speak before we learn to read or write, it was argued that language is primarily what is spoken while writing takes a secondary aspect (Brooks; N, 1994).

At the same time, the aim of this method is to encourage those interested in learning the language to acquire it in a practical and fast way without having to follow certain guidelines as in previous methods. In this way, this type of teaching leaves traditional methodologies aside and focuses more on the active use of the language by the student. In the audio-lingual method the role of the teacher is central and active. The teacher models the target language, controls the direction and steps of learning, monitors and corrects the learner's performance (Brooks; N, 1994).

Language learning is seen as the result of active verbal interaction between the teacher and the learners. In addition, this method is also useful for the blind population, since learning a foreign language is basically auditory and oral, and in this case, the use of one's own body is helpful (Nikolić, 1986).

Therefore, the lessons focus mainly on teaching grammar in an inductive way through the presentation of different model structures or drills, followed by activities involving repetition, substitution, transformation, etc. While vocabulary is important,

it is conceived rather as a filler element which should always be presented in context.

On the other hand, written and reading skills should be developed at a later stage on the basis of the oral work already presented, following the natural order that children go through when learning their mother tongue: hearing, speaking, reading and writing (Astriani, 2017)

To sum up, for visually impaired learners, the choice of practices in which oral skills play a major role. For written activities, adaptation of materials is necessary. For example, transcription of written documents into Braille or the use of accessible digital materials that could be read aloud through a read-aloud program.

1.4. Support resources

Taking into account that the blind use their hands as a sense of sight to help them 'see' the world, some types of materials are described below that are suitable for blind people and that are a great contribution to the teaching-learning process.

Tactile materials

Using materials that are concrete and dynamic in motivating environments, promotes significant learning. High relief is a technique that seeks to highlight the outline of the figures so that they are perceptible when they are touched. This technique can be used in two ways. One method is using homemade materials such as wool, grains of corn, rice, lentils, etc., that are glued to the outline of the drawing and form the relief. Another method uses bond paper, cardboard or acetates, and a punch by pressure to enhance the contour of the figure.

Audio materials

Teachers can include short audio narrations, designed both for the visually impaired student and the non-visually impaired students. In addition, students are usually

open to different experiences, so it is possible to offer this resource as a tool that can be easily accessed and enjoyed by all. The audio support provides the opportunity for the reader's enjoyment and smooths out the difficulties that written texts may present.

When producing materials in an audio format, it is recommended to keep in mind that it is both, literal and linear format. Literal in the sense that audio readers will read the information exactly as it is written, also respecting punctuation marks, accents, among others, for intonation (Akmalovna, 2021).

Technological materials

There are many technological materials used to help motivate students, generate interest in learning English, and have many advantages. Some of the resources available include virtual books, personal perception, audiovisual aids, tools and electronic devices. Many are especially useful in the teaching-learning process because they educate the student to listen, pick-up the accent, pronunciation, articulation, grammar, vocabulary and sentence structure.

These learning tools have become important for special groups including people with visual or hearing impairments. In addition, the use of technological devices that support the learning of a second language, depend on a positive attitude to be most effective (Al Noursi, 2013).

New technologies utilized for visual impairments are voice synthesizers, screen readers, optical character readers, braille keyboards, text and image magnifiers, and talking scanners, among others. Through these, adaptations of teaching materials can be made (Akmalovna, 2021).

Bozic, Hersh and Susanto identified ways to correctly enter the management of technology in their corresponding fields of application for people with visual disabilities that will be mentioned below.

Talking systems

These are reading and writing support devices that enable the conversion of text into speech, and vice versa, and assist in reading and writing documents. Talking systems are generally software that reads aloud digitized writings. Although the voice still has a robotic tone, they are quite efficient and read out in several languages.

They can read almost any kind of text, as long as it does not have some difficult characters such as gothic letters or signs. The program that carries out this literacy work is called Jaws, which helps not only to read documents, but also to write them through dictation. It also offers the possibility of surfing the internet, reading emails, and even interacting with social networks (Susanto & Nanda, 2018a) (Bozic & McCall, 1993) (Hersh & Johnson, 2008).

Audio recording systems

Devices that allow the recording of sound; these are currently digital systems that do not require the use of tapes or cassettes but work with a memory that is easily downloadable and transferable. This mechanism is very useful for the visually impaired, since during an expository class the student can record the dissertations of the teachers and then transfer them to his or her computer to review them (Susanto & Nanda, 2018a) (Bozic & McCall, 1993) (Hersh & Johnson, 2008).

Computer peripheral systems

For people with a visual impairment, computer hardware, monitors, and mice are not useful, but keyboards are, as it is the device that connects them with the software, such as special Qwerty keyboards. Normal keyboards have to be used with special commands that have to be memorized in order to give instructions to the programmes, which require digital-motor skills that are not always developed.

There are systems such as Braille line and printers that convert normal text into raised print, this is useful for texts that will serve as a basis for a long period of time. Another technological resource is scanners with optical character recognition for capturing text or images and printing them in relief; this is particularly useful for the reproduction of graphics and diagrams, drawings or signs (Susanto & Nanda, 2018a) (Bozic & McCall, 1993) (Hersh & Johnson, 2008).

Optical systems

These are useful for people who have visual residuals, in other words, they can see very little because their visual field is very low or suffer from some visual anomalies that distort the images received from the environment. Computer screen magnifiers and contrast settings are available to improve the visibility of text and images.

However, it is important to consider that the reading process of these people is much slower than a normal sighted reader, even if they appear normal. Screen magnifiers show a magnified or magnifying glass-like area of the screen. The best-known software to support people with low vision is Magic (Susanto & Nanda, 2018a) (Bozic & McCall, 1993) (Hersh & Johnson, 2008).

Technology has eliminated barriers to information accessibility for people who are blind or visually impaired. Significant advances in technological resources are common in the field of education and can even provide autonomy for visually impaired students (Migliarini & Stinson, 2020). Educational institutions worldwide have made transcendental changes according to the dynamics of society, including more new didactic resources that allow visually impaired people to have access to education.

The English language is considered a lingua franca in the world, which means that learners with visual impairments should have the same opportunities as other people and be able to join the labor field since nowadays the most important requirement of a company is this foreign language (OMS, 2020b).

Faced with these figures, the great challenge remains to educate and train individuals to be inserted into the world of work with the appropriate preparation and skills, together with the educational objectives of the millennium where no person is left behind because of their condition of disability. On the contrary, their inclusion in society must be promoted (Coşkun, 2013).

English language instruction brings multiple benefits to visually impaired students, thanks to a curriculum and didactic material that engages their interest and curiosity to improve their language skills. Materials for visually impaired learners are now attractive and contribute to improving their learning, creating an opportunity to increase their self-esteem and social skills to be more productive in class. (Coşkun, 2013)

CHAPTER II. DESIGN METHODOLOGY

2.1. Research design

Approach

This is a retrospective, observational, and descriptive study which prioritizes the collection of data from high impact scientific articles with a meta-analysis; as well as surveys with experts on the subject. The literature search yielded a total of 48 articles, of which 30 were chosen that define effective strategies for the development of foreign language learning among students with visual impairments. However, some theoretical studies were not included because they lacked scientific evidence. Additionally, a Spanish-English version of a survey was conducted with 55 participants with the objective of identifying effective strategies for teachers of English as a Foreign Language in the teaching processes for learners with visual impairments.

The effectiveness of this research was determined using the statistical method of the probability of association of variables chi-square that analyses the relationship between the use of effective strategies and visually impaired learners. It is important to mention that the Chi-Square test is a statistical procedure used to determine whether there is a significant difference between expected and observed results in one or more categories (McHugh, 2013). Finally, the validation of the research instruments was carried out by means of expert judgement with 5 teachers who are experts in the subject.

Research type

The type of approach of this research is both qualitative and quantitative because the purpose of the study is to know a contextualized reality and examine the statistical data. It is qualitative because this study collected and analyzed concepts, opinions, and experiences of other authors (Brannen, 2017). In other words, it focused on understanding and explaining how, through the use of effective

strategies, language can be taught to visually impaired learners. It is quantitative because through the application, collection, and analysis of statistical data, the hypothesis of the study was validated in the research (Brannen, 2017). In other words, specific properties, and characteristics of the processes and strategies that support the effective instruction of the English language for students with visual disabilities were analyzed in this study.

Research modality

The research modality is socio-educational because data was collected and analyzed related to the field of education. In addition, the aim of socio-educational research is to verify ideas and statements about the relationship between the educational system and society (R. C. Gardner, 2020). As a result, the socio-educational research modality allowed the researcher to access the knowledge of the real context of this group of students with this special need. Moreover, the participation of the 55 teachers who have worked with students with visual impairments was a great contribution to carry out this research.

Research depth level

Regarding the type of research study, it combines the characteristics of a descriptive and exploratory study in terms of its level. First, it is descriptive because the research presents and summarizes the information in a methodical way (Wiley & Pace, 2015). Consequently, it extracts meaningful generalizations that contribute to the instruction of English as foreign langue to visually impaired students. Second, it is exploratory because this research aims to give an overview of the study, allowing the collection of background information about this challenging situation (Wiley & Pace, 2015)

2.2. Population and sample

The population of this study was global, with a total of 55 foreign language teachers who have had or are currently teaching languages to learners with any type of visual

impairments as identified in this research case. This sample was essential for the researcher because it allowed for a study that generated data that was provided based on their knowledge and experience.

Table 2. Population

Population group		
Sample of persons involved	Number	Percent
Foreign language teachers	55	100

Note: This table indicates the total number of people involved during this study research

Source: Self made

2.3. Data collection technique and instruments

In order to reach the objectives of the research, a structured survey was carried out in such a way that it collected very specific information about the teaching of a foreign language to students with visual impairments. This instrument made it easy to conduct the descriptive and explanatory depth level of this study. The survey was designed by the author, validated by the tutor, then completed by 55 teachers that participated in the study. Furthermore, the structured survey consisted of 6 questions that were applied through the application Survey Forms.

This process of data collection involved teachers of a foreign language who have had experience teaching visually impaired students, so they understand the most effective strategies and activities to use with this group of learners.

Validity and reliability of the instruments

In the validation process of this research instrument, the survey questions were evaluated to ensure their reliability, because there are many factors that are difficult to control and can subsequently influence the reliability of the questions.

The first step in validating this research instrument was to submit this survey to EFL experienced teachers. The second step was to test the reliability of this research instrument through the validation of EFL teachers. Those process ensured that the

questions of the survey did not contain common errors, such as confusing or ambiguous questions. In this way, the evaluation of experts allowed validating the instrument and obtaining valid information, since it is a required criterion for all research.

Carrying out these steps to validate a research instrument is essential to ensure that the survey is truly reliable. Performing these steps to validate a research instrument not only strengthens reliability, but also adds a degree of quality and professionalism of the final product.

For the present research project, the statistical validation process by expert judgement is based on the validity coefficient V according to (Mayaute, 1988) which determines the following: The V-coefficient is computed as the ratio of the data obtained over the maximum sum of the difference of the possible values, it can be calculated as the ratings of a set of judges, in relation to one item, or as the ratings of one judge, in relation to a group of items. Likewise, the ratings assigned can be dichotomous (receiving values of 0 or 1) or polytomous (receiving values from 0 to 5).

In this case, it will calculate for dichotomous responses and the analysis of an item by a group of judges, using the following formula:

$$v = \frac{s}{(n(c-1))}$$

Where:

S = The sum of the Yes
Si = Value assigned by judge i
n = Number of judges
c = Number of values of the rating scale (2 Null No and Acceptability Yes), in this case being values of 1,2,3 for null on the Likert scale and 4,5 for acceptability on the Likert scale).

The coefficient can have values between 0 (No) and 1 (Yes), and the higher the value computed, the higher the content validity of the item. The result can be statistically evaluated by the following decision test:

If the value of v is greater than or equal to 0.8, it has adequate validity.
If the value of v is less than 0.8, it does not have adequate validity.

For this purpose, the table of survey validity frequencies provided by five (5) professionals in the area of special education is presented and assigned validation tests according to the following aspects:
a) Content Validity, b) Construct Validity and c) Criterion Validity.

Table 3. Validation test of judge one

Validation: Judge One (J1) Sánchez G.							
Item number	Item	Content validity		Construct validity		Criterion Validity	Observations
		YES	NO	YES	NO	YES	NO
1	What general factors must EFL teachers consider when teaching learners with visual impairments?	5		5		5	None
2	What are some adaptations you suggest to EFL teachers to consider when teaching learners with visual impairments?	5		5		5	None
3	Which specific training do EFL teachers need to effectively work with students with visual impairments?	5		5		5	None
4	Are there any support resources which should be used in reading and writing activities for learners with visual impairments?	5		5		5	None
5	What educational tools do learners with visual impairments often use to access to written information?	5		5		5	None
6	How do learners with visual impairments understand the information in a foreign language effectively?	5		5		5	None

Note: This table indicates the ratings assigned about the content validity, construct validity and criterion validity by judge one

Source: Self made

Table 4. Validation test of judge two

Validation: Judge Two (J2) Rodríguez C.							
Item number	Item	Content validity		Construct validity		Criterion Validity	Observations
		YES	NO	YES	NO	YES	NO
1	What general factors must EFL teachers consider when teaching learners with visual impairments?	5		5		5	None
2	What are some adaptations you suggest to EFL teachers to consider when teaching learners with visual impairments?	5		5		5	None
3	Which specific training do EFL teachers need to effectively work with students with visual impairments?	5		5		5	None
4	Are there any support resources which should be used in reading and writing activities for learners with visual impairments?	5		5		5	None
5	What educational tools do learners with visual impairments often use to access to written information?	4		4		4	None
6	How do learners with visual impairments understand the information in a foreign language effectively?	5		5		5	None

Note: This table indicates the ratings assigned about the content validity, construct validity and criterion validity by judge two

Source: Self made

Table 5. Validation test of judge three

Validation: Judge Three (J3) Galora N.							
Item number	Item	Content validity		Construct validity		Criterion Validity	Observations
		YES	NO	YES	NO	YES	NO
1	What general factors must EFL teachers consider when teaching learners with visual impairments?	5		5		5	None
2	What are some adaptations you suggest to EFL teachers to consider when teaching learners with visual impairments?	4		4		4	None
3	Which specific training do EFL teachers need to effectively work with students with visual impairments?	5		5		5	None
4	Are there any support resources which should be used in reading and writing activities for learners with visual impairments?	5		5		5	None
5	What educational tools do learners with visual impairments often use to access to written information?	5		5		5	None
6	How do learners with visual impairments understand the information in a foreign language effectively?	5		5		5	None

Note: This table indicates the ratings assigned about the content validity, construct validity and criterion validity by judge three

Source: Self made

Table 6. Validation test of judge four

Validation: Judge Four (J4) Galarza L.							
Item number	Item	Content validity		Construct validity		Criterion Validity	Observations
		YES	NO	YES	NO	YES	NO
1	What general factors must EFL teachers consider when teaching learners with visual impairments?	5		5		5	None
2	What are some adaptations you suggest to EFL teachers to consider when teaching learners with visual impairments?	5		5		5	None
3	Which specific training do EFL teachers need to effectively work with students with visual impairments?	5		5		5	None
4	Are there any support resources which should be used in reading and writing activities for learners with visual impairments?	5		5		5	None
5	What educational tools do learners with visual impairments often use to access to written information?	5		5		5	None
6	How do learners with visual impairments understand the information in a foreign language effectively?	4		4		4	None

Note: This table indicates the ratings assigned about the content validity, construct validity and criterion validity by judge four

Source: Self made

Table 7. Validation test of judge five

Validation: Judge Five(J5) Romero S.							
Item number	Item	Content validity		Construct validity		Criterion Validity	Observations
		YES	NO	YES	NO	YES	NO
1	What general factors must EFL teachers consider when teaching learners with visual impairments?	4		4		4	None
2	What are some adaptations you suggest to EFL teachers to consider when teaching learners with visual impairments?	5		5		5	None
3	Which specific training do EFL teachers need to effectively work with students with visual impairments?	5		5		5	None
4	Are there any support resources which should be used in reading and writing activities for learners with visual impairments?	5		5		5	None
5	What educational tools do learners with visual impairments often use to access to written information?	5		5		5	None
6	How do learners with visual impairments understand the information in a foreign language effectively?	4		4		4	None

Note: This table indicates the ratings assigned about the content validity, construct validity and criterion validity by judge five

Source: Self made

In addition, the tabulation table of results for the validation of each dimension in relation to the criteria of each expert is presented as below:

Table 8. Tabulation of validation test results of judges

Aspect: Content validity										**Aspect: Construct validity**										**Aspect: Criterion validity**									
S	n	c	item	J1	J2	J3	J4	J5	V of Aiken	S	n	c	item	J1	J2	J3	J4	J5	V of Aiken	S	n	c	item	J1	J2	J3	J4	J5	V of Aiken
5	5	2	1	1	1	1	1	1	1.00	5	5	2	1	1	1	1	1	1	1.00	5	5	2	1	1	1	1	1	1	1.0
5	5	2	2	1	1	1	1	1	1.00	5	5	2	2	1	1	1	1	1	1.00	5	5	2	2	1	1	1	1	1	1.0
5	5	2	3	1	1	1	1	1	1.00	5	5	2	3	1	1	1	1	1	1.00	5	5	2	3	1	1	1	1	1	1.0
5	5	2	4	1	1	1	1	1	1.00	5	5	2	4	1	1	1	1	1	1.00	5	5	2	4	1	1	1	1	1	1.0
5	5	2	5	1	1	1	1	1	1.00	5	5	2	5	1	1	1	1	1	1.00	5	5	2	5	1	1	1	1	1	1.0
5	5	2	6	1	1	1	1	1	1.00	5	5	2	6	1	1	1	1	1	1.00	5	5	2	6	1	1	1	1	1	1.0
			Average:						1.00				Average:						1.00				Average:						1.0

Note: This table indicates the average results of each aspect dimension that each judge evaluated through surveys.

Source: Self made

As on average the value of v = 1.0, each aspect exceeds the value of 0.8, therefore it can be concluded that the instrument reaches the validation value of 0.8.

Data analysis and data processing

The processing and analysis of data was based on the compilation of the data obtained through the available sources of information of good quality. In other words, the survey about effective strategies for EFL teachers of visually impaired learners was conducted to collect the information and carry out the analysis of the data obtained. Subsequently, the data obtained was recorded and tabulated. In this way, the statistical analysis of the data was completed in order to interpret the information obtained.

Processing and analysis of information

Analysis of results

Based on the data collected through the surveys, tables and graphs were created to analyze and interpret the data. The objective was to identify effective strategies for teachers of English as a Foreign Language (EFL) in the teaching process for learners with visual impairments. The information collected allowed the hypothesis to be tested, and conclusions and recommendations to be drawn.

Interpretation of the data

Once the data collection instruments had been applied, the analysis and interpretation of the data was completed. The information obtained will produce the conclusions reached by the research, which will show the perception of the EFL teachers according to the insights they have about teaching a foreign language to students with visual impairments.

Table 9. Frequencies

Statistics		What general factors must EFL teachers consider when teaching learners with visual impairments?	What are some adaptations you suggest to EFL teachers to consider when teaching learners with visual impairments?	Which specific training do EFL teachers need to effectively work with students with visual impairments?	Are there any support resources which should be used in reading and writing activities for learners with visual impairments?	What educational tools do learners with visual impairments often use to access written information?	How do learners with visual impairments understand the information in a foreign language effectively?
N	Valid	55	55	55	55	55	55
	Missing	0	0	0	0	0	0
Mean		1.53	1.27	1.42	1.45	1.44	1.31
Range		2	2	2	2	2	2
Minimum		1	1	1	1	1	1
Maximum		3	3	3	3	3	3
Sum		84	70	78	80	79	72

Note: This table indicates the data sorted by frequency of the data collected through the surveys during this research.

Source: Self made

Table 10. Question 1

What general factors must EFL teachers consider when teaching learners with visual impairments?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Establish specific strategies when teaching learners with visual impairments.	37	67.3	67.3	67.3
	Sit the learner properly in the classroom (e.g., in the middle, at the front, at the side, etc.)	7	12.7	12.7	80.0
	Give clear instructions because the learner does not interpret gestures and facial expressions.	11	20.0	20.0	100.0
	Total	55	100.0	100.0	

Note: This table indicates the result obtained of question 1 applied to EFL teachers of visually impaired learners

Source: Self made

Analysis and interpretation

67.3% of the participants in this study indicated that establishing specific strategies for teaching learners with visual impairments is a factor to be taken into account by the teacher of English as a foreign language. Consequently, the application of language learning strategies helps the learners to acquire and use the language, facilitating the learning process to make it faster, more personal, more enjoyable, and effective to be transferable to new situations.

Table 11. Question 2

What are some adaptations you suggest to EFL teachers to consider when teaching learners with visual impairments?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Adaptation of teaching methodology	44	80.0	80.0	80.0
	Adaptation of the content	7	12.7	12.7	92.7
	Adaptation of the physical environment	4	7.3	7.3	100.0
	Total	55	100.0	100.0	

Note: This table indicates the result obtained of question 2 applied to EFL teachers of visually impaired learners

Source: Self made

Analysis and interpretation

80% of the population of this study suggested that EFL teachers adapt the teaching methodology when teaching learners with visual impairments. Therefore, the adaptation must be made in the methodological strategies and not in the subject content because the knowledge acquisition process of a learner with visual impairments is similar to a sighted learner.

Table 12. Question 3

Which specific training do EFL teachers need to effectively work with students with visual impairments?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Training in strategies for teaching learners with visual impairments	38	69.1	69.1	69.1
	Training in the use of Braille instruction	11	20.0	20.0	89.1
	Training in curriculum adaptation	6	10.9	10.9	100.0
	Total	55	100.0	100.0	

Note: This table indicates the result obtained of question 3 applied to EFL teachers of visually impaired learners

Source: Self made

Analysis and interpretation

69.1% of the participants in this study mentioned that EFL teachers need to get training in strategies for teaching learners with visual impairments. As a result, students with visual impairments need a specially qualified and prepared EFL teacher to support a high-quality teaching and learning process of a foreign language.

Table 13. Question 4

Are there any support resources which should be used in reading and writing activities for learners with visual impairments?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Technological resources	37	67.3	67.3	67.3
	Braille resources	11	20.0	20.0	87.3
	Macrotype resources	7	12.7	12.7	100.0
	Total	55	100.0	100.0	

Note: This table indicates the result obtained of question 4 applied to EFL teachers of visually impaired learners

Source: Self made

Analysis and interpretation

67.3% of the population of this study indicated that technological resources should be used in reading and writing activities to support students with visual impairments. Consequently, technological resources allow learners with visual impairments to access reading and writing exercises in a more accurate, timely and independent manner through speech synthesizers.

Table 14. Question 5

What educational tools do learners with visual impairments often use to access to written information?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Digital tools	41	74.5	74.5	74.5
	Braille	4	7.3	7.3	81.8
	Audio tools	10	18.2	18.2	100.0
	Total	55	100.0	100.0	

Note: This table indicates the result obtained of question 5 applied to EFL teachers of visually impaired learners

Source: Self made

Analysis and interpretation

74.5% of the participants of this study stated that learners with visual impairments often use digital tools to access to written information. Thus, digital tools become valuable tools to transmit the contents of the subject and to achieve effective learning processes in students because digital tools are extensive, diverse, and facilitate access to information thanks to adaptive interfaces.

Table 15. Question 6

How do learners with visual impairments understand the information in a foreign language effectively?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Association	43	78.2	78.2	78.2
	Memorization	7	12.7	12.7	90.9
	Translation	5	9.1	9.1	100.0
	Total	55	100.0	100.0	

Note: This table indicates the result obtained of question 6 applied to EFL teachers of visually impaired learners

Source: Self made

Analysis and interpretation

78.2% of the population of this study indicated learners with visual impairments understand the information in a foreign language effectively through association. Creating mental associations enables the learner to remember and retain any new information. From another perspective, it can be said that this type of learning by association is learning from experiences, since in a large part of the learning process, the visually impaired student uses life experiences as a reference point.

Research proposal

Create a guide for teachers of English as a foreign language (EFL) that emphasizes the use of effective strategies for learners with visual impairments.

Introduction

The present research aims to implement effective strategies for teachers of English as a foreign language to provide students with visual impairments with an inclusive teaching-learning environment that includes processes and strategies that support effective English language instruction. A guide with effective teaching strategies was created to support teachers of visually impaired learners. The next section is the scheme under which the educational intervention proposal was developed

Justification

The teacher is the key element in the process of educational inclusion. For this reason, it is important to be able to effectively support students with visual impairments. The presence of a student with poor vision or blindness forces the teacher to make certain didactic modifications. This study is important and significant in the field of English education as a foreign language because teachers are expected to use effective teaching strategies to support the learning process of visually impaired students. The most perceptive foreign language teachers are those who are aware of appropriate strategies and use them effectively with students.

Objectives of the proposal

General objective

To apply effective strategies in students with visual disabilities in the process of teaching English as a foreign language

Specific objectives

- To identify strategies that allow teachers to train visually impaired students of teaching English as a foreign language
- To propose a set of guidelines for teaching a foreign language based on effective strategies.
- To determine support resources for the teaching process of a foreign language to visually disabled students.

Guide

Strategies and support resources for teaching a foreign language to students with visual impairments.

Vanessa Rodriguez

2023

GENERAL ASPECTS

This guide contains a series of pedagogical study strategies for students with visual impairments. It is worth emphasizing here that in no case is it about establishing rigid or unique rules, because there are none in any area of life, and because it is not intended to have any authority other than that which derived from previous professional experiences and the desire to share with those who find it useful. It is intended to provide better instruction to students with visual disabilities, in the teaching-learning process of a foreign language.

This guide is based on the four fundamental language skills: listening, speaking, reading and writing. Trying to highlight some particular situations that are part of the normal development of an English class. Likewise, it is neither possible nor desirable to cover the very wide and diverse range of options, in terms of pedagogical strategies, educational materials and existing criteria, nor to focus on how to use any specific type of "software".

OBJECTIVE OF THE GUIDE

The main objective of the guide is to provide some pedagogical strategies for teaching English to students with visual impairments and its main purpose is to support the work of EFL teachers. Consequently, EFL teachers will have sufficient pedagogical tools to provide better attention to students with visual disabilities in the teaching-learning process of a foreign language.

In turn, this guide provides teachers with basic information on the use of the different accessible materials used by people with visual impairments and constitutes a pedagogical aid for teachers who wish to incorporate these materials in a systematic way in their teaching process to promote educational inclusion.

LISTENING

The ability to listen is an essential skill in linguistic communication for people with visual disabilities because through hearing they learn to recognize many of the images that are captured by sight. For example, different types of emotions such as sadness, anger, worry, etc., which are commonly perceived visually by the expression reflected on the face or by a particular gesture. But for people with visual impairments, they are perceived auditorily through manifestations reflected in the expression of the voice such as intonation, intensity,
effusiveness and other speech inflections that reveal different emotional states.

SPEAKING

Speaking skills play an important role for the visually impaired student. Effective speaking will ensure fast and effective communication with the person you are communicating with. However, no special strategies are required compared to those used to develop this language skill in other students. In the area of oral communication, students with visual disabilities are in equal conditions with other students in the practice of a foreign language. Consequently, it is necessary to motivate the student to enrich their vocabulary daily in order to be more fluent in conversation.

READING

A visually impaired person accesses a computer or mobile phone through screen reader software using synthetic voice to make the information audible. As a result, reading by electronic means has become another important possibility to access texts in addition to Braille or audio recordings. Each of electronic means through which a visually impaired person can access reading has its own particularities that make it more suitable for certain uses or content.

WRITING

Motivating students to carry out writing practices in a foreign language helps to stimulate their intellectual development, their capacity for imagination, their creativity, and to express logical and abstract relationships. In the particular case of visually impaired students, mastery and functional use of the reading and writing code used by the learner is of vital importance for success in learning a foreign language.

PEDAGOGICAL GUIDELINES

The teacher must provide the visually impaired student with sufficient elements for learning and skills acquisition. These pedagogical supports include resources and strategies that support the comprehensive development of the student's education, interest and personal well-being, as well as strengthen individual performance and life skills. Specialized supports and resources ensure the real integration of students with visual impairment in an education without barriers. Some of the supports include the following:

- Integrate information from different sensory pathways
- Stimulate the rest of the vision that benefits the maximum functionality of those students with low vision
- Use technical aids to access reading-writing in ink
- Providing Braille learning materials
- Integrating information from multisensory experiences
- Provide materials that allow sensory experience of all its characteristics
- Allow manipulation and recognition of objects, using active touch (haptic system), guiding tactile observation together with verbal accompaniment
- In order for the learner to associate the word and object, the object should be as real as possible and the word has a concrete and real content

SUPPORT MATERIALS AND RESOURCES

NON-OPTICAL AIDS

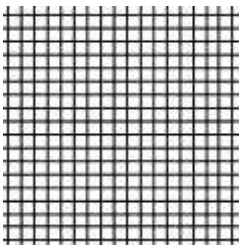
To use non-optic aides, four aspects must be taken into account: ergonomics, contrast, illumination and size.

Ergonomics

Students with low vision often read at very short working distances. Folding tables and book stands are a great help to these visually impaired students.

Contrast

Students with low vision need contrast to carry out their activities more easily and in less time. For example, adapted grids and lined sheets, highlighted in high contrast.



Lightning

Lamps help control the intensity of light that the student needs while filters are recommended for use with those students who suffer from glare sensitivity, blurred vision, loss of contrast sensitivity, and difficulty adapting to sudden changes in lighting levels.

Size

The size of the printed letter should be large enough to facilitate reading for those students with low vision.

LARGE FONT

OPTICAL AIDS

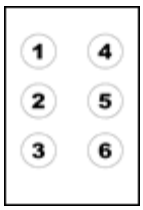
Optical aids for near vision that allow access to written and graphic material. For example: special lenses, magnifying glasses without light, magnifying glasses with light, tele magnifying glasses, etc.

TYPHLOTECHNICAL MATERIAL

All those resources that enable access to information by taking advantage of advanced technology (speech synthesis, braille line, Braille'n Speak, Braille-N-Print optacon, computer screen magnification programmes such as ZOOMTEXT-, television magnifiers, etc.)

BRAILLE MATERIAL

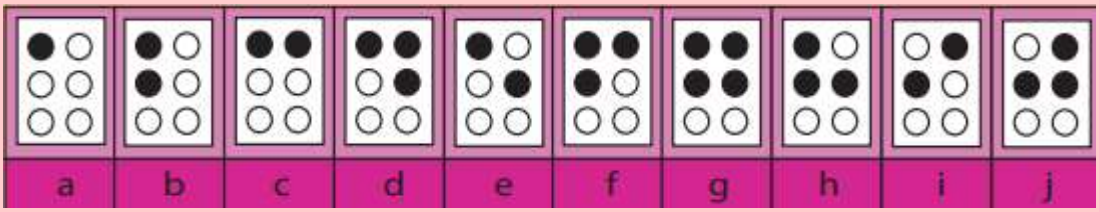
Braille is neither the first nor the only literacy system devised for visual impaired people, but it is the one whose use is universally most widespread, and it has been recognized by UNESCO as the only suitable means of access to written information for blind people.



The so-called generator sign or complete Braille character is a small rectangle with six dots distributed in two vertical columns of 3 each, or three horizontal rows of 2 dots each. The dots are numbered from 1 to 6, the top row corresponds to dots 1 and 4, the middle row corresponds dots to points 2 and 5, and the bottom row corresponds to dots 3 and 6. The different symbols are thus formed according to the number, arrangement and combination of up to six dots. In other words, the presence or absence of a dot in each position determines which letter (or sign) it is. Through these six dots, 64 different combinations are obtained.

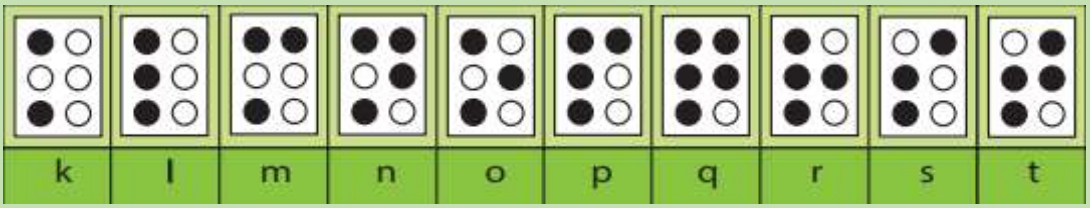
First series

Corresponds to the first 10 letters of the alphabet, from A to J. Uses the combination of the upper and middle dots (1,2,4,5)



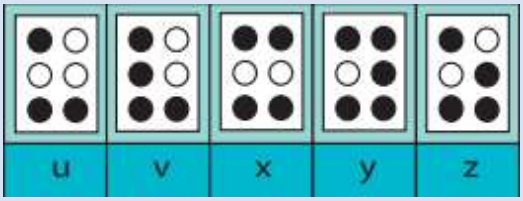
Second series

From K to T. To the upper dots (1,2,4,5) is added dot 3



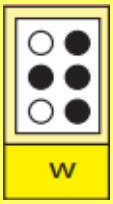
Third series:

From U to Z. Point or dot 6 is added to the first 5 letters of the second series.



Compound letters

To this group belongs the W



Braille can be reproduced using a plate and stylus, so that each dot is generated from the back of the page, written in a reverse image (like the one obtained by looking in a mirror), handwritten, or printed with a Braille typewriter, by a Braille printer connected to a computer, or by means of a Braille device (the so-called paperless Braille because the dots and their combinations are formed electronically). In this way, the new information technologies, far from displacing braille, manage to enhance it and this in turn in general allows the best possible use of computer technologies.

TECHNOLOGICAL RESOURCES

- Character magnification programs: Programs that allow people with functional visual impairment to see what is displayed on the computer screen by enlarging selected parts of the image. For example: Magic, Zoom Text, BigShot, etc.

- Screen readers: software that allows access to the text on the computer screen by presenting it in the form of synthesized speech or Braille text. For example: JAWS for WINDOWS, NVDA, Serotek System Access, etc.

- Braille display: a device with a screen program that provides information in braille mode.

RECOMMENDATIONS

In the following list are some recommendations that should be taken into account throughout the learning process.

- When you come into contact with a person, it is good to introduce yourself, so he/she knows who they are with. Also, ask for his/her name; use it when you address that person and look at their face.

- Try to use verbal language and not gestures to express yourself, since in many cases these will not be perceived by the visually impaired person.

- Be careful not to use words such as “here”, “this”, “that”, etc. since they are usually accompanied by gestures that cannot be seen by the visually impaired person. In these situations, it is preferable to use more orientative terms such as “in front of the door”, “behind you”, “to your right”, etc. Sometimes it can be useful to guide the person's hand to the specific object and indicate what it is.

- If you regularly check notebooks for the whole class, require your visually impaired student to present them as you do for the rest of the group. Open the notebook to different pages and ask him/her to read aloud to you. This way you can make sure that he/she is taking notes.

- In the presentation of quizzes and written assessments, when you dictate the questions to the whole class, encourage your blind students to write and answer them in Braille. If your institution has a support teacher, request their collaboration to transcribe the questions into ink so that you can mark them. Otherwise, ask him or her to read the answers to you. This same strategy can be used to check the exercises or tasks that you leave for the whole group to do at home.

- It is very positive to place signs in Braille on the doors of the different facilities and important items within the institution, in order to promote their autonomy.

- If you read a document in class, do it slowly and clearly, avoiding summaries or commenting on it during the reading.

- Visual information added to the oral explanations should also be verbalized. If you use visual aids such as videos or transparencies, it is convenient to make a description of its contents. Remember that everything you write on the board must be said out loud at the same time.

- Allow audio recording of lessons. Also allow the use of other technical aids normally used by the students (laptops, communicators, stylus, etc.).

- As far as possible, give students the material to be followed in class in an electronic format, so that they can read it on their computer or whatever technological aids that are available to them. It is always necessary to ensure that, in case the materials are photocopied, they have good printing quality; this is especially important for students with low vision.

CHAPTER III: ANALYSIS OF THE RESULTS

3.1. Analysis and interpretation of results

In this section, the present research will be analyzed with other studies with similar contexts or under the same characteristics, where some reference points will be examined.

In addition, T. Nikolic (1987) mentions that the reason why visually impaired students may show some difficulty in learning English as a foreign language is mainly due to the lack of appropriate strategies employed.

The above information mentioned matches with the present research because the results obtained from the survey indicated that the use of strategies, in classes that have learners with visual impairments, help the transmission of content based on the needs of learners. Additionally, it is still common practice to use only visual materials instead of developing effectively strategies.

Further, Carrera (2017) mentions that there is no particular strategy especially designed for students with visual impairments, but the author suggests the use of Braille as a fundamental educational tool for reading and writing activities.

This statement differs from the results obtained. According to the results obtained, new technologies make writing and reading easier for learners with visual impairments. However, for visually impaired and deaf people, the Braille system is the only means of access to writing and reading education. In this case, mastering Braille's literacy code plays a fundamental role in reading and writing in English because it allows full access to education based on a learner's characteristics.

Apart from the mentioned above, Naghmeh-Abbaspour, B., & Sabokrouh, F. (2020) mention that some adaptations of teaching materials and educational supports cover the needs and peculiarities of students, allowing the development of basic

cognitive functions such as attention and memory, as well as promoting language development.

The results obtained in this research coincides the above report in that it is necessary to spend time and resources in developing the correct adaptations to improve the process of teaching English. These adaptations should compensate for the lack of vision in the process of learning a foreign language and put visually impaired learners on the same level as those learners who are not visually impaired.

3.2. Hypothesis verification

The chi-square test was used during the hypothesis verification of the present research called “Effective Strategies for EFL teachers of Visually Impaired Learners: A Research Synthesis”.
According to Vásquez I (2021), the chi-square test is useful to establish whether or not there is a relationship between categorical variables (nominal and ordinal). It can be performed by using the following formula:

$$Chi - square = \sum \frac{(Fo - Ft)2)}{Ft}$$

Where:

Fo = Observed frequencies
Ft = Expected frequencies

The procedure in a computer tool is detailed below:

- It is calculated with the appropriate SPSS formula.
- Interpret the results according to the hypothesis stated and the level of statistical significance considered.
- If the significance is 5% the p-value must be less than 0.05 to reject the null hypothesis.

- If the significance is 1% the p-value must be less than 0.01 to reject the null hypothesis.

Selection of significance

An error level of α=0.05 will be used to test the hypothesis.

Table 16. Chi-square Test

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	50.740[a]	4	.000
Likelihood Ratio	53.106	4	.000
Linear-by-Linear Association	40.178	1	.000
N of Valid Cases	55		

a. 6 cells (66.7%) have expected count less than 5. The minimum expected count is .64.

Note: This table indicates the hypothesis testing method.

Source: Self made

Table 17. Crosstabulation

Crosstabulation

			How do learners with visual impairments understand the information in a foreign language effectively?			Total
			Association	Memorization	Translation	
What general factors must EFL teachers consider when teaching learners with visual impairments?	Establish specific strategies when teaching learners with visual impairments	Count	37	0	0	37
		Expected Count	28.9	4.7	3.4	37.0
	Sit the learner properly in the classroom (e.g. in the middle, at the front, at the side, etc.).	Count	6	1	0	7
		Expected Count	5.5	.9	.6	7.0
	Give clear instructions because the learner does not interpret gestures and facial expressions.	Count	0	6	5	11
		Expected Count	8.6	1.4	1.0	11.0
Total		Count	43	7	5	55
		Expected Count	43.0	7.0	5.0	55.0

Note: This table indicates how these two questions or variables correlate with each other.

Source: Self made

For this reason, the null hypothesis is rejected and the alternative hypothesis is accepted in which it is concluded that there is a correlation between the variable teaching and learning strategies in students with visual impairmen

CONCLUSIONS

The following conclusions can be drawn from this investigation:

- It has been possible to analyze how learners with visual impairments learn a foreign language. It is concluded that the students with visual impairments can do all the activities and tasks that sighted students can do, but it is necessary for the EFL teachers to employ effective strategies in the classroom as well as the use of different educational tools and materials. Therefore, it is not recommended to make changes to the content or curriculum, instead it is recommended to use all possible sensory channels to acquire external information and achieve comprehensive learning

- Effective strategies have been identified to be utilized during the teaching process of a foreign language among visually impaired students. The specific needs of learners with visual impairments require some specific teaching strategies. For example:

Multisensory strategies allow students with visual impairments to work with different senses for the acquisition of concepts and the construction of meaning because they seek to enrich the student's sensory experience by exposing the learner to a series of controlled stimuli.

The Cooperative Learning Strategy is extremely useful for students with visual impairments due to the fact that this teaching strategy increases the communicative skills of students, improves the level of knowledge that students can obtain, and the interactions in class will be greater and encourage teamwork.

- It has been possible to create a set of guidelines for teaching a foreign language based on effective strategies thanks to the data obtained through the interviews and the analysis of previous investigations. It is worth mentioning that the guide does not establish rigid or unique rules, nor does intend to have any influence other than that which is derived from previous professional experiences.

- It is possible to determine support resources in the teaching process of a foreign language to students with visual impairments. Visually impaired students are able to progress and learn more easily with the manipulation of appropriate materials, such as tactile, audio, and technological materials. It is important to clarify that according to the subject content of the class, the teacher must acquire and use appropriate materials to teach it.

RECOMMENDATIONS

- It is advised that learners with visual impairments learn a foreign language in a method similar to sighted learners. The individual organism possesses other sensory pathways (olfactory, tactile, auditory) which, properly stimulated, can compensate to a large extent for the lack of vision, so that the sequence of general academic development can be continued.

- It is recommended to apply effective and proven strategies during the teaching process of a foreign language with visually impaired students. Multisensory and Cooperative Learning Strategies provide learners with visual impairments the information, practice and experience are necessary to achieve active learning. Moreover, identified strategies should not be applied in isolated actions, but should be part of a whole process.

- It is highly recommended to use the guide proposed by this research during the process of teaching a foreign language at different levels of learners with visual impairments. Furthermore, this guide suggests to EFL teachers possible strategies and materials that allow access to learning on equal terms between students with visual impairments and sighted learners.

- It is advised to make use of the tactile, audio, and technological materials in the teaching process of a foreign language of students with visual impairments. These materials constitute complementary teaching resources. Additionally, they stimulate the interest in learning and enable the learner with visual impairments to achieve learning on his or her own.

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ANNEXES

ANNEX 1: Expert evaluation Judge 1

EXPERT EVALUATION

Dear teacher, you have been invited to participate in the evaluation process of the instrument (survey) to carry out the research study. For this reason, this evaluation instrument is given to you. This form is for you to mark your perceptions for each item.

Thank you in advance for your contribution, which will allow the validation of the instrument and obtain valid information, a required condition for all research. Next, identify the item or question and answer by placing an "x" in the box you consider appropriate, with numerical values from 1 to 5, where 1 is Not Acceptable and 5 is Acceptable. In addition, if necessary, you can make any other comments in the comments' column.

		ASPECTS															
		Content validity					Construct validity					Criterion validity					
		The item or question corresponds to one or more of the dimensions of the variable					The item or question contributes to measure the indicator					The item or question allows you to classify the topics in the categories					Comments
		SCORE															
		1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	
1	**What general factors must EFL teachers consider when teaching learners with visual impairments?** - Establish specific strategies when teaching learners with visual impairments - Sit the learner properly in the classroom (e.g., in the middle, at the front, at the side, etc.) - Give clear instructions because the learner does not interpret gestures and facial expressions.					x					x					x	
2	**What are some adaptations you suggest to EFL teachers to consider when teaching learners with visual impairments?** - Adaptation of teaching methodology - Adaptation of the content - Adaptation of the physical environment					x					x					x	

3	**Which specific training do EFL teachers need to effectively work with students with visual impairments?** - Training in strategies for teaching learners with visual impairments - Training in the use of Braille instruction - Training in curriculum adaptation					x					x					x	
4	**Are there any support resources which should be used in reading and writing activities for learners with visual impairments?** **- Technological resources** **- Braille resources** **- Macrotype resources**					x					x					x	
5	**What educational tools do learners with visual impairments often use to access to written information?** - Digital tools - Braille - Audio tools					x					x					x	
6	**How do learners with visual impairments understand the information in a foreign language effectively?** - Association - Memorization - Translation					x					x					x	

Validator	Name:	Giovanna Sánchez	
	Degree:	Magíster en Pedagogía de Idiomas Nacionales y Extranjeros Mención Inglés	
	ID:	1804107165	
	Phone or email:	0995151248 / bgiova19@gmail.com	Signature

ANNEX 2: Expert evaluation Judge 2

EXPERT EVALUATION

Dear teacher, you have been invited to participate in the evaluation process of the instrument (survey) to carry out the research study. For this reason, this evaluation instrument is given to you. This form is for you to mark your perceptions for each item.

Thank you in advance for your contribution, which will allow the validation of the instrument and obtain valid information, a required condition for all research. Next, identify the item or question and answer by placing an "x" in the box you consider appropriate, with numerical values from 1 to 5, where 1 is Not Acceptable and 5 is Acceptable. In addition, if necessary, you can make any other comments in the comments' column.

		ASPECTS															
		Content validity					Construct validity					Criterion validity					
		The item or question corresponds to one or more of the dimensions of the variable					The item or question contributes to measure the indicator					The item or question allows you to classify the topics in the categories					Comments
		SCORE															
		1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	
1	**What general factors must EFL teachers consider when teaching learners with visual impairments?** - Establish specific strategies when teaching learners with visual impairments - Sit the learner properly in the classroom (e.g., in the middle, at the front, at the side, etc.) - Give clear instructions because the learner does not interpret gestures and facial expressions.					x					x					x	
2	**What are some adaptations you suggest to EFL teachers to consider when teaching learners with visual impairments?** - Adaptation of teaching methodology - Adaptation of the content - Adaptation of the physical environment					x					x					x	

3	**Which specific training do EFL teachers need to effectively work with students with visual impairments?** - Training in strategies for teaching learners with visual impairments - Training in the use of Braille instruction - Training in curriculum adaptation					x					x					x	
4	**Are there any support resources which should be used in reading and writing activities for learners with visual impairments?** **- Technological resources** **- Braille resources** **- Macrotype resources**					x					x					x	
5	**What educational tools do learners with visual impairments often use to access to written information?** - Digital tools - Braille - Audio tools				x					x					x		
6	**How do learners with visual impairments understand the information in a foreign language effectively?** - Association - Memorization - Translation					x					x					x	

Validator	Name:	Carlos Rodríguez	
	Degree:	Magíster en Idiomas	
	ID:	1802269190	
	Phone or email:	0998359611	Signature

ANNEX 3: Expert evaluation Judge 3

EXPERT EVALUATION

Dear teacher, you have been invited to participate in the evaluation process of the instrument (survey) to carry out the research study. For this reason, this evaluation instrument is given to you. This form is for you to mark your perceptions for each item.

Thank you in advance for your contribution, which will allow the validation of the instrument and obtain valid information, a required condition for all research. Next, identify the item or question and answer by placing an "x" in the box you consider appropriate, with numerical values from 1 to 5, where 1 is Not Acceptable and 5 is Acceptable. In addition, if necessary, you can make any other comments in the comments' column.

		ASPECTS															
		Content validity					Construct validity					Criterion validity					
		The item or question corresponds to one or more of the dimensions of the variable					The item or question contributes to measure the indicator					The item or question allows you to classify the topics in the categories					Comments
		SCORE															
		1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	
1	**What general factors must EFL teachers consider when teaching learners with visual impairments?** - Establish specific strategies when teaching learners with visual impairments - Sit the learner properly in the classroom (e.g., in the middle, at the front, at the side, etc.) - Give clear instructions because the learner does not interpret gestures and facial expressions.					x					x					x	
2	**What are some adaptations you suggest to EFL teachers to consider when teaching learners with visual impairments?** - Adaptation of teaching methodology - Adaptation of the content - Adaptation of the physical environment				x					x					x		

3	**Which specific training do EFL teachers need to effectively work with students with visual impairments?** - Training in strategies for teaching learners with visual impairments - Training in the use of Braille instruction - Training in curriculum adaptation					x					x					x	
4	**Are there any support resources which should be used in reading and writing activities for learners with visual impairments?** **- Technological resources** **- Braille resources** **- Macrotype resources**					x					x					x	
5	**What educational tools do learners with visual impairments often use to access to written information?** - Digital tools - Braille - Audio tools					x					x					x	
6	**How do learners with visual impairments understand the information in a foreign language effectively?** - Association - Memorization - Translation					x					x					x	

Validator	Name:	Nelly Galora	
	Degree:	Magister	
	ID:	1803104601	
	Phone or email:	np.galora@uta.edu.ec	Signature

ANNEX 4: Expert evaluation Judge 4

EXPERT EVALUATION

Dear teacher, you have been invited to participate in the evaluation process of the instrument (survey) to carry out the research study. For this reason, this evaluation instrument is given to you. This form is for you to mark your perceptions for each item.

Thank you in advance for your contribution, which will allow the validation of the instrument and obtain valid information, a required condition for all research. Next, identify the item or question and answer by placing an "x" in the box you consider appropriate, with numerical values from 1 to 5, where 1 is Not Acceptable and 5 is Acceptable. In addition, if necessary, you can make any other comments in the comments' column.

		ASPECTS															
		Content validity					Construct validity					Criterion validity					
		The item or question corresponds to one or more of the dimensions of the variable					The item or question contributes to measure the indicator					The item or question allows you to classify the topics in the categories					Comments
		SCORE															
		1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	
1	**What general factors must EFL teachers consider when teaching learners with visual impairments?** - Establish specific strategies when teaching learners with visual impairments - Sit the learner properly in the classroom (e.g., in the middle, at the front, at the side, etc.) - Give clear instructions because the learner does not interpret gestures and facial expressions.					x					x					x	
2	**What are some adaptations you suggest to EFL teachers to consider when teaching learners with visual impairments?** - Adaptation of teaching methodology - Adaptation of the content - Adaptation of the physical environment					x					x					x	

3	**Which specific training do EFL teachers need to effectively work with students with visual impairments?** - Training in strategies for teaching learners with visual impairments - Training in the use of Braille instruction - Training in curriculum adaptation					x				x					x	
4	**Are there any support resources which should be used in reading and writing activities for learners with visual impairments?** **- Technological resources** **- Braille resources** **- Macrotype resources**					x				x					x	
5	**What educational tools do learners with visual impairments often use to access to written information?** - Digital tools - Braille - Audio tools					x				x					x	
6	**How do learners with visual impairments understand the information in a foreign language effectively?** - Association - Memorization - Translation				x				x					x		

Validator	Name:	Luis Galarza	
	Degree:	Licenciado en Inglés	
	ID:	1803448628	
	Phone or email:	0995788151	Signature

ANNEX 5: Expert evaluation Judge 5

EXPERT EVALUATION

Dear teacher, you have been invited to participate in the evaluation process of the instrument (survey) to carry out the research study. For this reason, this evaluation instrument is given to you. This form is for you to mark your perceptions for each item.

Thank you in advance for your contribution, which will allow the validation of the instrument and obtain valid information, a required condition for all research. Next, identify the item or question and answer by placing an "x" in the box you consider appropriate, with numerical values from 1 to 5, where 1 is Not Acceptable and 5 is Acceptable. In addition, if necessary, you can make any other comments in the comments' column.

		ASPECTS															
		Content validity					Construct validity					Criterion validity					
		The item or question corresponds to one or more of the dimensions of the variable					The item or question contributes to measure the indicator					The item or question allows you to classify the topics in the categories					Comments
		SCORE															
		1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	
1	**What general factors must EFL teachers consider when teaching learners with visual impairments?** - Establish specific strategies when teaching learners with visual impairments - Sit the learner properly in the classroom (e.g., in the middle, at the front, at the side, etc.) - Give clear instructions because the learner does not interpret gestures and facial expressions.				x					x					x		
2	**What are some adaptations you suggest to EFL teachers to consider when teaching learners with visual impairments?** - Adaptation of teaching methodology - Adaptation of the content - Adaptation of the physical environment					x					x					x	

3	**Which specific training do EFL teachers need to effectively work with students with visual impairments?** - Training in strategies for teaching learners with visual impairments - Training in the use of Braille instruction - Training in curriculum adaptation					x				x					x	
4	**Are there any support resources which should be used in reading and writing activities for learners with visual impairments?** **- Technological resources** **- Braille resources** **- Macrotype resources**					x				x					x	
5	**What educational tools do learners with visual impairments often use to access to written information?** - Digital tools - Braille - Audio tools					x				x					x	
6	**How do learners with visual impairments understand the information in a foreign language effectively?** - Association - Memorization - Translation				x				x					x		

Validator	Name:	Sebastián Romero S.	
	Degree:	Mg. Teaching English as Foreign Language	
	ID:	180423151-0	
	Phone or email:	0984980748	Signature

ANNEX 6: Spanish Survey 1

Encuesta

Proyecto de Investigación previo a la obtención del título de Magister en Pedagogía del Inglés como Lengua Extranjera

Tema:

ESTRATEGIAS EFECTIVAS PARA PROFESORES DE INGLÉS COMO LENGUA EXTRANJERA (EFL) DE ALUMNOS CON DISCAPACIDAD VISUAL: UNA SÍNTESIS DE INVESTIGACIÓN

El Objetivo General establecido en la presente investigación es:

Identificar estrategias efectivas para profesores de inglés como lengua extranjera (EFL) en el proceso de enseñanza para estudiantes con discapacidad visual.

Por otra parte, los Objetivos Específicos son los siguientes:

Analizar cómo los alumnos con discapacidad visual aprenden una lengua extranjera.

Identificar estrategias efectivas para ser aplicadas durante el proceso de enseñanza de una lengua extranjera entre estudiantes con discapacidad visual.

Crear un conjunto de pautas para la enseñanza de una lengua extranjera basadas en estrategias efectivas.

Determinar los recursos de apoyo en el proceso de enseñanza de una lengua extranjera de alumnos con discapacidad visual.

* Este formulario registrará su nombre, escriba su nombre.

1. ¿Qué factores generales deben tener en cuenta los profesores de inglés como lengua extranjera cuando enseñan a estudiantes con discapacidad visual?

- ◯ Establecer estrategias específicas al momento de enseñar a los alumnos con discapacidad visual
- ◯ Sentar al alumno correctamente en el aula (por ejemplo, en el medio, al frente, al costado, etc.)
- ◯ Dar instrucciones claras porque el alumno no interpreta gestos y expresiones faciales

2. ¿Cuáles son algunas de las adaptaciones que sugiere que los profesores de inglés como lengua extranjera consideren cuando enseñan a estudiantes con discapacidades visuales?

- ◯ Adaptación de enseñanza metodológica
- ◯ Adaptación del contenido
- ◯ Adaptación del medio físico

3. ¿Qué formación específica necesitan los profesores de inglés como lengua extranjera para trabajar eficazmente con estudiantes con discapacidad visual?

- ◯ Formación de estrategias en la enseñanza de alumnos con discapacidad visual
- ◯ Formación en el uso de instrucción Braille
- ◯ Formación en adaptación curricular

4. ¿Existen recursos de apoyo que deban usarse en actividades de lectura y escritura para estudiantes con discapacidad visual?

- ◯ Recursos tecnológicos
- ◯ Recursos de braille
- ◯ Recursos de macrotipos

5. ¿Qué herramientas educativas suelen utilizar los alumnos con discapacidad visual para acceder a la información escrita?

- ◯ Herramientas digitales
- ◯ Braille
- ◯ Herramientas de sonido

ANNEX 7: English Survey 2

Survey

Research Project prior to obtaining the title of Master´s in Pedagogy of English as a Foreign Language

Topic:

EFFECTIVE STRATEGIES FOR EFL TEACHERS OF VISUALLY IMPAIRED LEARNERS: A RESEARCH SYNTHESIS

The General Objective established in the present research is:

To identify effective strategies for teachers of English as a Foreign Language (EFL) in the teaching process for learners with visual impairments.

On the other hand, the Specific Objectives are the following:

To analyze how visually impaired students learn a foreign language.

To identify effective strategies to be applied during the teaching process of a foreign language among visually impaired students.

To create a set of guidelines for teaching a foreign language based on effective strategies.

To determine support resources in the teaching process of a foreign language of visually disabled students.

* Este formulario registrará su nombre, escriba su nombre.

1. **What general factors must EFL teachers consider when teaching learners with visual impairments?**

- ◯ Establish specific strategies when teaching learners with visual impairments.
- ◯ Sit the learner properly in the classroom (e.g., in the middle, at the front, at the side, etc.)
- ◯ Give clear instructions because the learner does not interpret gestures and facial expressions.

2. **What are some adaptations you suggest to EFL teachers to consider when teaching learners with visual impairments?**

- ◯ Adaptation of teaching methodology
- ◯ Adaptation of the content
- ◯ Adaptation of the physical environment

3. **Which specific training do EFL teachers need to effectively work with students with visual impairments?**

- ◯ Training in strategies for teaching learners with visual impairments
- ◯ Training in the use of Braille instruction
- ◯ Training in curriculum adaptation

4. **Are there any support resources which should be used in reading and writing activities for learners with visual impairments?**

- ◯ Technological resources
- ◯ Braille resources
- ◯ Macrotype resources

5. **What educational tools do learners with visual impairments often use to access to written information?**

- ◯ Digital tools
- ◯ Braille
- ◯ Audio tools