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DIVISIÓN ACADÉMICA DE EDUCACIÓN Y ARTES



**“NEUROLINGUISTICS PROGRAMMING (NLP) AS A PEDAGOGICAL
ALTERNATIVE USING UNIFIED ENGLISH BRAILLE (UEB) CODE IN
EFL CLASSES FOR ELEMENTARY BLIND CHILDREN”**

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JOSÉ VÍCTOR LÓPEZ MADRIGAL

DIRECTORA:

DRA. SILVIA PATRICIA AQUINO ZÚÑIGA

CODIRECTOR:

DR. MIGUEL HERNÁNDEZ HERNÁNDEZ

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Dedicatoria

Dedico este proyecto de investigación a mi madre

La persona que desde el día cero ha visto crecerme de manera personal como profesional. Quien ha sido mi mayor motivación para seguir adelante con mis estudios y poder compartir hermosos momentos con su presencia.

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Ya que ellos son mi claro ejemplo que no debo olvidarme de donde soy y de poder soñar en grande.

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Index

<i>Index</i>	<i>I</i>
<i>Abstract</i>	<i>V</i>
<i>Resumen</i>	<i>VI</i>
Chapter I: Inclusive Education from a Neurolinguistics perspective in L2 context	1
1.1 Advances in L2 Teaching in 21th century	2
1.1.1. <i>The relevance of EFL learning in Mexico and the world</i>	3
1.1.2 <i>Neurolinguistics Programming</i>	4
1.1.3 <i>The role of inclusive education in second language learning</i>	6
1.2 Visual Impairment perspective from EFL learning approach	8
1.2.1 <i>Could a blind person learn a second language?</i>	10
1.2.2 <i>Braille writing: A new perspective in EFL learning</i>	12
1.2.3 <i>Limitations in EFL learning in Visual Impaired context</i>	14
1.3 <i>Research Questions</i>	15
1.4 <i>Hypothesis</i>	16
1.5 <i>Independent, Dependent and Controlled Variables</i>	18
Chapter II: Method	20
2.1 Research Design	21
2.1.1. <i>Mixed-method design</i>	21
2.2 Survey: Independent Variable Instrument	23
2.2.2 <i>Sections</i>	24
2.2.3. <i>Types of questions</i>	26
2.2.4. <i>Types of answers</i>	26
2.2.5. <i>Validity procedures</i>	27
2.2.6. <i>Reliability procedures</i>	28
2.2.7. <i>Survey</i>	29
2.3. UEB code Test: Dependent Variable Instrument	29
2.3.1. <i>Justification</i>	30
2.3.2. <i>Sections</i>	31
2.3.3. <i>Type of questions</i>	32
2.3.4. <i>Type of answer</i>	32
2.3.5 <i>Validity procedure</i>	33
2.3.6. <i>Reliability procedure</i>	34
2.3.6. <i>Test</i>	35
2.4. Spanish Braille Test: Controlled Variable Instrument	35
2.4.1. <i>Justification</i>	36
2.4.2. <i>Sections</i>	37
2.4.3. <i>Type of questions</i>	38
2.4.4. <i>Type of answer</i>	38

2.4.5 Validity procedure	39
2.4.6. Reliability procedure	40
2.3.6. Test.....	41
2.5. Semi-structured group interview: Qualitative Research Instrument.....	41
2.5.1. Justification.....	42
2.5.2. Sections	44
2.5.3. Type of questions.....	45
2.5.4. Type of answers	46
2.5.5 Validity procedure	46
2.5.6. Reliability procedure	47
2.5.7 Semi-structured group interview.....	48
2.6. Consent Letter.....	49
2.6.1. Justification.....	49
2.4.2. Format	49
2.7. Participants	51
2.7.1. Context.....	51
2.7.2. Population.....	51
2.7.3. Sample.....	52
2.8. Data analysis procedures.	54
Chapter III: Results.....	56
3. Results	57
3.1. Spanish Braille Test	57
3.1.1. Sample results	57
3.1.2. Selected participants result	59
3.2 Survey.....	61
3.2.1. Sociodemographic data	62
3.2.2 Outcome technique section.....	62
3.2.3 Rapport technique section.....	63
3.2.4. Anchor technique section	63
3.2.5. Modeling technique section	64
3.3 UEB code Test.....	65
3.3.1 Pre-test.....	65
3.3.2. Post-test	68
3.3.3. T-test.....	71
3.4. Semi-structured group interview.....	73
3.4.1. NLP techniques	74
3.4.1.1. Outcome technique	74
3.4.1.2. Rapport technique.....	75
3.4.1.3. Anchor technique.....	76
3.4.1.4. Modeling technique	78
3.4.2 Emerging variables	78
3.4.2.1. Family support.....	78
3.4.2.2. Teaching work.....	82
3.4.2.3. School environment	85
3.4.2.4. Prior English language experience.....	87
3.4.2.5. Native Language.....	88
3.4.2.6. Motivation.....	90
3.4.2.7. Participants' perception of their disability	91

Chapter IV: Discussion	93
4. Discussion.....	94
4.1. The adaptability of blind children in their environment.	95
4.2. The impact of the NLP with visually impaired children.	102
4.3. Importance of blind students' perception in foreign language learning.....	110
4.4. Limitations of the study	115
4.5. Future lines of research	116
4.6 Conclusion.....	117
Reference.....	124
Appendices.....	131
Appendix A.- Photographic evidence.....	132
Appendix B.- Consent letters.....	135
Appendix C.- Spanish Braille Test	144
Appendix D.- Survey Format	153
Appendix E.- Survey Results.....	164
Appendix F.- Pre-test.....	169
Appendix G.- Posttest	179
Appendix H.- UEB code Test results.....	189
Pre-test.....	189
Posttest results	190
Appendix I: Semi-structured Interview group	191
Appendix J.- Transcriptions.....	195
First Laboratory Group.....	195
Second Laboratory Group.....	213
Third Laboratory Group.....	231
Appendix K.- Research project brainstorm.....	242
Appendix L: Certificates	243
Appendix M.- Treatment data.....	246
Appendix N.- Administrative procedures of the intervention	248

Table Index

Table 1.- Spanish Braille Test population results.....	58
Table 2.- Spanish Braille Test selected participants result	59
Table 3.- UEB code pre-test results.....	66
Table 4.- UEB code posttest results.....	68
Table 5.- UEB code T-Test results	72

Figure Index

Figure 1.- Number of people affected by vision loss, 2020	9
Figure 2.- Distribution of the handicapped population in everyday life.....	9
Figure 3.- Integral Braille System.....	13
Figure 4.- Final results of controllable variable's instrument	61
Figure 5.- “Brailin” dolls.....	64

Abstract

Nowadays, English as a Foreign Language (EFL) learning has become of great importance in the field of education. L2 policies around the world are encouraging innovation in English language learning. Thus, studies have proposed Neurolinguistics Programming (NLP) as a pedagogical alternative in L2 teaching, proposing the teaching of educational skills using NLP techniques in L2 contexts. However, vulnerable groups such as visually impaired (VI) people have been marginalized from this field due to the stigmas surrounding it. In recent years, neurolinguistics has shown that the VI population has the intellectual capacity to learn a second language. Nevertheless, there is a lack of advances in L2 pedagogical strategies in terms of inclusive education focused on blind children. Therefore, this mixed-methods study proposes NLP as a pedagogical alternative in EFL learning focused on blind children, thus developing UEB (Unified English Braille) writing in the Mexican context. The aim of this study, from a quantitative approach, was to measure the impact of NLP through instruments such as tests and a survey. On the other hand, from a qualitative perspective, the perception of the participants was analyzed through semi-structured group interviews. Due to the difficulty in accessing this population, only 10 participants were eligible for the study intervention. At the beginning of the intervention, a pre-test was administered, and at the end of the course, a post-test was administered, as well as surveys and a semi-structured group interview with the participants. The data were collected and interpreted in several programs, resulting in an alternative hypothesis. From a quantitative approach, all participants made significant progress in their UEB writing, but there were large differences between the different laboratory groups. The qualitative instrument showed that external factors such as family, school and economic support influence their L2 acquisition.

Keywords: Neurolinguistic Programming (NLP), Visual Impairment (VI), Unified English Braille (UEB), English as a Foreign Language (EFL), Blind children.

Resumen

En los últimos años, la enseñanza del inglés como lengua extranjera (EFL) ha cobrado una importancia creciente dentro del ámbito educativo. Entre los enfoques innovadores que han surgido, la Programación Neurolingüística (PNL) se ha propuesto como una alternativa pedagógica eficaz en el aprendizaje de segundas lenguas, al punto de promover el desarrollo de competencias educativas mediante sus técnicas en contextos de L2. No obstante, la población con discapacidad visual (DV) ha sido históricamente excluida de estos avances, en gran parte debido a los estigmas que la rodean. Estudios recientes en neurolingüística han demostrado que las personas con DV poseen la capacidad cognitiva para adquirir un segundo idioma. Parte del problema radica en la falta de estrategias didácticas adaptadas que potencien todas las habilidades lingüísticas en niños con ceguera. Por ello, este estudio de enfoque mixto propone la implementación de la PNL como herramienta didáctica para la enseñanza del inglés en infantes ciegos, con énfasis en el desarrollo de la escritura en Braille Inglés Unificado (UEB) en contextos de L2. Desde la perspectiva cuantitativa, se buscó medir el impacto de la PNL mediante pruebas estandarizadas y encuestas; mientras que el enfoque cualitativo se centró en analizar las percepciones de los participantes durante el proceso. Debido a las limitaciones de acceso a esta población en el suroeste mexicano, solo 10 niños participaron en la intervención. Al inicio se aplicó un pre-test, y al finalizar las sesiones educativas se administró un post-test, además de encuestas y una entrevista semiestructurada. Los datos fueron procesados e interpretados mediante distintos programas, lo que permitió formular una hipótesis alternativa. Aunque todos los participantes mostraron mejoras notables en la escritura en L2, se observaron marcadas diferencias entre los distintos grupos experimentales. El análisis cualitativo reveló que factores externos como el respaldo familiar, el entorno escolar y la situación económica influyeron significativamente en la adquisición del segundo idioma.

Palabras Clave: Programación Neurolingüística (PNL), Discapacidad Visual (DV), Braille Inglés Unificado (UEB), Inglés como Lengua Extranjera (EFL), Niños con condición de ceguera.

Introduction

Nowadays, the teaching of English as a foreign language (EFL) has made many significant advances in the field of education. Recently, one of them was the implementation of Neurolinguistics Programming (NLP) as a pedagogical alternative in EFL classrooms (Zhang et al., 2023). NLP could be defined as a communicative model that has a set of techniques that promote the user's motivation and learning to achieve the set goals (Purnama et. al., 2023). In the application of NLP in second language learning, it has been shown that the communicative model has a positive impact on the academic performance of English language learners (Bagherkazemi & Shekarabi, 2022). When conducting a thorough analysis of the Mexican educational system, there is a gap in the development of public policies as well as pedagogical strategies in EFL teaching focused on inclusive education, especially with the visually impaired population. After a thorough study of the context, there are a number of internal and external factors that hinder the learning of visually impaired students. Emphasizing the myths that hinder the acquisition of the user, it was discovered, thanks to neuroscience, that blind children have the ability to acquire a second language (Galiano and Portalier, 2011).

Similarly, in order for a blind person to learn English, it was believed that part of the learning had to be up to the updated standards of the Common European Framework, resulting in the current use of a Braille code called Unified English Braille (UEB) in English-speaking countries (Cryer, Home, & Morley Wilkins, 2013). This panorama creates an opening from the present scientific research project. This mixed method study had as its general objective the implementation of NLP in EFL classes focusing on blind primary school students using the UEB code over a considerable period of time. From a quantitative approach, it sought to measure the impact of NLP on the study participants through instruments such as surveys and tests. On the other hand, from a qualitative perspective, it sought to analyze the perception of the participants at the end of the exposure to the foreign language, using a semi-structured group interview as an instrument. Based on the controllable variable of the research, the selection process of participants for the intervention was carried out. Data analysis, results, discussion, and conclusions were addressed in the final chapters of the dissertation.

This study begins with Chapter I, which lays the theoretical groundwork by examining inclusive education through a neurolinguistic lens in second language (L2) learning, particularly for blind students. It introduces the relevance of English as a Foreign Language (EFL), the principles of Neurolinguistic Programming (NLP), and the role of Braille and inclusive strategies in overcoming the challenges faced by visually impaired learners. It also defines the research questions, hypothesis, and variables that guide the investigation. On the other hand, chapter II outlines the mixed-methods methodology used in the study, detailing four key instruments: the Spanish Braille Code test, the Unified English Braille (UEB) Code Test (used as pre- and post-tests), a survey, and a semi-structured interview. These tools were applied to measure both linguistic outcomes and participant perceptions, with results analyzed in the following chapter.

Finally, chapter VI discusses the findings, focusing on the adaptability of blind children, the impact of NLP on their language learning, and the influence of personal perceptions and support systems. It also reflects on the study's limitations and proposes future research directions, concluding with a synthesis of the study's main contributions to inclusive EFL education. It is hoped that the discussion presented in this chapter will contribute to further understanding and inspire continued research in the field.

Universidad Juárez Autónoma de Tabasco.

Chapter I: Inclusive Education from a Neurolinguistics perspective in L2 context

1.1 Advances in L2 Teaching in 21th century

Nowadays, learning a second language is essential for the current globalized world. Second language acquisition (SLA) could be defined as a linguistic process in which people are able to acquire universal properties of a foreign language (Beneti & Angelovska, 2016). SLA procedures vary according to the learner's context, such as bilingualism (innatist acquisition), cross-cultural socialization, and L2 engagement (Lightbown & Spada, 2006). Thus, regardless of the context in which the person acquires the second language, it is a key skill for intercommunication in the 21st century.

Today, English has become the most widely used language in the world, and its acquisition can be divided into two categories: English as a Second Language (ESL) and English as a Foreign Language (EFL). ESL and EFL are both terms that are critical in determining the L2 context. ESL refers to students who are learning English in English-speaking countries such as the United States, Canada, or the United Kingdom. On the other hand, EFL refers to those who use English as a foreign language, that is, in a non-native country (Kenny, 2024). Both contexts are essential to create specific pedagogies to get a great English proficiency in the long run. However, EFL learning is gaining ground in second language acquisition.

1.1.1. *The relevance of EFL learning in Mexico and the world*

In recent years, several countries have introduced English as a foreign language (EFL) in public schools in their educational systems. In this context, the Common European Framework or Reference for Languages (CEFR) has played an important role as the main reference for teachers in the teaching and learning of foreign languages in the world (Kihlstedt, 2019). According to the CEFR, language proficiency is measured by the level of language competence. Therefore, this framework has been adopted by the Mexican government (Manrique & Izquierdo, 2024).

In Mexico, the Ministry of Education (Secretaría de Educación Pública [SEP]) is responsible for guaranteeing access to free and secular education throughout the country (Ley General de Educación [LGE], 2021). In terms of English language instruction, EFL learning has been mandatory in public secondary schools since 1926 (Reyes, Murrieta & Hernández, 2011). However, it was not until the 1950s and 1960s that public universities began to professionalize foreign language teachers (Luna & Magos, 2022). In 1992, English language learning programs designed for primary education began to be developed in some parts of the country (Reyes, Murrieta & Hernández, 2011). As a result, the SEP, along with other departments, created the National English Program (Programa Nacional de Inglés [PRONI]), a national program that was created in 2009 with the goal of secondary school students graduating from basic education based on B1 level of English proficiency, according to CERF references (PRONI, 2021). In 2014, PRONI was merged with other educational programs through the Strengthening Quality in Basic Education Program (Programa de Fortalecimiento de la Calidad en la Educación Básica [PFCEB]).

Recently, the Ministry of Education has promoted EFL learning and other areas with an innovative educational reform called "The New Mexican School (La Nueva Escuela Mexicana [NEM])". The NEM is a humanistic educational model that came into effect in 2023 with the aim of bringing quality in teaching and maintaining the educational lag in fundamental areas such as communication, math and science fields (SEP, 2024).

English language is located in the formative field of languages. Within the branch, the English language course coexists with other subjects such as Spanish, Arts and Native Language (SEP, 2024). The main objective of this educational model is that, based on the formative fields that cover all educational levels, general topics are correlated for each training field, must address the topic according to the needs of the subject as well as the context that surrounds them (SEP, 2024). Comparing with similar successful experiences of English programs in other countries, there are some challenges related to EFL teaching in public schools. External factors such as school conditions, class time, available resources, and educational policies indicate that Mexican students are not achieving the level of English proficiency expected by the Ministry of Education (Manrique & Izquierdo, 2024). As a result, Mexico is ranked 87th out of approximately 116 countries evaluated in terms of English language proficiency (Education First [EF], 2024). Some authors affirmed that Mexico, as other countries in the world that are found in the same line. Thus, there is a search for the development of pedagogical strategies that facilitate EFL learning in public schools. During the pandemic, Neuro-Linguistic Programming (NLP) has been proposed as a pedagogical alternative in EFL classes (Rayati, 2021).

1.1.2 Neurolinguistics Programming

Nowadays, a communicative model called "Neurolinguistics Programming" has been used in the field within studies focused on second language teaching. (NLP). It could be defined as a "psychological approach that helps us understand human behavior by emphasizing the mental involvement of people and their constructive reality, which can provide us with internal strategies that facilitate perception, behavior and communication techniques (Bagherkazemi & Shekarabi, 2022, p.15). The goal of this communicative model is to create positive thoughts and establish habits that improve our communication skills and achieve our goals. In the last decade, the increase in studies focused on NLP shows us that this model is key to the development of techniques and strategies that can be applied in second language teaching, especially EFL teaching (Rayati, 2021).

The management of this communicative model has already been applied in several fields. Recently, there have been some studies in which the relationship between language and speakers are critical factors for the development of meaningful learning interaction (Purnama et. al., 2023). These previous authors found that the use of NLP in EFL classrooms can have positive effects for the field (Zhang et al., 2023). Also, Purnama et. al. (2023) explained that one of the keys of this model is the use of its techniques in the classroom, which can allow that many students to achieve a high level of English proficiency. For example, among these methods used in the classroom, the "outcome technique" stands out, which sets clear goals and approximate solutions.

In addition, "rapport" is a strategy in which the teacher creates an environment conducive to student participation and teamwork in the classroom. Furthermore, "anchoring technique" refers to the need to look for alternatives that evoke multiple connotations of the language that do not exclusively involve the visual sense. Similarly, "modeling technique" is to make significant learning of an underlying implicit nature (Purnama et. al., 2023). The perception of these techniques by the teacher as well as the students is key to the development of this communicative model. Therefore, constant communication between teacher and student is essential for future improvements in EFL teaching.

Likewise, the increase in NLP studies focused on ELF instruction has brought great progress in the field. These advances can be analyzed from two perspectives: input approach (teacher's perspective) and output approach (learner's perspective). For example, Purnama (2023) states that "most teachers have prior knowledge of what NLP consists of, but they do not know how to use these strategies" (p. 5). Nevertheless, many teachers used some techniques without being aware of it due to personal experiences (Purnama et. al., 2023). In addition, some studies have confirmed that motivation is essential for the application of NLP in the classroom (Rayati, 2021). Despite this fact, teachers also have a small notion of NLP, training is essential for the improvement of teaching practice (Rayati, 2021). On the other hand, students' academic performance is a strategic factor that needs to be analyzed. One of the results of this analysis is that if teachers create a comfortable environment for students to function in, the probability of achieving a satisfactory result is very high (Purnama et. al., 2023).

Furthermore, the benefits of NLP in EFL learners are increasingly verifiable, hence the development of educational competencies and English language learning in learners. For example, academic achievement, critical thinking, and emotional intelligence have been the skills that have been implemented in an EFL classroom (Zhang et al., 2023). Consequently, it can be stated that the teacher's behavior and adaptability in the classroom establishes the interaction and motivation among the students.

As a result, these techniques have become a target of study in the latest research in NLP (Purnama et. al., 2023). Now, the adaptability and effective development of language skills of this method has made the research even more ambitious. In other words, the goal is to improve English language skills. At present, emotional intelligence, critical thinking, and academic achievement have created a perspective in which it is possible to support students and create meaningful learning that can serve them not only for EFL classes but for their lifelong language learning (Zhang et al., 2023). Undoubtedly, this communicative model has made great strides in the field of second languages, and these changes are beginning to be reflected in special education.

1.1.3 The role of inclusive education in second language learning

In recent years, the need to defend human rights towards handicapped population, creating more fair and accessible policies (United Nations Educational, Scientific and Cultural Organization [UNESCO], 2023). As a result, inclusive education had acquired different meanings. On the one hand, Inclusive Education has been defined as a universal statement in human right for disabled population to get access to education and not to be excluded (Stubbs, 2008). On the other hand, it has been defined as an educational model that supports students with special needs by changing laws and creating public initiatives that benefit vulnerable populations (Ainscow, 2024). Based on its multiple meanings, each region of the world has developed a concept of inclusive education, and depending on its meaning, each country generates its own public educational policies. For example, Article 7 of the Convention on the Rights of Persons with Disabilities (United Nations [UNESCO], 2006) states that "States Parties shall take all necessary measures to ensure that all children with disabilities enjoy the full enjoyment of all human rights and fundamental freedoms on an equal basis with other children" (p. 8).

In the same line, a line of inclusive research has been carried out on the second language learning of people with disabilities. Recently, research projects in EFL teaching/learning have been developed on autism (Mohamed, Shaaban & Jmaiel, 2024), deafness (Birinci and Sariçoban, 2021), Down syndrome (Abbasian & Ebrahimi, 2020) and visually impaired (Boltenkova et al., 2020). This last group within the field of inclusive education has had great relevance in recent years.

Visually impaired could have different definitions. First, it is defined "when an eye condition affects the visual system and its visual functions" (WHOM, 2019). Other authors confirm the following statement:

"It is the structural or functional deficiency of the organ of vision, the structures and those associated with it. It is the alteration of visual acuity, visual field, color vision or depth, which determines a deficiency in visual acuity and that, when interacting with the barriers imposed by the social environment, may prevent full and effective inclusion in society, on equal terms with others" (ISSSTE, 2015, p. 6).

In the field of second languages, research has been conducted around the world on classroom adaptations for visually impaired people. For example, in Japan, the use of tiflotechnology in the classroom and the accessibility of educational resources play a key role in the academic performance of students (Carpenter, 2020). On the other hand, in Greece, the EFL acquisition process focuses on learning to read and write the language (Efstathiou and Polichronopoulou, 2015). In some Latin American countries, such as Colombia, the instructional adaptations have been guided by the instructions that teachers implemented (Instituto Nacional de Ciegos [INCI], 2020). Nonetheless, in Mexico, a project has been launched that proposes the Braille system as an innovative pedagogical strategy for learning English in secondary schools (Tellez et. al., 2023). In this context, a number of initiatives have been taken for the general development of inclusive education in the country.

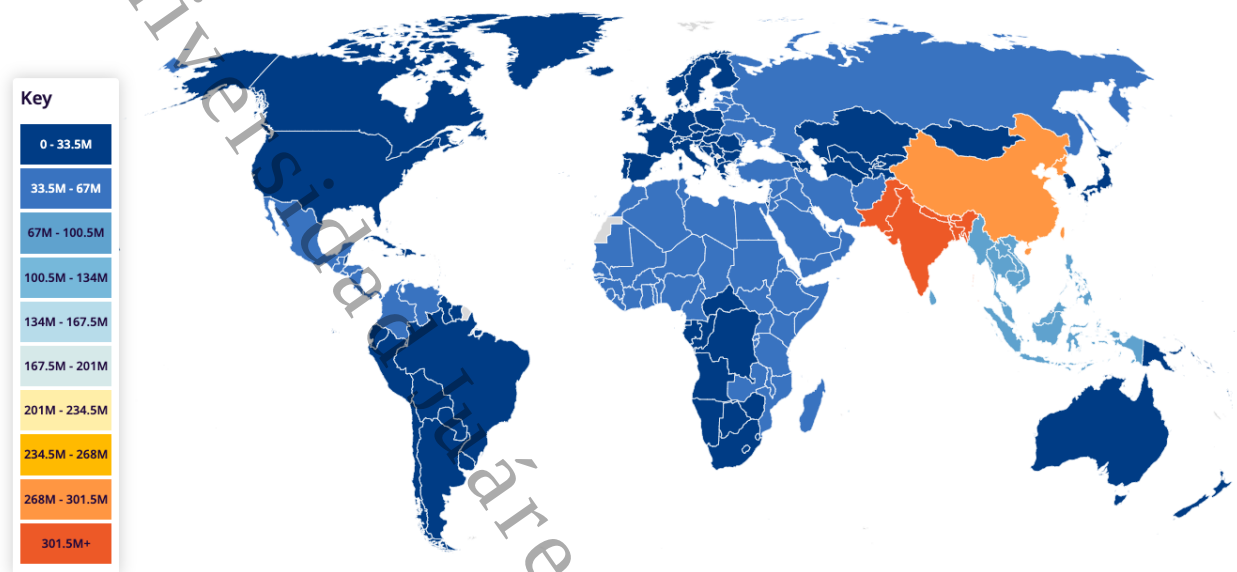
One of these is the General Education Law (Ley General de Educación [LGE]), which refers to inclusive education as "the set of actions aimed at identifying, preventing, reducing and eliminating the barriers that limit the access, permanence, participation and learning of all students, by eliminating practices of discrimination, exclusion and segregation" (p.24). Although there is no public policy aimed at the learning of second languages that focuses on people with disabilities, the law establishes that the learning of the Braille system should be facilitated, ensuring that students receive education in the most appropriate languages and means of communication according to their needs (LGE, 2019).

Despite all the advances that have been developed in the field for the benefit of the VI population, there are several reports and studies that discuss the great challenges that students face when learning a second language. Making an exhaustive analysis in the literature, some questions emerged, why are there more challenges than opportunities in EFL teaching for the blind population? All the researches have one thing in common: the behavior of the teachers in the classroom. Questioning special education teachers, there is a myth that a visually impaired person does not have the cognitive ability to learn a second language. But what factors influence why many teachers hold this belief?

1.2 Visual Impairment perspective from EFL learning approach

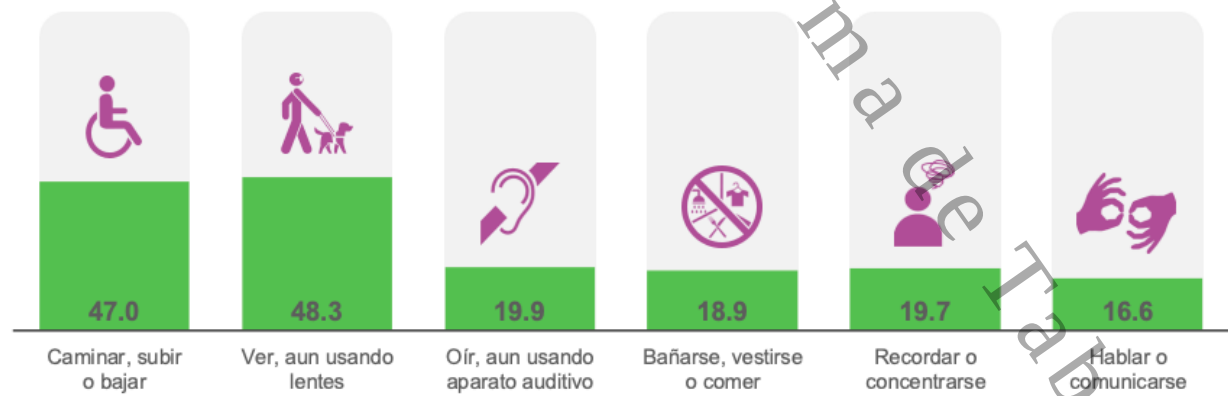
The World Health Organization (2023) estimates that 1.3 billion people have some form of disability, representing 16% of the world's population. For instance, the Vision Atlas (see Figure 1.1) of the International Agency for the Prevention of Blindness (2021) reports that there are 338 million people living with visual impairment (VI) worldwide, of whom 295 million have low vision and 43 million are blind (ORBIS, 2021). In Mexico, the Mexican Society of Ophthalmology estimates that there are 2,237,000 people with visual impairment and 416,000 people who are blind, placing the country among the 20 with the highest number of people affected by visual impairment and blindness (Gutiérrez, Reyes & Castañeda, 2023). According to Instituto Nacional de Estadística, Geografía e Información [INEGI] statistics (2020), Tabasco has the fifth largest disabled population in the country (415,069 people), representing 17.2% of the state's population. Of these, 48.3% (200,478 people) have visual impairments (INEGI, 2020).

Figure 1.1 - Number of people affected by vision loss, 2020



Note: Statistical representations of the visually impaired population worldwide. Taken from (VisionAtlas, 2021).

Figure 1.2 - Distribution of the handicapped population in Tabasco.



Note: INEGI statistical collection of handicapped people in the state of Tabasco (INEGI, 2020).

In the education sector, the General Law for the Inclusion of People with Disabilities [Ley General para la Inclusión de las Personas con Discapacidad] (2011) establishes that "persons with disabilities enjoy all the rights established by the Mexican legal system" (p.5). Likewise, the law states that the Ministry of Education will promote the inclusion of the Braille writing system by guaranteeing the distribution and production of free textbooks in Braille, large print, and audible texts that complement the knowledge of students with disabilities (Ley General para la Inclusión de las Personas con Discapacidad, 2011). Despite the great efforts made by the Mexican government to guarantee inclusive education for people with visual disabilities in the country, the inclusion of students with disabilities in the education sector remains a challenge for educational institutions (Aquino et. al., 2016). Others authors found that students' attitudes, support from classmates, and teachers' willingness to adapt the classroom are essential to students' academic performance (Velázquez & Ortiz, 2023). Despite these contributions, there are major limitations in the field of second languages, both for teachers and therapists, regarding the myths surrounding this population. However, it emerges the next question could a blind person learn a second language?

1.2.1 Could a blind person learn a second language?

Today, Neurolinguistics is responsible for much of the knowledge we have about the language acquisition processes of people with disabilities. Neurolinguistics could be defined as a sub-discipline of cognitive neuroscience, the aim of which is to study the relationship that exists between the brain, the central nervous system (CNS) and language (Zokirova, 2023). Since the emergence of modern neurolinguistics in the mid-1960s, the field has been involved to such an extent that it has become an interdisciplinary, that over forty years, many fields of study have been found through linguistics, causing the term "language" to be difficult to understand (Chen et al., 2009). Since its discovery and development, great progress has been made in neurolinguistics, but there is still a long way to go to understand many phenomena and panoramas, and one of them is the influence of language on disability.

Disability in neurolinguistics is still a broad term, so each of the seven types of disabilities has a different background and needs that make the subdiscipline quite interesting. Undoubtedly the most relevant is visual impairment (VI). Visual impairment could be defined as visual field acuity that affects the individual neurologically, physically, emotionally, and socially (Krisi, Nagar & Knoll, 2020). The VI was introduced into research in the early 1980s, but these researchers lost relevance due to lack of sources and interest from the scientific community (Williams & Jacobson, 1989). The latter was the trigger that led to the reintegration of VI in Neurolinguistics, because some studies have emerged and demonstrated that sensory stimulation is effective for educational purposes (Bonany, 2022). This fact has motivated recent studies that have focused on the process of neurological language acquisition in a blind person. When a sighted person learns to communicate, it is estimated that 70% of the information learned comes from the sense of sight (Arango-Dávila & Pimienta, 2004). This information travels to the occipital lobe (also called the visual cortex), located at the back of both cerebral hemispheres, and is dedicated to the regulation, coordination, and processing of vision and all the steps that make up this particular sensitivity. Some authors affirmed that neurological process when a person is born blind, it could be said that the function of the occipital lobe, in these circumstances, is neurologically different (Arango-Dávila & Pimienta, 2004). In the same sense, others authors found that the lobe has no "function" in the first years of life, it ends up adapting with other cortices or lobes of the CNS, that is, the four remaining senses appropriate the occipital lobe to be able to develop in other senses (Silva et al., 2018).

This statement confirms that a blind person has the cognitive ability to learn a second language. It also confirms the interactionist/developmental perspective on language acquisition. The fact that the visual cortex is so adaptive in the neurological development of blind babies confirms the importance of the environment and the innate ability of the human brain to acquire both a native and a second language (Lightbown & Spada, 2013). On the other hand, this perspective emphasizes the theory of constructivism. According to Vygotsky and Piaget, the theory of constructivism could be defined as "an educational approach that maintains that knowledge is actively constructed by the student through interaction with the environment and reflection on experiences" (Morales, Romero, Fortich and Madera, p. 166, 2024).

Using the constructivism theory reflects that the education of the student must be a continuous process in which learners must acquire knowledge from the experiences obtained in order to reflect on the activities carried out in the learning process (Mora, 2019). This theoretical perspective is reflected in second language teaching, which suggests that problem-based learning develops critical thinking in learners for conflict resolution and proposes collaborative solutions, developing their L2 linguistic skills (Morales et. al., 2024). Likewise, this theory is reflected in pedagogical guides for classroom adaptations for people with visual disabilities, which establish that from enriched experiences (Mora, 2019), blind students can develop in the classroom through constant interaction with the environment and exposure to accessible educational resources, becoming more independent in the classroom and able to solve problems in different educational areas (INCI, 2020). In addition, NLP has been applied to people with visual impairment (VI). Within the field, this population has been subjected to the management of NLP in mobility and positive psychology (Peng, 1989). However, within the educational field, it has been found that from the first contact, the teacher must always establish the ideal communication modality with the student (Helm, 2000). All these studies in the field of inclusive L2 education have been of great importance to the scientific community. However, since there is not enough literature, as the constructivist theory mentions, there must be a state of evolution in learning, and considering this approach, it has been discovered that the Braille system has evolved over the years.

1.2.2 Braille writing: A new perspective in EFL learning

Nowadays, part of the progress we see in inclusive education is due to the efforts of international organizations to include the Braille system in public schools. The Braille system could be defined as "a tactile method of reading and writing for blind people developed by Louis Braille in 1825" (Simpson, 2013). Similarly, it is not only referred to as cecography, but also helps blind people as an effective tool to read, write, and access education and information through the sense of touch (Organización Nacional de Ciegos Españoles [ONCE], 2024). The integral braille system is based on a matrix or cell of six dots distributed in two columns and three rows (INCI, 2020). The dots in the left column are numbered 1, 2, and 3, and those in the right column are numbered 4, 5, and 6, always from top to bottom.

Up to 64 combinations can be made, including the one without a dot, which is used to insert a space. These 64 combinations are used to form the characters that can be used to represent in Braille the graphic signs (see Figure 1.3) used to write printed text (CBE, 2023).

Figure 1.3 - Integral Braille System



Note: Distribution of Integral Braille Code (CBE, 2023).

The Braille system, being a universal writing code, has the advantage of being adaptable to languages that use the Latin alphabet. In the English language, Standard English Braille (SEB) was previously used, a braille writing code proposed by the United Kingdom in the mid-20th century with the aim of establishing standards, both orthographic in braille shorthand and systematic approaches from other fields in braille writing (UKKAF, 2004).

Over the past 50 years, technological, cultural, and educational changes have made SEB inadequate to meet the needs of blind people in a globalized world. Therefore, in 1991, the Braille Authority of North America (BANA) proposed a pilot project to create a single braille code that would meet the needs of the literary and technical education communities. As a result, the International Council on English Braille (ICEB) was created with the goal of expanding this Braille code not only to all subjects, but also to all English-speaking countries (Cryer, Home, & Morley Wilkins, 2013). The universalization of this Braille code resulted in better adaptability to access information in English-speaking countries, as well as providing students with a quality education (Nagar and Kresi, 2022). This contribution created a new aspect in the UEB code, its teaching in non-English speaking countries.

In the last decade, research studies have emerged that propose adaptations in the classroom, such as accessible technology that facilitates the learning of the English language. At the moment, IELTS is the only language certification that has the adaptation of tests in Braille system, specifically UEB code (Cambridge, 2024). However, as a new writing code and a new approach to inclusive education, there are many limitations in this area.

1.2.3 Limitations in EFL learning in Visual Impaired context.

The UEB code has helped us enrich the panorama by leaps and bounds; however, this breadth has brought several limiting aspects to the field. In general, it was found, at international level, that most studies are descriptive in nature. For example, some of these studies have analyzed the perspective of teachers where sample of participants were selected by certain criteria, that is, participant had to study in prestigious universities and have worked in independent schools (Rayati, 2021). Other studies rely on learners' perspective, the criteria, apart from all the learners, need came from private schools, and the entire sample was female, so there are no records of populations in male or mixed groups (Zhang et al., 2023). Another factor to consider is that all participants had a high level of English, so there is no record of students who were at an intermediate level or beginners (Zhang et al., 2023).

Like other studies, the research has limitations in terms of sample size, most of the research focused mostly on "conventional" students, in other words, students with special needs are marginalized. Although there are some studies that focus on the disabled population using NLP, it remains a very limited field within the educational sector. Moreover, the few resources that exist on NLP with people with visual impairments, although there are few researches, are currently outdated and have never been used in EFL classrooms focusing on this growing population. On the other hand, from the perspective of EFL teaching, despite the important adaptations in the classroom, the lack of teaching materials makes it difficult to teach EFL to a blind person, and consequently, the language becomes only phonetic and the blind student does not end up developing all of his or her linguistic competencies (Efsthathiou & Polichronopoulou, 2015).

On the other hand, when Braille writing is proposed as an alternative to EFL teaching for the development of their linguistic skills (Tellez et. al., 2023), despite its great contribution, it is a very tedious process that requires constant effort from the blind student who does not have a feedback environment, which consequently causes the student to become encapsulated, affecting him psychologically (Nagar & Krisi, 2022). Similarly, there are no experimental studies that have applied the UEB code in a foreign language context. At the national and local level, little research that discuss EFL learning/teaching in the Mexican have been implemented in the context point to the difficulties that blind students have in the classroom, being victims of discrimination, exclusion in the classroom, and the scarcity of accessible materials in Braille (Aquino et al., 2012).

1.3 Research Questions

Some authors mentioned that a research question (RQ) is an inquiry that must be well defined, precise, and clear (Woodrow, 2014) and must be sufficiently delimited and feasible to answer (Mackey and Gass, 2021). For research projects, it is necessary to delimit and establish the internal and external factors that may affect the research objectives. For example, the current relevance of NLP techniques in EFL classrooms has already been discussed throughout the research. As a result, the management of a communicative model requires constant motivation with convectional students. Therefore, these techniques could benefit students with special needs, especially blind students. However, NLP has only been applied to positive psychology and mobility fields (Peng, 1985). Consequently, this type of perspective, by not studying this type of population, creates an educational backlog in countries where inclusion is not yet a reality.

This is also reflected in the teaching of second languages. For example, there is an issue related to the overabundance of visual materials in EFL classes, which creates a gap of disadvantage for the blind student in favor of their sighted classmates. As a result, his/her English learning process is hindered. One of the biggest problems of EFL learning focused on blind students is that it only focuses on communicative skills such as listening and spoken language, ignoring important skills such as reading and writing (Efsthathiou & Polichronopoulou, 2015). The last factor has been the trigger that has characterized EFL teaching of blind children as deficient in public school education. This is because Braille is used as a writing system for the blind population, which makes it an arduous and stressful process for the user (Nagar et. al., 2021).

In this way, part of the objectives is both general and specific, is proposed an educational alternative for the achievement with the use of UEB code for beginner's blind children. Likewise, the use of UEB code in EFL classes could benefit the blind student throughout their learning process. In turn, the present study considers an explanatory mixed-method design to measure the impact of NLP on students during their learning process, using yes/no questions for quantitative approach and open questions for qualitative perspective. Based on the aforementioned issues, the present study was conducted to answer the following three research questions:

- RQ1 Can blind children learn English using UEB code in a foreign language context?
- RQ2 Can Neurolinguistic Programming (NLP) techniques have an impact in EFL classes using UEB code for blind children in public-school context?
- RQ3 How do blind children perceive NLP techniques in EFL classes at the end of the treatment?

1.4 Hypothesis

Thus, a hypothesis is a prediction or vision of the future in which there is a relationship between two or more variables (Mackey & Gass, 2021). Therefore, in order to create a feasible hypothesis, this study has proposed three main elements to consider. First, NLP has perpetuated the creation of several possibilities in which it is intended to improve teacher training in EFL teaching. Moreover, the implementation of these techniques in the classroom has shown that the coexistence between students and collaborative work is beneficial from the students' point of view, especially in activities that require extra effort (Rayati, 2021).

From this point of view, recent studies have shown that this model could favor the implementation of additional competencies in EFL teaching. Thus, emotional intelligence, academic achievement, and critical thinking have been the competencies that have been satisfactorily implemented in EFL classrooms (Zeng et. al., 2023). The field of NLP has opened a great opportunity within the educational sector, so the benefits of this model have been investigated in non-conventional samples.

Unfortunately, there is little information about the use of this communicative model in the blind population. Although this model has been satisfactorily developed in mobility and educational psychology, its continuous improvement has been a challenge in the educational field. It is now known that the initial student-teacher contact is critical to the development of this model (Helm, 2000). Secondly, in EFL teaching, there have been created adaptations that teachers could implement in his/her classroom. However, these adaptations have been created only phonetically for blind users. Furthermore, it caused the student not to develop all his/her educational competencies (Efstathiou & Polichronopoulou, 2015). Recently, some research has shown that Braille writing has been proposed as an innovative alternative for the full development of the student's competencies (Tellez et. al., 2023). Nevertheless, this study was developed in a digital form.

Moreover, it is a difficult learning process that requires great motivation and a circle of support that the blind student can rely on. Third, there is a new retrospective that should be analyzed for this study, which is L1 Braille literacy. Undoubtedly, L1 Braille literacy is crucial for the acquisition of a second language for visually impaired people (Efstathiou and Polichronopoulou, 2015). However, this literacy system is difficult to acquire, which makes it stressful and tiring to learn (Nagar et. al., 2021). In order to control the variables of the first language, Spanish Braille writing was measured for this study, which aims to find out the level of blind children when they are exposed to the L2 intervention (Tellez et. al., 2023). Thus, since there is a lack of standardized tests to determine the Braille writing ability of blind students, a diagnostic test had to be created. From this point, this communicative model is proposed to help teachers create a learning environment that further facilitates the already difficult UEB writing.

Therefore, through all the previous readings, definitions and recommendations, it can be stated that depending on the L1 Braille literacy, Neurolinguistic Programming could have a positive impact in EFL classes using UEB code designed for beginning blind children in a public-school context.

1.5 Independent, Dependent and Controlled Variables

A variable could be defined as a characteristic or quality that changes, which is a key element that determines the direction of a research project (Mackey & Gass, 2021). As a result, there are independent and dependent variables. An independent variable is a variable that stands alone and is believed to affect other variables, known as dependent variables (Platridge & Phakiti, 2015). On the other hand, a control variable is something that is held constant or limited in a research study. Although it is not the focus of the study, it is controlled because it may influence the results (Mackey et. al., 2016). Furthermore, in research design, variables are divided into numerical or categorical data. Numerical is used to express quantitative values and can also perform arithmetic operations, which is a quantitative characteristic. In contrast, categorical refers to uncountable data, including personal biodata information - full name, gender, phone number, etc.

Over time, NLP has been used as a communication model for various purposes, most recently in second language teaching (Angelovska & Roehm, 2020). Therefore, the first variable to be mentioned in this research project is Neurolinguistic Programming. Through motivation, the provision of resources, learning techniques and the creation of an environment that fosters curiosity, this model can be adapted in different disciplines and achieve better academic performance than an average group (Purnama et. al., 2023). In short, this categorical independent variable shows us that its adaptability is key to the development of research projects that demonstrate its benefits that can be applied within a school classroom, specifically within EFL classes. On the other hand, L1 Braille literacy becomes the controlled variable of this research project. This is because teaching Braille writing in Spanish is more complex than expected. This is because there is a probability that if the blind child has an agility in writing Braille in his native language, it guarantees that he will not have the same agility in English language and vice versa. Thus, L1 Braille literacy requires a lot of time and dedication, causing students to become stressed and lose motivation to continue learning (Tellez et. al., 2023).

In this way, writing UEB code becomes the dependent variable of this research project. From this point, according to all previous definitions and readings referenced throughout the research project, it is determined that Neuro Linguistic Programming (NLP) is the categorical independent variable of this research project. On the other hand, L1 Braille literacy is the numerical controlled variable and UEB code writing is the numerical dependent variable of the study designed for beginning blind children.

Chapter II: Method

2.1 Research Design

In general, developing a good research design is essential for good planning and better results. A research design is defined as a set of systematic methods and techniques that help researchers and practitioners to understand and improve the teaching and learning process applied in linguistics (Lodico, 2006). The aim of this chapter is to analyze and consider which methods were adaptable according to different elements of the study. In this section, the importance of all elements related to this study has been analyzed according to crucial aspects from an explanatory mixed-method approach. Variables, research questions (RQ), hypothesis, instruments and participants were described along this piece of writing. In this research project, a combination of quantitative and qualitative instruments was employed to gather comprehensive data. The primary tools used include a survey, the Spanish Braille Test, the UEB Code Test, and a semi-structured group interview. Each instrument was selected to address specific research objectives and provide valuable insights from multiple perspectives.

2.1.1. *Mixed-method design*

A mixed-methods research design would have different definitions, as it depends on the experience of the authors as the field they are working with. For Creswell (2015), a mixed-method study is "a research approach in the social, behavioral, and health sciences in which the researcher collects both quantitative and qualitative data and draws interpretations based on the findings to understand research questions" (p. 2). On the other hand, it is defined as an approach to inquiry that includes philosophical assumptions and combines qualitative and quantitative forms (Creswell & Plano, 2018). This same author in short, mixed method is used for data collection that improves the interpretation of the results by complementing both approaches for a specific purpose. Thus, within the mixed method approach, there are different research designs that are adapted according to the needs of the researcher. For this research, an explanatory sequential design was considered.

An explanatory sequential design is defined as an approach that uses quantitative methods at the beginning and then uses qualitative methods to justify the quantitative findings in a deeper way (Creswell, 2018). The reason for using this research design in this project is to get a more comprehensive view and more data about the effects of NLP techniques in EFL classes in Mexico, and to understand the perceptions of blind children when they use the UEB code. Analyzing the complexity of mixed methods studies, from a quantitative perspective, a quasi-experimental design was used. A quasi-experiment is an empirical study that intervenes to estimate the causal effects of an intervention on a target population, but does not use random assignment (Lodico et. al., 2006). This is because in the field of second language research, there are external and internal factors that prevent access to the target population.

In the present study, quantitative methodology was decided because there were multiple limitations for the application of the instruments used. One of them was the enormous educational gap that exists in the southeast of Mexico, especially for handicapped population. Some studies argue that it is essential for the blind student to have skills in reading and writing Braille (Efsthathiou & Polichronopoulou, 2015). However, in Mexico this is not a reality. This is due to the pedagogical, attitudinal and organizational barriers that exist in public schools (Comparán, 2025). Thus, participants who already had Braille skills in their native language had to be selected.

On the other hand, from a qualitative approach, a case of study was conducted. A study case is defined as a detailed qualitative method that involves a specific subject to study, focusing in a person, group or organization (Strike, 1999). This qualitative approach was given to the factor mentioned above. Both research methodologies are vital to develop this research project, so that the general objective of this research is to implement NLP techniques using UEB code in EFL classes designed for blind children's students. From this general objective, the following specific research objectives were moved:

- Measure the impact of NLP techniques in EFL classes along the treatment.
- Analyze the perception of the participants about the implementation of these techniques in their pedagogy.
- Identify what factors influenced the participant's academic performance throughout the intervention.

- Determine what difficulties the participants had throughout their learning.
- Compare the influence of the native language with the use of English language on their Braille writing.

2.2 Survey: Independent Variable Instrument

A survey is defined as any written instrument that provides respondents with a set of questions or statements to which they must respond either by writing their answers or by selecting from pre-existing options (Mackey et. al., 2016). In addition, survey research often focuses on capturing a snapshot of a particular topic of interest, often with a large sample size (Paltridge & Phakiti, 2015). In a nutshell, a survey supports quantitative data extracted by the chosen research instrument.

As a result, the use of a survey as a quantitative instrument in a mixed methods study helps to enrich the research findings. This is because it is one of the most important instruments for the research project, supporting in a quantitative approach the impact of the independent variable. The objective of the survey is to measure the impact of NLP from a quantitative perspective, giving a general approach to the influence of the communicative model on the learning of the participants.

2.2.1. Theoretical and Methodological justification

Undoubtedly, theoretical and methodological support is crucial for the development of research instruments. To begin this theoretical justification, the definition of a categorical independent variable is elementary to create an instrument. In this way, Neurolinguistic Programming (NLP) was established in the study. As mentioned above, it is a set of techniques that seeks to achieve established goals through motivation and language development (Rayati, 2021). According to the survey objective, it is established to measure the impact of NLP techniques on the selected participants. Thus, for a better distribution of the sections and items in the survey, a constructivist perspective was used.

According to this theory, learning L2 is a dynamic process based on the experiences lived by the student, with the learner as the center of the educational process (Benítez-Vargas, 2023). For this tool, it is essential to analyze the experiences that the participants have had in the treatment. This is because blind children perceive EFL learning differently than sighted people. Part of understanding the impact of NLP on their learning is also important in analyzing the reflection of these techniques based on the experiences that favored their learning. This is because one of the characteristics of NLP is categorical, that is, this communicative model is a set of techniques that include multiple and complex dimensions that are difficult to measure (Rayati, 2021). This is an interesting feature related to this variable because each technique involves different objectives such as motivation, great fluency communication, better interaction with people and resort to various support materials that do not require the use of our sense of sight (Purnama et. al., 2023).

It also allows researchers to collect information that learners can self-report, such as their perceptions of the impact of learning, their motivations for learning, and their reactions to classroom instruction and activities (Mackey et. al., 2016). In short, the most feasible way to analyze the data of a categorical independent variable is through a survey. Furthermore, it is assumed that the independent variable of the research requires adaptations in the methodological procedure of the instrument. This is because NLP dimensions involve linguistic processes and behavioral patterns based on experience that are difficult to classify (Purnama et. al., 2023). Therefore, the methodological procedure of the instrument was categorized according to its techniques. According to the aim of the study, the aim is to determine which aspects and sections of NLP it wanted to analyze.

2.2.2 Sections

For this study, instruments' sections played an important role in distributing the data collection and clarifying what are the objectives for each technique. Since each dimension has multiple dimensions, the structuring was based on the implemented NLP techniques. First, the outcome technique is defined as the first section of the survey. In the context of NLP, the term "outcomes" is synonymous with "goals" or "objectives". Therefore, it is essential to know the expected outcomes (Purnama et. al., 2023).

An example applied in EFL learning could be the setting of weekly goals for students. Generally, in EFL teaching, goals have been set for the student to learn certain endings or to understand certain grammatical rules. However, this NLP technique does not focus on linguistic skills, but on pedagogical skills such as problem solving, teamwork, critical thinking, etc. Secondly, the Rapport technique was established as the second section of the survey. This technique refers to the development of a good classroom attitude. Likewise, this technique refers to learning good body management and using clear and simple language to create a favorable environment for teacher-student communication (Purnama et. al., 2023).

This technique refers to establishing good communication between students and the teacher with them. An example of this is when the teacher resolves students' doubts, is open to suggestions for future lessons, and controls the group when there are attitudes that hinder students' learning. Third, the anchor technique is defined as any representation in the human neurological system that activates any other representation (Purnama et. al., 2023). In short, this method encourages us to resort to teaching materials that force us to use other senses that do not require the use of sight. Undoubtedly, this is the most important technique for this study. This is because in EFL learning, most of the didactic materials require vision. Therefore, both teaching techniques and accessible teaching materials that do not require the sense of sight need to be developed. For example, when a teacher is explaining how to pronounce certain phonemes to blind children, he or she uses his or her hands to explain where to place the tongue or whether the teeth should touch the lips or the teeth.

Fourth, the goal of the modeling technique is to make hidden processes visible to the user. (Purnama et. al., 2023). In short, one of the goals of this communicative modeling technique is to put into practice in life all that has been learned in treatment. The educational skills acquired in the first technique result in the student being facilitated in certain activities so that they can later apply them in other subjects as well as in daily life. An example of this is when the blind student develops problem solving. Hypothetically, the student has learned to use his hands as an instrument to understand abstract things. If the student has difficulty in his regular school, he will understand that there are other ways to explain things verbally, so he will suggest to the teacher or shadow teacher that they use materials such as clay or moldable foam to represent abstract things rather

than simply describe them. These sections are important to measure in this tool. Due to all the techniques used throughout the intervention, this survey will collect the necessary information to measure from a quantitative approach the impact of this communication model on its participants.

2.2.3. Types of questions

In quantitative research, there are two types of questions: closed-ended and open-ended. A closed-ended question is one in which the researcher provides specific answer choices, while an open-ended question allows respondents to answer in any way they choose. Closed-ended questions tend to provide more consistent measurement and therefore greater reliability. On the other hand, open-ended questions allow respondents to express their thoughts and ideas in their own way, potentially leading to more unexpected and insightful data (Mackey et. al., 2023). For this research instrument, the use of closed-ended questions was considered. This is primarily due to the characteristics shared by the participants in the study. Specifically, by giving children options to choose from, the process is much easier and more accurate than choosing open-ended questions.

2.2.4. Types of answers

According to previous items that were previously established, most of the answer types in this survey are closed-ended questions. Most of the answers were multiple choice, which determined the number of items for each question. For example, in the demographic section of the survey, in item 15, one of the multiple-choice answers is open-ended. In fact, part of the socio-demographic section was to analyze what was the context of the participants. Although there were already five answers to this question, one was left open for this research. This is because, as sighted people, we have an idea of the possible difficulties that learning UEB as a foreign script may represent. In this way, this response option was left open in order to collect possible difficulties that have not yet been seen, which could be expanded for future lines of research. According to the survey, yes/no questions were common for this instrument. For some items, the need to use good/bad responses is to specify what type of response is required for the item, which makes it easier for participants to understand the items.

2.2.5. *Validity procedures*

According to Woodrow (2016), validity refers to "an overall quality of the project that reflects whether the research can be reasonably believed and the extent to which generalizations can be made. Validity reflects how certain a researcher is that the instrument measures what it claims to measure" (p. 26). In short, establishing a validity procedure is essential to a study. For this reason, the selection of the validity procedure of the research project was called "internal validity". Internal validity refers to the extent to which a study can demonstrate that the observed effects are truly due to the manipulation of the independent variable and not to other extraneous factors. In short, it measures the degree of confidence that the relationship between the independent and dependent variables is causal (Mackey et. al., 2016). For this reason, survey instruments are clearly an important part of the independent variable.

In terms of internal validity, NLP techniques have played an important role throughout the research. This is because the communicative model has been exposed and shaped according to the needs of the participants throughout their learning. Thus, as a validation method for this research tool, it is the justification of the internal validation of Neuro-Linguistic Programming as the only independent variable that has a positive impact on the participant's Braille writing. On the other hand, the optimal choice of independent variable instrument validity according to internal validity was Instrumentation and Testing Effect. Instrumentation and Test Effect is a specific threat to the internal validity of a study (Mackey et. al., 2016). However, there was an important factor that was relevant to this study, which was the instruction/question element. Alongside addressing the threats to internal validity, it is essential to ensure that the instructions are clear and suited to the developmental stage of the study participants (Mackey et. al., 2016). Those elements were important for the writing of this instrument. This is because participants were blind, so the specifications and development of explicit items were essential for the feasibility of application for this instrument. Due to this feature, instructions and questions should be appropriately aligned with the linguistic and cultural knowledge levels of the participants who are taking the test or completing the questionnaire (Mackey et. al., 2016).

2.2.6. Reliability procedures

Reliability is the simplest definition and refers to consistency. In the context of measurement instruments, reliability refers to the degree to which an instrument consistently measures what it is intended to measure (Mackey et. al., 2016). In order to continue the development of a reliability instrument, it was necessary to determine rater reliability. Rater reliability refers to the consistency or agreement among individuals (raters or judges) when evaluating or scoring the same thing, such as tests, assessments, performances, or behaviors. It is a measure of how much different raters agree on their ratings or judgments (Riazi, 2016).

Specifically, for this research study, a rater reliability called "inter-rater reliability" was used. These measures identify the agreement between different raters or judges. It assesses whether multiple raters are consistent in their ratings or judgments. Common measures of inter-rater reliability include Cohen's kappa coefficient, intraclass correlation coefficient (ICC), and Fleiss' kappa (Mackey et. al., 2016). As a result, the optimal option for the reliability of an instrument chosen for this research gadget is called "internal consistency". Internal consistency refers to the extent to which items within a measurement instrument (such as a questionnaire or survey) are correlated with each other. In other words, it assesses how closely the individual items are related to each other (Mackey et. al., 2016). From this perspective, it is understood that the reliability of this instrument is trustworthy, that is, the application of the independent variable techniques is correlated with the impact of the participants from a quantitative approach.

On the other hand, the reliability of the instrument is reflected in the results. This is because the blind user is given the freedom to choose from a range of options that approximate his or her innate opinion of the impact that this communication model has had on his or her participants. The instrument is designed so that any teacher who wishes to use it will be able to measure the impact of NLP in EFL classes with blind children. This last point is crucial because basic vocabulary was used in the child's native language, which allows the blind child to understand what is being asked and, consequently, to choose the answer that best fits his or her results. Thus, the reliability of the survey was analyzed and developed according to the previous concepts already mentioned. The interrelationship between validity and reliability is essential for the formation of a feasible research instrument.

2.2.7. Survey

The survey was designed to measure the independent categorical variable. In this way, it was determined that before the beginning of the survey, a collection of socio-demographic data of the participants would be carried out. Likewise, in the first part of the survey, information was collected about the previous experience and exposure time that the participants had prior to the time of the evaluation.

Subsequently, having once defined the items of the sociodemographic study of the survey, the main survey is divided into four sections. Each section was dedicated to each NLP technique with the aim of facilitating better understanding for the participants as well as facilitating data analysis. Each section has items related to each technique from the communication model. Some items are multiple choice questions, while others are closed questions. This was done to make it easier for blind participants to respond. In this way, it is established as an instruction for the use of this instrument by oral means. That is, an evaluator will read all the items to the participants at the end of the treatment.

2.3. UEB code Test: Dependent Variable Instrument

According to the methodological procedure, the Unified English Braille code writing is established as the dependent variable of the sequential mixed method research. For this variable, a test was considered to analyze the participant's progress along the treatment. Tests are a type of measurement tool used by researchers and practitioners to assess or evaluate research participants, clients, or patients. These tools collect data on various variables based on the research questions being investigated (Car, 2011). Language testing, in particular, is an important area of research in linguistics that focuses on assessing learners' proficiency or language ability (Paltridge & Phakiti, 2015). For this section, test is an important instrument for this variable. This is because the measurement of test is a qualified option for the innovative proposition. In the following paragraphs, all the justifiable information for this research instrument has been broken down.

2.3.1. Justification

L2 writing plays an important role in second language acquisition, especially when an inclusive writing code is used. Therefore, the dependent variable for this research project is called "Unified English Braille code writing" (UEB). In the beginning, writing Braille was the meaning of laborious literacy. For this reason, most of the language skills are prohibited in EFL classes (Efstathiou & Polichronopoulou, 2015). Recently, this variable has been proposed as an innovative pedagogical strategy in EFL classrooms for the visually impaired (Tellez et. al., 2023). As a new field, there are no instruments adapted to the Braille system, nor are there tests adapted to people with visual impairments, especially children. This is because, on the one hand, it shows that it is possible to learn the UEB code in non-English speaking countries, based on their difficulties. On the other hand, it reflects the importance of creating this tool from a constructivist perspective. The theory states that the role of the teacher is not to be the only source of information for the student, but rather his or her function is to guide the student to his or her learning based on the experiences around him or her (Benítez-Vargas, 2023).

Thus, NLP could facilitate blind students to learn a second language by exposing them to the school environment. Despite being an EFL context, for a better development of linguistic skills in their learning, it is necessary to expose the blind student to Braille writing in the English language so that the student is aware of the linguistic sign that this language implies. For this reason, it is necessary to create an instrument that evaluates the writing of the UEB code for beginning blind children. Furthermore, by having infant participants, for a better collection of information through writing tests, of all the elements involved in the application of writing evaluations (Car, 2011), vocabulary has been chosen as the element to measure. for this evaluation instrument.

2.3.2. UEB code Test Sections

Likewise, vocabulary has played as the key element to measure through the instrumentation used in this dependent variable. Vocabulary is defined as the ability to identify and comprehend words and phrases, define or explain their meanings, and use them correctly within a given context (Car, 2011). According to Nurul (2015), there are five sections which are important to analyze in vocabulary. The first one is called Meaning, which is considered one of the key elements in vocabulary analysis in test instruments. The section is defined as the interpretation of the content that its users give it according to the social context (Nurul, 2015). For instance, the word “present” is defined as a period that is happening now or a gift. Secondly, spelling refers to the process of forming words with the correct sequence of letters. By knowing the spelling of the word, the learner will know how to write a word correctly in written (Nurul, 2015). Thirdly, pronunciation was considered as a part of the process of acquiring vocabulary in a foreign language, pronunciation is key to effective communication between its users. It refers to the set of words known and used by a person or within a particular language or field (Nurul, 2015).

On the other hand, word classes are defined as the categories of words (Nurul, 2015). In short terms, it refers to the fact that part of learning vocabulary is also knowing how to recognize the grammatical category of the word (noun, verb, adjective, etc.). Finally, word use classification refers to how a word is used in a language (Nurul, 2015). This section refers to the fact that the user must know how to analyze the grammatical category of a word, and have the knowledge of knowing how to use said words in other categories. An example of this is "book", which means a written or printed work consisting of pages glued together (noun) or means the action of make a reservation (verb). Those sections are important for the instrument. This is because for the quantitative approach, it is essential to demonstrate how the application of NLP techniques impacted for writing participants. However, for the study only three sections are considered (meaning, spelling and pronunciation) for the application of this instrument. In fact, this is because the participants of this study are beginners, the last two sections are complex to be applied for the participants. In fact, the participants are not aware of the level of complexity involved in acquiring vocabulary in EFL writing. So, it would be one of the adaptations for this research project.

2.3.3. Type of questions

In the context of tests or assessments, an item refers to a single question, task, or problem that is part of the assessment. For example, a multiple-choice question on a test is considered an item (Car, 2011). For this study, to specify scoring method, dichotomous method was chosen. It refers to questions scored as correct or incorrect (Car, 2011). Specifically for this research study, each section had its specific instructions to be answered.

According to the participants, these instructions were also adapted depending on the pedagogical resource in which it will be answered, be it a Perkins Brailler or Braille slate. This is because the use of Perkins Brailler in comparison with Braille Slate are completely different. For that reason, the instructions to answer the test had to be different. On the other hand, there was not any kind of pre-selection for whose students used Braille Slate or Perkins Brailler. Due to the fact that every participant decided which material was best for them. All items should be answered by short answers, according to what was requested to respond. Furthermore, all items and instructions for each section were written in Spanish. This is because for beginners, comprehension questions should necessarily be written in students' L1 or that students should respond to short-answer questions in their native language (Car, 2011).

2.3.4 Type of answer

For this study, short-answer items were chosen by scoring method. Short-answer questions offer a distinct advantage, particularly in tests focusing on vocabulary. They compel students to generate the correct forms rather than simply identifying them. This active engagement promotes deeper understanding and retention of language concepts (Car, 2011). For this research study, the example of these items is necessary for better analysis in data collection. In section 1, short and precise answers are required to be able to apply the scoring method. In sections 2 and 3, listening comprehension and spelling are essential for scoring items. This is because for beginners, comprehension questions should necessarily be written in students' L1, with the aim to understand the instruction's item, as a result, students should respond with a short-answer each item in English Language using UEB code (Car, 2011).

2.3.5 Validity procedure

Undoubtedly, validity of a research instrument pertains to how accurately the results obtained from the study participants reflect the true findings among comparable individuals beyond the study's scope. This notion of validity is applicable across various types of linguistics studies (Car, 2011). To clearly define, the aim of validity is to establish what type of procedure is best suited based on the dependent variable of this research. For this reason, the most advantageous option for validity procedure was “internal validity”. Internal validity is defined as the degree to which a study's outcomes are influenced by the factor that the researcher aims to investigate. In short terms, it assesses the extent to which the variances observed in the dependent variable can be attributed directly to the independent variable under scrutiny (Mackey et. al., 2016).

For this reason, the development in the execution of an effective instrument within treatment is essential to identify the viability of the instrument. Thus, the optimal choice for the validation of this research instrument was “Instrumentation and Test Effect”. Instrumentation effects occur when alterations in the measurement of a variable arise from factors related to the characteristics or performance of the instrument utilized to gather data. This can lead to inconsistencies or biases in the data collected, impacting the accuracy and reliability of the study's results (Rasshed et. al., 2023). In either case, the prime factor for this dependent variable instrument validity element for this study was test instructions and questions. As part of internal validity, the instruments used in this category must be clear, precise and appropriate, according to the level and needs of the participants (Mackey et. al., 2016). This is a critical factor on which the validity of this instrument was created.

Owing to the fact that this type of instrument is focused on blind infant participants, and due to the context, it is necessary to make many adaptations, clarifications and be appropriate for target participants. For this study, the validity of this instrument is oriented according to the format, as well as the use of basic language in the items in the participants' native language. Because they are beginners in the language, they do not have the proficiency level to answer a test completely in the target language. On the other hand, visual resources cannot be used for a better understanding of the items, this is due to the visual limitation that participants have.

Likewise, the writing method used by the blind user is vital to the creation of a research instrument. This is because the instructions and items were specifically designed to facilitate data collection. Without a doubt, the validity of this instrument was key to obtaining quantitative results, with the aim of measuring through the academic performance of the participants the impact of NLP techniques on their writing in EFL classes.

2.3.6. Reliability procedure

Reliability refers to the consistency, stability, or repeatability of measurements or results obtained from a research study or assessment tool. In simpler terms, it assesses the degree to which a measurement or test produces consistent results when administered repeatedly under similar conditions (Dörnyei, 2007). For this research project, reliability procedure is an arduous process to analyze now to verify an instrument. So that, the reliability procedure that has been chosen for this dependent variable instrument was intra-rater reliability.

Intra-rater reliability refers to the consistency or agreement of judgments made by the same rater or observer over time or across multiple periods of time. In other words, it measures the extent to which a single rater or observer provides consistent scores or judgments when evaluating the same phenomenon or data repeatedly (Mackey et. al., 2016). In addition, to create a feasible instrument, this study used an instrument reliability called “test-retest”. Test-retest is a method used in research to assess the reliability of a measurement instrument, such as a questionnaire or test. In the test-retest method, the same measurement instrument is administered to the same group of individuals on two separate occasions, with some time interval between the two administrations (Mackey et. al., 2016). For this study, the application was administered on two different occasions. The pre-test was applied three weeks before the intervention, with the aim of collecting data on the participants' prior knowledge of the English language. Finally, the post-test was applied one week after the treatment. This arises to measure whether the use of the aforementioned techniques really influenced the learning of EFL using UEB code. Thus, test-retest method using an intra-rater reliability was chosen for this instrument. Without a doubt, this gadget helped us to identify and strengthen the reliability of this variable instrument.

2.3.6. Test

Many aspects were taken into consideration in the test development process. In the first instance, exams for people with visual impairment were normally carried out through oral language. For the development of this research instrument, when grading the written expression in Braille system, the participant is required to write the test answers on paper.

However, to give the participants a more realistic experience of how language tests are administered to north-white people, it was decided that the items should be written on the same sheet using Unified English Braille code.

Consequently, for the participant to respond on the same sheet, it was decided to leave a space in each item so that they could do so through a Braille Slate or a Perkins Brailler. Additionally, for each section addressed in the test, specific instructions were given for each item, customizing whether the user used a Braille Slate or a Perkins Brailler to answer the instrument. In total, the number of items was 9, however in section 1, two items have a score of two points. As there is no standard evaluation in Braille as foreign writing that can measure the level of vocabulary they learned throughout the treatment, an innovative instrument had to be created.

2.4. Spanish Braille Test: Controlled Variable Instrument

Despite the lack of literature, this research instrument was created under the supervision of blindness experts. One of the peculiarities of this research is that it has a controllable variable. This variable began to be considered because uncertainty arose regarding whether there was an influence of the mother tongue on the knowledge of the English language in its participants. In fact, a lot of studies have shown that the influence of the mother tongue on the process of acquiring a second language, regardless of the context in which said acquisition takes place, is feasible (Lightbown & Spada, 2013).

However, the peculiarity of this study is that it is not known exactly whether the performance of the blind student in his Braille writing is vital for learning a second language. This research instrument aimed to select the study participants based on their ability to write Braille in their native language (Spanish language). The emergence of this research instrument was experimental in nature, that is, a pilot evaluation was created to measure the controllable variable, and thus be able to select the participants of the study. This instrument could have a future line of research in the analysis of Braille writing in the Spanish language. This section contains both the justification and the relevant details for the preparation and execution of the instrument.

2.4.1. Justification

The history of the Braille system is relatively recent. Being a tactile reading and writing system, it is not considered a language, because, being the most popular system in the world for visually impaired populations, each language adapts its words and fonts in dots (ONCE, 2025). Louis Braille was a French inventor, creator of the Braille system in 1821 (Musée Louis Braille, 2025). With the arrival of liberal governments in Mexico, it was not until 1870 that the National School for the Blind was founded in Mexico City (Jullian, 2018). Despite 155 years since its founding in the country, Braille literacy is still not a reality in the Mexican context.

The evaluation of the Braille system, both in terms of reading comprehension and written expression, should be a priority in order to measure the literacy level of blind people. However, there are no studies that emphasize the system. Many special education teachers who specialize in blindness teach Braille in an affordable way. As a result, the educational gap in public schools is deepening. Currently, there is no census in Mexico that accurately measures the degree of educational backwardness among students with visual impairment. Nevertheless, many experts in the field argue that the academic performance of a blind student depends primarily on family support and socioeconomic level. Therefore, it is of vital importance to create an instrument that measures, to a certain extent, the degree of acquisition of the Braille system in blind students. Especially in second language classes, because delving into the learning of a foreign language requires that the student delve into reading and develop their writing for better acquisition.

2.4.2. Sections

For the development of the sections of this research instrument, the empirical-methodological process used by various special education teachers in the state of Tabasco was taken into consideration, to evaluate the blind user's prior knowledge of the Braille system. The knowledge that was considered to be evaluated comes from the ability that the blind student has to use the Braille system in the Spanish language. The first section is called "The Alphabet." This section measures the blind student's knowledge in identifying the dots of the generating sign (either Braille slate or Perkins Braille) and knowing the number of dots that each letter of the alphabet has. The second section is called "syllables." The objective of this is for the blind student to have a connection between the meaning and the signifier, so that he identifies the basic syllables used in the Spanish system, and also writes them in the Braille system. Third, the section is called "numbers." In this section, the child is measured on the knowledge that the blind child has regarding writing numbers in Braille. In this reading and writing, the same series of dots of the alphabet are used, however, to identify the number, the number sign (3, 4, 5, 6) is used so that when reading it, the reader understands that a number is being represented.

Likewise, this section helps us understand if the blind student understands the number system of units, tens and hundreds, basic knowledge that is taught in public schools. Fourth, the section is called "words". This category is intended to measure the acquisition of language represented in Braille writing by the infant. At this point, the student must understand that the combination of phonemes creates syllables, and these together create words, resulting in their representation in writing. Similarly, a difficulty of the Braille system comes into play here, the accented words in Spanish (á, é, í, ó, ú). The fifth category is called "sentence." This section is intended to grade both the spelling and grammatical order of a statement. At this point, the blind user is able to write a complete sentence, respecting the separation of words throughout the sentence, and using punctuation marks throughout the sentence. Finally, the last section is called "paragraph". At this point, the student should have developed the previous skills, and also have a broad vocabulary in his/her native language, being aware of the spelling mistakes that may arise in technical vocabulary, as well as having prior knowledge of standard Spanish in the Braille system, knowing discursive connectors throughout a paragraph and having a deeper knowledge of the orthographic signs, such as the use of capital letters in proper names.

2.4.3. Type of questions

Following with the methodological research design, a multiple-choice question was considered for this instrument. This is due to the dynamics chosen for this instrument. The student will be given a series of items according to each section that must be represented in the Braille system. The instructions for this instrument were given orally, using simple and easy-to-understand language, respecting the hierarchy of the instrument.

In the first instance, the population had to write their full name, this with the objective of identifying the owner of the exam, as well as measuring the student's ability to write their full name in the Braille system, either with Braille slate or Perkins Braille. Regardless of the method that students use to answer the exam, each section is mentioned to them first, and they are also told what they should write according to what is required.

2.4.4. Type of answer

For this research, short-answer items were chosen by scoring method. The instrument was designed to measure the vocabulary designated to answer in the test. The chronological order of the answer to this instrument was to write the name of the participant first. Then, in the first section, the participant must write in Braille five letters of the alphabet (a, j, k, q, w, z). Then, they must write five syllables that are used in the Spanish language (la, che, sa, ño, yo). Third, the participants must write in Braille the digits that were dictated to them (1, 7, 25, 348, 1995).

Fourth, they must write a sentence using the basic punctuation marks in the Spanish Braille system (Mí mamá me mima mucho tanto que me quiere mucho.). Lastly, the participants must write a short paragraph using the punctuation marks of the Braille system, without spelling mistakes and using accented vowels from the extract of the story "Paco el Chato". The answers were graded using the dichotomous method. That is, if the item was not written correctly (whether the correct answer requires an accented vowel, uses a capital letter, requires an umlaut or some other punctuation mark) the answer could be incorrect.

2.4.5 Validity procedure

The validity of this instrument is vital for the execution of this project. As mentioned above, validity is the degree of measurement that a research instrument has based on a variable. From this perspective, it is perceived that a research instrument requires categorizing its validity according to the objectives of the research, as well as the needs of the instrument. This, part of the validity of the instrument has been categorized from an external validity procedure.

External validity is defined as the generalization of results that can be applicable to different people, regardless of context, place and time (Makey et. al., 2016). Therefore, an external validity is referred to as an instrument that can be applied in all contexts. Thus, its selection method is sampling. Sampling is defined as an external validity that examines the degree of application of the study in a population (Makey et. al., 2016). In short terms, sampling is categorized as an external validity of a research instrument, which is characterized from the results obtained from a population. Thus, as part of the categorization of sampling selection, a nonrandom sampling selection was considered for this instrument.

Non random sampling selection is defined as a research method validity that leads to the selection of participants through three methods: systematic, convenience and purposive sampling. For this study, a purposive sampling was selected for this instrument. Purposive sampling refers to the conscious selection of researchers from the population based on their knowledge, with the aim of obtaining the results that are of interest of research (Makey et. al., 2016). For the study, this method is considered a key for the validity of the instrument. This is because one of the objectives of the test is to evaluate the prior knowledge that the sample has in the Braille system in their native language. This knowledge is basic for learning a second language, so the design of this instrument was to select participants based on their previous knowledge of the Spanish Braille system, and therefore, to introduce an intervention where the participant would be introduced to UEB code writing in an EFL classroom context.

2.4.6. Reliability procedure

As defined above, procedural reliability is conceptualized as the degree of accuracy with which an instrument should provide consistent results. For better instrument reliability, inter-rater reliability was chosen for evaluators perspective. Inter-rater reliability is defined as a reliability method between evaluators that evaluate the instrument, reaching a conclusion shared by researchers. At this point, the inter-rater perspective was critical to the reliability of this instrument, as multiple teachers were involved in the development of the instrument, agreeing that the results shown are consistent.

On the other hand, analyzing the reliability of the instrument, it has to be true to obtain a high degree of reliability for the test. Thus, for this instrument the Split-half procedure was selected for the instrument. Split-half procedure refers to the reliability of an instrument by obtaining the correlation coefficient by comparing the performance in a mid-exam (Mackey et. al., 2016). From this perspective, the reliability of this instrument is clear through this quantitative method. Because the test is designed from the most basic knowledge of Braille writing to the most difficult (according to the criteria established in primary education students), more than ideal, it is appropriate to measure its reliability based on the participant's performance in two sections. The first section refers to the construction of the meaning/signifier of the blind user applied to the Braille system. This first half qualifies the relationship that the participant has with the phonemes that form a word, and how that sound is reflected in the written expression of the blind student.

On the other hand, in the second half of the chapter a different aspect is assessed: the skill and linguistic development of the blind user in using the Braille code as a reading and writing system for written expression in its naturalness. At this point, the reliability of the instrument was based on the knowledge that the blind student has developed throughout his initial literacy training, which leads to the use of this writing system to be applied in an L2 context.

2.4.7. Test

The main objective of this research instrument is to evaluate the sample (blind children who are studying in public primary school) on their knowledge of writing the Braille system in their mother tongue (Spanish). In addition, by compiling their previous knowledge that they have learned throughout their initial literacy training. Part of the content used for the instrument sought to develop issues as simple as writing a letter of the alphabet in Braille code using a Braille slate or Perkins Brailier. Developing skill in handling Braille slate and Perkins Brailier requires years of practice to perfect its use. The results obtained from this instrument helped to validate the instrument for selecting participants suitable for the treatment. These participants showed high scores in their ability to write Braille in the Spanish language, relating the phonetics of the word in a written text, showing the arduous process of Braille literacy to which the select participants were exposed in their early years of life.

2.5. Semi-structured group interview: Qualitative Research Instrument

One of the main functions within a sequential mixed method study is to consider the use of qualitative instruments that favor the enrichment of the results of a study. The purpose of a qualitative research interview is to understand everyday life issues from different perspectives (Brinkmann & Kvale, 2015). Similarly, it could be defined as a long-structured conversation with a common purpose. This instrument seeks to obtain detailed descriptions of what is to be analyzed. On the other hand, the semi-structured interview could be defined as a flexible interrogation that seeks to obtain descriptions of the participants' daily lives, descriptively interpreting the interviewee's reality (Brinkmann & Kvale, 2015).

Likewise, the qualitative approach relied on the perspective of an intrinsic case study, due to the limited sample of the research. Semi-structured interviews in case studies are key to understanding and specifying the context of the person, situation, or institution (Brinkmann and Kvale, 2015). From a qualitative approach, a case study is defined as a research approach used to describe complex phenomena focused on a class of groups, issues, and programs in which social interaction is key to the qualitative components of the research (Lapan, Quartaroli, and Reimer, 2012).

There are different types of case studies. In the qualitative component, a semi-structured interview was implemented. Throughout this section, the theoretical-methodological justifications of the instrument are established, as well as its sections, types of questions and answers, and the validity and reliability of the instrument.

2.5.1. Justification

To have a better understanding of a case study, background is vital for a better understanding of the research topic. For many years, when a person was born or acquired blindness, it was synonymous with weakness, oppression and rejection by society (Jullian, 2018). It was not until 1870 that the National School for the Blind was opened in Mexico City (CNDH, 2024). This event was a turning point in the history of education in Mexico, as it marked the beginning of the opening of special education in the country. At the beginning of the 20th century, due to the high rate of illiteracy in the population, special education was introduced in the Organic Law of Education in 1939. As a result, in the mid-20th century, university courses focused on special education began to emerge (Trujillo, 2024). However, it was not until 1992 that the inclusion of people with disabilities in public schools was imposed through the general education law (SEP, 2002). Meanwhile, in Tabasco, special education began to be provided in 1979, with the inauguration of the "Graciela Pintado de Madrazo" Normal School of Special Education (Súarez & Jiménez, 2009). This type of management began to benefit the Tabasco population, due to the creation of multiple care centers by public organizations such as "UNETE". However, the case of Pachela Roviroso de Gaudiano, an upper-class girl who was born blind in the 1980s, moved the Tabasco political elite. Creating a support network, to the point of including handicapped children in private schools, in which ARGI school was the first school to accept a blind person in the state.

Over the years, these types of actions began to be reflected in the general population. With the support of the Tabasco elite and the group of volunteer ladies, in 1992, professionals from the National School for the Blind of Mexico City arrived in the city of Villahermosa to apply a series of Braille writing courses to the entire visually impaired population. Although a federal decree was issued in 1993 for the inclusion of visually impaired children in public schools, it was not until 2000 that a blind child managed to access a primary public school. Meanwhile, during the 1990s,

civil organizations, DIF Tabasco and international organizations, promoted inclusive education in the state, a fact that marked a milestone with the inauguration of the Statal School for the blind in 1998. The efforts initiated in the 1990s, particularly with Braille training, the school inclusion decree, and the creation of the State School for the Blind, not only opened the doors to basic education but also laid the foundation for an inclusive and progressive path that today impacts all three educational levels. This has contributed to building a more equitable society, where education is a real tool for social mobility for people with visual impairments.

Recently, challenges have arisen in public schools regarding the inclusion of people with disabilities in their educational programs. As a result of the actions in favor of inclusive education in the state, in the last decade the number of scientific investigations that analyze the perspective of blind students in their inclusion in their educational programs has increased (Aquino, et al., 2012). Also, these same authors have implemented within the field of second languages in the state of Tabasco, and conducted research to analyze the perceptions of people with visual disabilities in higher education. In the same line other research have been done to analyze the learning strategies for the acquisition of second languages (Quiroz & Palmeros, 2016). At this point, the importance of this qualitative research instrument comes into effect. This is because most research focused on people with visual disabilities is focused on young adults, evading the perception and development of strategies for the blind child population.

In fact, analyzing the perception of students is something that NLP proposed in its "Rapport" technique, which mentions that to develop a good attitude and better performance in class, it is vital to create a communicative link between the student and the teacher (Purnama et. al., 2023). In short terms, to develop this close communication, the blind student's perception must be understood to understand whether the implemented techniques of the communicative model are effective when applied in an EFL classroom context.

Although many specialists in inclusive education consider that the opinion of a blind child about his education is not relevant, this instrument, more than analyzing the perception of the participants, opens a panorama of the learning of the blind student, allowing the child to give an opinion about his education, and to suggest which pedagogical strategies are the most favorable

for his acquisition. Likewise, this qualitative instrument allows to eliminate stigmas for handicapped population, giving the participant a voice and vote to decide about their education. Thus, the application of this instrument in the study is justifiable. Years of history and struggle for the inclusion of people with visual impairment in public education allows the creation of research projects that favor the creation of public policies, and also improve both the educational and life quality of the blind student.

2.5.2. Sections

The delimitations of a research instrument are essential for better precision and execution of the instrument during the intervention. In the case of semi-structured group interviews, for a more objective delimitation, it must be considered that all the desired contents are covered according to the objective of the instrument. Thus, the objective of this study is to analyze the perception of the participants at the end of the treatment. For this study, the interview was divided into five sections: sociodemographic data, family support, experience in regular school, experience in learning the English language and Neurolinguistics programming.

In the first category called "sociodemographic data", qualitative data extraction is carried out, which is characterized by collecting information about the blind student's environment in general terms. This section seeks to deepen the participant's sociodemographic data. Although this data was extracted in the survey, the difference is that in the interview they have more freedom to express themselves and be precise with their answers, that is, to better understand their context. In the second category, "family support," it seeks to understand the intervention of parents in the study participants. The aim of this section is to analyze, based on the data collected in the interview, the role that parents play in the academic performance of the blind student, as well as to superficially understand the influence of parents in the process of acquiring a second language.

On the other hand, in the third category called "experience in regular school", it refers to the experiences collected from the participant in his or her primary school. In this section, it seeks to collect information related to the participants' perspective on the treatment they receive from the main teacher, the special education teacher, and their classmates.

From this section onwards, the Braille code begins to be involved as a determining factor that measures the degree of inclusive education that exists in Mexican schools. In the fourth category, called "Learning Experience in the English Language," it seeks to collect in a detailed and precise manner the previous experiences that participants have had in English language learning in their regular schools. In this category, detailed information is collected on the teacher's treatment of participants and their peers. Likewise, information is collected on the pedagogical strategies used by the teacher and a comparison is made between the techniques implemented in this study. This section establishes comparisons regarding their perception of the English language both in their regular school and in the study intervention.

Likewise, this part emphasizes the participants' perception when writing in English using the UEB code. This is a critical factor, because the data collection determines which factors influence the learning of Braille writing using the UEB code. However, this section, in addition to analyzing the perception of the participants, also collected information on which strategies favor their learning and which do not. Finally, the "neuro-linguistic programming" category deals with the collection of information on the perception of participants using these techniques. Likewise, multiple comparisons are made between the strategies implemented by teachers in regular schools, as well as the techniques of the communicative model implemented in the study. Without a doubt, all these categories implemented in the instrument are essential to analyze the perception of the participants based on the quantitative results of the study. This type of qualitative instrument could help us understand the pedagogical strategies that can be implemented in the classroom, leading to improvements in inclusive education and promoting research projects in favor of vulnerable groups.

2.5.3. Type of questions

For this research project, open-ended questions were used. Open ended questions are defined as a type of formulation, in which allow participants to extent a free-form answer (Rosala, 2024). This type of questions improves the exploration of a topic, specifically in a qualitative approach. Likewise, these questions are important for the study, because participants can share experiences or opinions related to the treatment in a detailed way.

In some sections, although they are open questions, they require very precise answers, while others require the participant to elaborate in order to share a perception that enriches the research. Since it is a semi-structured interview, it has the advantage of formulating new questions during the course of the interview, because in each of the categories of the instrument the participant can reveal enriching information for the research. On the other hand, few questions require the formulation of closed-ended questions. This is because in some sections, some questions require an affirmative or negative response to a fact in order to create spontaneous questions that help collect research data. In this way, this relevant data is emphasized by investigating in depth.

2.5.4. Type of answers

Once the type of questions that this research project addresses was defined, the type of response was open-ended response. An open-ended response is defined as an extent answer that allows participants to express their thoughts in a freely way, without limiting the participants' responses throughout the semi-structured interview. When developing spontaneous questions, the answers must be open, to go into depth about what you want to investigate. On the other hand, for the application of this instrument, closed-ended questions are required. This is because some questions required responses that affirmed or denied facts, perceptions or attitudes throughout the intervention, with the aim of improving the collection of qualitative data.

2.5.5 Validity procedure

For the validity of a qualitative instrument, precision and well-detailed justification are required so that the interview is truthful. Thus, the validity categorization of this research instrument is determined as an external validity. As mentioned above, external validity refers to the way in which the results of a very specific context can be generalized, considering factors such as variables, time, among others (Mackey et. al., 2016). From this perspective, it is understood that the validity of this qualitative instrument measures the degree of generalization of a specific context, in which the participants are developing throughout the intervention.

From this point on, the validity of the instrument, rather than a generalization of the participants, situations or settings, the exhaustive analysis of a context from a qualitative perspective enriches the results of the research.

Likewise, for a better specification of the context, external validity is seen to be oriented towards nonrandom sampling methods. As mentioned above, non-sampling selection procedures is the degree to which the results of a research study are seen to be oriented toward the research objectives (Mackey et. al., 2016). For a better determination of the instrument's validity, the interview used a purposive sampling method. As already mentioned, the intentional sample is defined as the conscious selection that researchers apply in factors such as the level of knowledge of the participant, such as the extraction of data relevant to the researcher. This method was selected because part of the qualitative objective of the research, for a broader vision, a sample of the total number of participants was selected, with the aim of collecting information that covers a perception from different angles.

In short, to determine what type of factors influenced the perception of the participants, they were selected from the quantitative results obtained from the post-test. Although the same techniques, activities and instruments were applied to all participants, for a better accuracy in the perception of the qualitative participants, a series of semi-structured interviews were conducted with the participants who had the lowest score in the post-test. On the other hand, a sample of participants who had a regular score in the post-test was also extracted. Finally, a participant who had the highest score in the quantitative instrument was selected.

2.5.6. Reliability procedure

For this research project, it was determined that the degree of reliable measurement used for this instrument was inter-rater reliability. As mentioned above, inter-rater reliability is defined as a method, in which two or more evaluators critically judge the instrument in the same way (Mackey et. al., 2016). Thus, part of the reliability of this study is to analyze all the relevant categories and sections of the semi-structured group interview, and described content must be judged by several evaluators. For this research project, the selection of questions and their

respective order were supervised by several experts in inclusive education. In some sections, a respective comparison is made between the application of the techniques throughout their intervention and their teaching in their regular school, this with the objective of differentiating which aspects favor or do not favor their learning.

2.5.7 Semi-structured group interview

The semi-structured group interview aimed to collect qualitative data on the perception of the selected participants at the end of the intervention. The participants selected for the qualitative sample, considered a vulnerable group in the Mexican government, their respective nomenclatures were created to cover their identity. The application of the qualitative instrument was divided according to the study participants. Its first application was with participants (PF1) and PM1, who had the lowest score on the study's quantitative instrument (post-test). Subsequently, for the second application, participants PM4 and PF2 were selected. These participants obtained an average result in the quantitative instrument of the research. Finally, her application was assigned to participant PF3, who had a perfect score on the quantitative instrument.

At the beginning of each interview, participants were instructed to answer the corresponding questions. Although the interview was a group interview, all participants had to give their own opinion. They were also told that if they did not wish to answer a question or continue with the interview, they should knock on the table three times. On the other hand, part of the protocol of the qualitative instrument was that if the instrument applicator wanted to investigate the participant's response, questions were asked that would enrich the required information.

In each category, participants were asked what they had to answer through closed questions, so that in order to investigate the required information, open questions were asked. The interviews were recorded and transcribed into Microsoft Word documents. Their respective analysis was done manually and distributed using NLP techniques.

2.6. Consent Letter

In academic research, a cover letter may be used to provide context for the study, explain the significance of the research, and highlight any specific considerations or requests for the recipient, such as journal editors or funding agencies (Lodico, 2006). A cover letter is one method that researchers commonly use to relay such important information to participants. Through the letter of consent, access to the target population could be carried out in this research project. All elements, special permissions and peculiarities are broken down along these sub-topics.

2.6.1. Justification

One of the biggest features of the consent letter used for this research project was that the participants spanned two different types of populations. Firstly, the study participants are blind, so being a vulnerable population and overseeing government institutions, in addition to the letter of consent, various procedures are required to be completed to access said populations. Secondly, in addition to having a visual disability, they are children. In this way, the letter of consent should not be addressed to the participants, but to their own parents and guardians responsible for the beneficiaries.

Throughout the consent letter, for better accessibility and confidence on the part of parents, the purpose of the study, the confidentiality statement, Statement of voluntary nature of study and the contact information must be added (Lodico, 2006). See the next sample.

2.4.2. *Format*

_____ de Abril del 2024

José Víctor López Madrigal
Estudiante de la Lic. En Idiomas
División Académica de Educación y Artes
Universidad Juárez Autónoma de Tabasco
Av. Universidad S/N, Col. Magisterial
86025, Villahermosa, Tabasco, Méx.
211J25037@alumno.ujat.mx

Asunto: Carta de Consentimiento

Estimado Padre de Familia y/o tutor responsable:

Por medio de la presente me dirijo a usted de la manera más respetuosa posible para solicitarle la participación de su hijo/a en un curso introductorio de la enseñanza del idioma inglés como Lengua Extranjera (EFL) enfocado en la escritura Braille utilizado en países anglosajones denominado "Unified English Braille" (UEB). El objetivo de este proyecto de investigación es analizar el impacto de un modelo comunicativo, analizado mediante una serie de encuestas y evaluaciones que nos permitirán descubrir múltiples áreas de oportunidad y tener una mejor intervención en futuras sesiones.

El periodo de intervención del curso introductorio es del lunes 8 de abril hasta el viernes 31 de mayo del presente año. A lo largo de ese periodo, también se aplicarán las encuestas y evaluaciones ya mencionadas. La información brindada será manejada de manera confidencial y anónima. De igual forma, los resultados se podrán emplear de manera anónima en reportes institucionales y de divulgación. Además, después de que el beneficiario haya concluido las encuestas y las evaluaciones, si desea que sus respuestas se excluyan de la base de datos, favor de remitir su solicitud a 211J25037@alumno.ujat.mx.

De este modo, el Señor/Sra. _____
autoriza que el beneficiario _____
participe en el curso introductorio del idioma inglés, como en las respectivas evaluaciones.

Firma del Padre o Tutor

2.7. Participants

2.7.1. Context

A context could be defined as an environment, in which multiple target groups of a population are coexisting simultaneously in a specific place. According to the Mexican Association of Ophthalmology, 2.6 million people have visual impairment, out of which 416 thousand are blind (VisionAtlas, 2021). In the educational sector, according to Article 12 of the General Law for the Inclusion of People with Disabilities (2011), the Ministry of Education promotes the right to education for people with disabilities, including the teaching of the Braille Writing System in public and private education and encouraging the production and distribution of free textbooks (p. 10). However, for this law to be exercised, a special education teacher is required. Consequently, access to inclusive education for the most vulnerable population is limited, because...

The situation is so serious that, according to the National Human Rights Commission (2020) expressed concern about the incapacity of the Mexican government in promoting, training, and strengthening Braille literacy (p. 1). Based on this problem, special education institutes for the blind and visually impaired have played an important role in improving the Braille literacy of the blind. In Mexico, there are only 10 institutes focused on the development of autonomy, literacy, and education of people with visual impairments. One of these institutes is in Tabasco.

2.7.2. Population

According to Lodico (2006), a population “is the wider group of individuals about which the researcher wants to make statements” (p. 140). Based on the INEGI (2020), Tabasco ranks second nationally with the highest number of people with visual impairments. It is estimated that more than 16 thousand people have this disability in the state. Consequently, the Integral Care Center for the Blind and Visually Impaired (Centro for Atención Integral para Ciegos y Débiles Visuales [CAICDV]) was inaugurated in 1997 with the objective of promoting literacy, training, and independence for the visually impaired population.

Currently, 120 beneficiaries with different levels of blindness attend CAICDV, covering all age ranges: babies, children, adolescents, adults, and seniors. They are all in their literacy development process, and according to the needs of the beneficiary, the institution provides them with complementary education according to their educational level. For instance, if the beneficiary is studying at a regular public elementary school, the institute will provide him/her with additional activities that complement their regular classroom learning according to the school grade.

2.7.3. Sample

According to Dörnyei (2007), a sample could be defined as “a group of participants whom the researcher actually examines in an empirical investigation” (p. 96). For this research project, non-probabilistic sampling, called convenience or opportunity sampling, was used. Convenience sampling is defined as a criterion in which participants of a target population are selected for the aim of the study (Dörnyei, 2007). This sampling option represents a practical criterion, depending on geographical, availability, accessibility, or willingness features.

In the population and context that were previously described, the enrollment of the target population that attends primary education within the institute is a total of 36; out of which 31 are blind and 5 are visually impaired. For this study, only blind children were considered. The actual sample was being selected by their ability to spell words in Spanish and the amount of time to use the Braille slate. These two elements will be identified through a series of diagnostic evaluations in writing Braille level 1 in Spanish had to be developed. Only participants who get a score between 20 and 30 points and complete the tests within 30 minutes will be retained. Through these criteria, participants demonstrate their ability in both braille writing as well as their linguistic and communicative skills that are required.

Thus, the participant selection model was determined by the dependent variable instrument of the research. Through the tests, the criterion established for the research was that at a minimum the participants had to have at least 50% of the correct answers in the post-test. Likewise, the estimated time it should take to answer the test was a maximum of 30 minutes.

Of the 36 beneficiaries who were in elementary education, only 9 (25%) children were suitable for the quasi-experimental study. This is because these participants had the prior knowledge necessary to develop linguistic skills in a foreign language. This knowledge ranges from the use of Braille slates to the mastery of all the Braille marks included in the Spanish language. All participants have prior knowledge of the English language through spoken language. Furthermore, participants and their respective parents were aware that they were participating in a quasi-experimental study. Consequently, 66% were female and 33% were male. All participants were within the 8–13-year-old age range.

For the qualitative phase of the study, only a total of five participants were selected and invited to participate in the semi-structured interviews. The participants were selected according to the results obtained from the post-test. They were divided into three groups: the first group consisted of the two participants who had the lowest score. The second group consisted of the two participants who had obtained an average score. Finally, the last group consisted of the participant who obtained the highest score on the exam. In the following sections, the use of nomenclatures has been used to cover the identity of the participants. At the explicit request of the tutors, details of their affiliation in their regular schools were omitted.

In the first group were the participants PM1 and PF1. PF1 is 13 years old and lives in the Boquerón fourth section of the municipality of Centro, Tabasco. This blindness participant was diagnosed as glaucoma. The participant showed little support to carry out academic activities. She has two brothers and his father is a bricklayer. She studies in a public school and has had no previous experience in learning the English language. On the other hand, participant PM1 is 12 years old and lives in the municipality of Emiliano Zapata, Tabasco. His blindness is diagnosed as Retinopathy of Prematurity Grade V. He does not have the support to carry out academic activities. He has a physically disabled brother and his mother is a housewife. He attends a public primary school and has not had any previous experience learning English.

In the second group were the participants PF2 and PM4. PF2 is 9 years old and lives in the municipality of Limar, Chiapas. Her blindness is diagnosed as Retinopathy of Prematurity Grade V. She has the support of her mother to carry out academic activities. She has a brother; his father is a grill chef in a restaurant and her mother is a housewife. She studies in a public school and has had previous experience with the English language. Likewise, participant PM4 is 9 years old and lives in the Villa Jalupa ranch in the municipality of Jalpa de Mendez, Tabasco. His blindness condition is diagnosed as Leber congenital amaurosis. He had the support of his grandmother to carry out academic activities. He is an only child; his mother is a preschool teacher and his father is an engineer. He attends a public school and has had no previous experience learning the English language.

Finally, the last interviewee of the qualitative instrument was of participant PF3. PF3 is 10 years old and lives in the municipality of Tenosique, Tabasco. Her blindness is diagnosed as Retinopathy of Prematurity high level. She has the support of her mother, older brother, and a great teacher to carry out academic activities. She has an older brother and her mother is a doctor. She attends a public school and has had previous experience in learning the English language.

2.8. Data analysis procedures.

The survey responses were entered into Excel spreadsheets. These data were collated in the spreadsheets. Through this analysis, the impact of NLP was identified from a quantitative approach through its strategies: outcome, rapport, anchor and modeling. On the other hand, the pre and post-test were captured in Excel spreadsheets. The collected data were entered into the spreadsheets. Through these analyses, the respective comparisons of the impact of NLP on their writing were made, using the UEB code. For their respective analysis, they were compared based on their three vocabulary dimensions: meaning, spelling and pronunciation. Likewise, the results of the research's controllable variable instrument were captured in Excel spreadsheets. These data were decisive for the selection of the study's participants. Once the information was compared, this analysis identified response patterns in the participants selected in the Braille code.

The semi-structured group interviews were transcribed verbatim into a Word processor. These transcriptions were compared with the audio-recorded interviews by the first author. The categorical aggregation analysis was performed manually based on the dimensions covered in the instrument. Continuing the procedure, the data collected from the five participants were integrated and treated holistically to detect emerging variables. During the analysis, a total of 228 excerpts were coded into four main categories of analysis: socioeconomic, family, teaching intervention and perception of visual impairment. Then, within each main category, both difficulties and strategies were detected: PM1 (54), PF1 (34), PF2 (41), PM4 (42) and PF3 (54).

Universidad Juárez Autónoma de Tabasco.

Chapter III: Results

3. Results

In the following sections, the results of the data analysis process corresponding to the four instruments used for this study will be presented. First, the results of the Spanish Braille test were presented and illustrated the method of selecting the final participants of the intervention. On the other hand, the results of the survey analyzed from a quantitative approach, measuring the impact that NLP had on EFL learning in blind children. Consequently, the final results of the UEB code test will be shown, which are essential for the analysis of the impact of the communication model on the participants.

This instrument was presented in three subcategories; pre-test, post-test and T-test. This with the aim of clarifying all the results obtained from the instrument. Finally, the results of the semi-structured group interview will be presented, carried out with the aim of analyzing the participants' perception of the techniques implemented in their learning. On the other hand, the emerging categories of the research will also be presented, which will show what other factors were crucial to the results obtained. All the results of the four instruments, both quantitative and qualitative are presented in this chapter.

3.1. Spanish Braille Test

The Spanish Braille test data indicated that only 31% of participants were able to pass the exam. This is because one of the key criteria for selecting participants was that they had to pass the exam, obtaining a minimum of 20 points (66.67%) out of 30. As a result, 66.6% of students failed the exam.

3.1.1. Sample results

In the first table, it can be seen that as the difficulty of the exam increased, the participants' scores were lower. In the first item, the blind students' prior knowledge of the Braille alphabet was assessed. In this item, their mean was 2.5, the Standard Deviation (SD) was 2.3, the mode was 5 points and the median was 3.

In this exercise, most of the learners scored well, because writing the Braille alphabet is one of the basic skills of literacy for visually impaired people. In the second item, the relationship that students have with the identification of syllables that use a vowel and a consonant was evaluated; exemplifying them in the Braille system. In general terms, we can already see a degree of complexity when exemplifying one of the language acquisition processes in the Braille system. The mean was 2.1, the SD had an equivalent of 2.2, the mode was 0 points, and the median was represented at 2.0. On the other hand, the third item assessed the participants' prior knowledge of the Braille number system. These results represented 2.0 in the mean of the item, 2.2 in the SD, the mode was 0 and the median had an equivalent of 1.0. (see table 3.1).

Table 3.1

Spanish Braille Test population results

	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Score	%
Mean	2.5	2.1	2.0	1.6	2	1.7	12.14	40.4
SD	2.3	2.2	2.2	1.9	2.2	1.9	12.52	41.7
Mode	5	0	0	0	0	0	0	0
Median	3	2	1	0	0	0	5	16.6

In item number 4, the students' ability to write words in the Spanish language was evaluated, using the management of accented vowels in the Braille system. The result was a mean of 1.6, a SD of 1.9, a mode of 0 and a median of 0. In the fifth item, the blind user's ability to write a sentence in Braille was determined, using accented vowels as orthographic signs in Braille. As a result, a greater delimitation was obtained for the selection of participants, obtaining a score of 2.0 in the mean, 2.2 in the SD and a mode and median of 0. In the sixth item, the Braille writing of a short paragraph dictated to the students was graded. In this last exercise, all the components involved in standard Braille were evaluated. The result was a mean of 1.7, a SD of 1.9, a mode and median of 0. The final score obtained was a mean of 12.14, a SD of 12.52, a mode of 0 and a median of 5 points. This score represented in a system from 1 to 100, obtained a mean of 40.4, an SD of 41.7, a mode of 0 and a mean of 16.6. This instrument demonstrates that it is essential to have basic knowledge of writing Braille in your native language in order to begin learning a second language.

The data shows a negatively skewed distribution, with most scores concentrated at the lower end of the scale. This is evident from the mode and median being 0 in most items, while the mean is slightly higher, suggesting that a few high scores are pulling the average up. Particularly, items 4 to 6 have a median of 0, meaning at least half of the participants rated these items with the lowest possible score. Additionally, the standard deviations are relatively high across all items, indicating a wide spread of responses and substantial variability among participants. The total score's standard deviation (12.52) exceeds its mean (12.14), further supporting the idea of dispersed data with a small number of high outliers. Overall, this suggests that while a few individuals gave high ratings, the majority reported very low scores.

3.1.2. Selected participants result

Focusing on the ten students who managed to pass the test, there were a number of significant changes in the quantitative data. In the first item, the mean was 5.0, SD 0.00, mode 5.00, and median 5 points. In the second and third items, the mean was 4.4, SD 0.97, mode and median 5.00. In the fourth item the score begins to rise significantly, with a mean of 4.7, a SD of 1.03, a mode of 4.0 and a median of 4 points. Without a doubt, the fifth item was the best evaluated point of the test, with a mean of 4.7, a SD of 0.67, a mode of 5.00 and a median of 5 points. On the other hand, in the sixth item, a mean of 4.0, an SD of 1.05, a mode of 5.00 and a median of 4.0 were captured.

Table 3.1

Spanish Braille Test selected participants result

	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Score	%
Mean	5.0	4.4	4.4	3.8	4.7	4.0	26.5	88.3
SD	0.00	0.97	0.97	1.03	0.67	1.05	26.85	10.354
Mode	5.00	5.00	5.00	4.00	5.00	5.00	26.53	100
Median	5	5	5	4	5	4	26.68	86.6

The final result of this instrument was a mean of 26.6, a SD of 26.85, a mode of 26.53 and a median of 26.68. These data were converted to a scale of 1 to 100, giving a mean of 88.3, a SD of 10.354, a mode of 100 and a mean of 86.6. These results show us that there was an abysmal difference between the participants selected for the study and the students who were considered for the sample. These quantitative data revealed that the blind user is required to have a certain amount of prior knowledge of their native language in order to use the comprehensive Braille system.

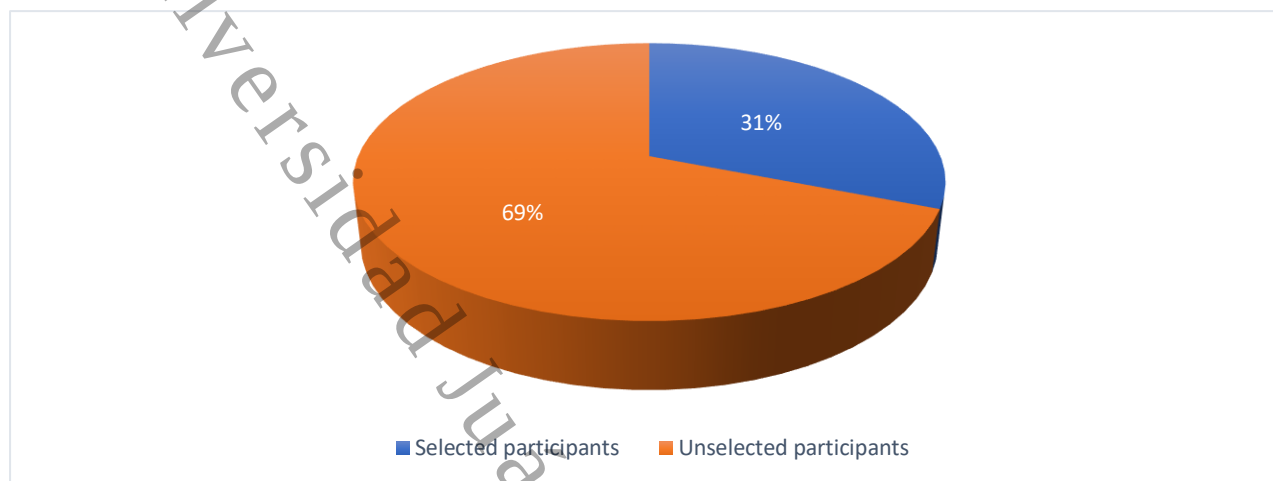
The data in this table reveals a very positive overall evaluation across all six items. The mean scores range from 3.8 to 5.0, with most items being close to the maximum value of 5.0. The average total score is 26.5 out of 30, which corresponds to 88.3%, indicating that participants generally gave high ratings. This suggests a strong level of agreement or satisfaction with the elements being evaluated.

The median values closely match the means, and in most cases are either 4 or 5, confirming that responses are consistently high and the distribution is likely symmetrical. Similarly, the mode (the most frequent response) is 5.0 for most items, except for item 4, where the mode is 4.0. This implies that most participants selected the highest possible rating, reinforcing the positive trend. In terms of variability, the standard deviations (SD) are relatively low, ranging from 0.67 to 1.05, with item 1 having an SD of 0.00. This means all participants gave the same score (5.0) for item 1, showing complete consensus. The overall variability in total scores, although shown as 26.85 (likely a formatting error), is more meaningfully interpreted as a 10.35% standard deviation in percentage, suggesting low variability and a strong consistency among participant responses.

Overall, the data reflects a highly favorable and consistent evaluation. The combination of high means, low standard deviations, and matching medians and modes indicates that participants not only rated the items highly but did so with a high degree of agreement. This could point to satisfaction, effectiveness, or a positive perception of whatever was being measured.

Figure 4

Final results of controllable variable's instrument



The results of the controllable variable research instrument showed that only 31% (10 students) demonstrated sufficient knowledge of the comprehensive Braille system in Spanish and were therefore not selected for the intervention. In contrast, 69% (22 students) did not meet the expected performance level and were consequently selected to participate in the intervention. This indicates that the majority of the sample required additional support to improve their skills in the Braille system.

3.2 Survey

The quantitative data of the research, the following survey responds as part of the quantitative objective of the research, which is to measure through this instrument the impact that NLP had on the participants who were throughout the treatment. In the first section, a collection of sociodemographic data from the participants was carried out, with the aim of understanding the context from which the participant comes, as well as the previous experience they have had learning the English language. In the following sections, the impact of NLP on learning will be addressed from a quantitative perspective, divided into four sections: outcome, rapport, anchor and modeling. The results were presented in the following categories.

3.2.1. Sociodemographic data

The survey data indicated that the average age of participants was 10.3 years, with 40% being boys and 60% girls. All participants were blind and came from rural communities; Among the most relevant is the municipality of Centro (20%), Comalcalco (20%), Jalpa de Méndez (10%), Cunduacan (10%), Emiliano Zapata (10%), Tacotalpa (10%), Tenosique (10%) and Limar, Chiapas (10%). All participants attended regular public schools; 30% were in fifth grade, 30% in fourth grade, 20% in sixth grade, and 20% in third grade. Regarding their background in Braille literacy in their native language, 50% of the participants have been practicing full Braille for six years, while 40% have been studying it for the past five years and only 10% have been practicing it for the past four years. In the background section on learning the English language, 80% mentioned that they have always had an interest in learning the language. The most relevant ones were through friends and family (50%), songs (25%) and social media (25%).

On the other hand, 40% of the participants mentioned that they had no previous experience learning English in their primary schools, while 60% mentioned that they had. Likewise, 50% of the participants mentioned that they had taken private English classes, while the other 50% did not. Of the participants who have had previous experience of learning the language, 60% mentioned that they could describe their classes as enjoyable, while 33.3% described it as boring, while 16.67% described it as excellent. Participants mention that some of the difficulties they had throughout their previous learning were the lack of support from their classmates (66.67%), the teacher supports them but only in the oral skill (16.67%) or the teacher ignores them (16.67%).

3.2.2 Outcome technique section

In this section, the impact of the NLP "outcome" technique implemented in the study was evaluated. 90% of the participants mentioned that the topics addressed throughout the sessions were very helpful in learning the English language. Likewise, all participants agreed that the pace of the class was key to their learning, because it made it easier for them to understand the topics covered, learning the English language more quickly. Regarding the resolution of doubts by the teacher, all participants mentioned that the teacher resolved all their doubts in class, facilitating their learning.

3.2.3 Rapport technique section

In this section, all participants mentioned that they had good communication with the teacher. This point is important since, based on the implementation of various techniques throughout the treatment, effective communication between the teacher and the student is crucial for better learning. Likewise, all participants mentioned that they felt comfortable participating in class. In the other hand, 80% of participants noticed that the teacher asked them for advice and suggestions to improve the classes for the following sessions, while 20% did not notice. On the other hand, 70% of participants noticed that the teacher incorporated the suggestions given into the classes, while 30% did not notice. Another factor to consider was that all participants agreed that the teacher's attitude is essential to motivate participants to study.

At the beginning of the intervention, 70% of the participants had a positive attitude towards writing Braille in the English language, while 30% had a negative attitude towards the language. At the end of the treatment, all participants mentioned having a positive attitude towards writing in English, using UEB code. The intervention revealed that a positive classroom attitude played a crucial role in student engagement, with 90% of participants affirming its impact and only 10% disagreeing.

3.2.4. Anchor technique section

One of the characteristics of this technique is the use of teaching strategies and resources that do not exclusively require the visual sense for the acquisition of a language. In the survey, 90% of participants mentioned that using an English book using the UEB (Unified English Braille) code, in addition to being beneficial, facilitated learning of the English language for the blind student. Likewise, all participants agreed that using pedagogical strategies that help improve their spelling in English, such as the spelling technique, helps improve their writing in the language (see Figure 3.1 as e.g).

Figure 5

“Braillin” dolls



Note: Teaching material used throughout the treatment (author's work).

On the other hand, each participant highlighted that the use of accessible teaching materials such as Braillin doll (interactive educational doll) favors the learning of orthographic signs applied in the UEB code, improving their spelling in the language. Likewise, all participants realized that the use of interactive pedagogical strategies such as "Simon said" favors the learning of new vocabulary and improves their cognitive capacity in their language. Thus, the use of accessible teaching materials, such as the development of interactive teaching strategies for visually impaired students, favors their acquisition process and facilitates their adaptation in Braille writing.

3.2.5. Modeling technique section

Throughout this section, the use of all the techniques already mentioned is contemplated to be applied in the long term and in different aspects of their life. The results showed that all participants agreed that the activities implemented using different techniques were beneficial as they helped participants learn the language fast. Furthermore, all participants stated that they had taken into account the teacher's suggestions in order to improve their English throughout the intervention. On the other hand, 50% of the participants mentioned having taken into account the suggestions given by the teacher in class in other subjects, while the other 50% did not consider it.

When providing general feedback on this intervention using a quantitative instrument, 50% of participants mentioned that the English classes throughout this intervention were excellent, while the other 50% mentioned that the sessions were pleasant from their perception. Likewise, 90% of the participants mentioned being interested in continuing to learn the language, while 10% mentioned the opposite. All these results demonstrated from a quantitative perspective the impact of the communicative model strategies on the participants was positive in their performance in Braille writing.

3.3 UEB code Test

One of the quantitative instruments of the research is to measure the impact of NLP in EFL classes on blind children, specifically in their Braille writing. Thus, the results that will be shown below are a reflection of the participants' effort in learning the language. Although in the previous instruments there was a small sector that had a different perspective during the treatment, all the participants made their best effort and made significant progress in their writing. In the first phase, the pre-test will be presented. This with the objective of identifying their previous knowledge of the language at the beginning of the treatment. In the second section, the results of the post-test will be shown. A result that reflects the academic performance of the participant in their Braille writing. Finally, a comparison was made between both tests from a statistical tool called T-test.

3.3.1 Pre-test

The quantitative results presented in the pre-test are the result of a prior assessment regarding your knowledge of the English language in Braille writing. In this instrument, the participant's level of prior knowledge of their English language vocabulary was assessed. The test has a total of nine items, of which one has a score of ten points and the rest of which have one, making a total score of 10. In the first section, in the first item the mean was 0.00, the SD was 0.00, the mode was 0.00 and the mean was 0.00. On the other hand, in the second item a mean of 0.22, an SD of 0.42, a mode of 0.00 and a median of 0.00 were recorded.

In the third item, a mean of 0.30, an SD of 0.67, a mode of 0.00 and a median of 0.00 were obtained. The final score of the first section had a mean of 0.50, with an SD of 0.71, a mode of 0.00 and a median of 0.00. These results represented in a percentage from 1 to 100, a mean of 12.50, an SD of 17.68, a mode of 0.00 and a median of 0.00 were obtained.

Table 2

UEB code pre-test results

Section	Item	Mean	SD	Mode	Median
Section 1	Item 1	0.00	0.00	0.00	0.00
	Item 2	0.22	0.42	0.00	0.00
	Item 3	0.30	0.67	0.00	0.00
	Score	0.50	0.71	0.00	0.00
	%	12.50	17.68	0.00	0.00
Section 2	Item 4	0.10	0.32	0.00	0.00
	Item 5	0.00	0.00	0.00	0.00
	Item 6	0.40	0.52	0.00	0.00
	Score	0.50	0.53	0.00	0.50
	%	16.67	17.57	0.00	16.17
Section 3	Item 7	0.00	0.00	0.00	0.00
	Item 8	0.10	0.32	0.00	0.00
	Item 9	0.00	0.00	0.00	0.00
	Score	0.10	0.32	0.00	0.00
	%	3.33	10.54	0.00	0.00
Final	Score	1.10	1.20	1.00	1.00
	%	11.00	11.97	10.00	10.00

In the second section, which assessed the participants' spelling in their Braille writing, the fourth item obtained a mean of 0.10, a SD of 0.32, a mode of 0.00 and a median of 0.00. In the fifth item, a mean, a SD, a mode and a median of 0.00 were recorded. On the other hand, in the sixth item there was a mean of 0.40, a SD of 0.52, a mode of 0.00 and a median of 0.00. The final score of the second section had a mean of 0.50, an SD of 0.53, a mode of 0.00 and a median of 0.00. These results were represented in percentages from one to one hundred, yielding a mean of 16.67, an SD of 17.57, a mode of 0.00 and a median of 16.17.

Finally, in the third section, the participant's ability to identify English vocabulary from its pronunciation was assessed. In the seventh item, a mean, SD, mode and median of 0.00 was recorded. On the other hand, in the eighth item a mean of 0.10, an SD of 0.32, a mode of 0.00 and a median of 0.00 were obtained. Likewise, the ninth item had a mean, SD, mode and median of 0.00. The final score for this section recorded a mean of 0.10, a SD of 0.32, a mode of 0.00, and a median of 0.00. This score reflected the aforementioned values with a mean of 3.33, a SD of 10.54, a mode of 0.00, and a median of 0.00. All of these sections represented the participants' performance prior to the intervention, with a low final score. The mean was 1.10, SD 1.20, mode 1.00, and median 1.00. These values were represented in percentages from one to one hundred, the mean was 11.00, an SD of 11.97, a mode of 10.00 and a median of 10.00.

Table 1 presents the descriptive statistics for the instrument measuring the controllable variable, organized by section and item. The data indicate low overall performance across all three sections. In Section 1, although the mean values slightly increase from Item 1 to Item 3, they remain low, with a total score mean of 0.50 and a percentage mean of 12.50%. This suggests limited knowledge or mastery of the content assessed in this section. The standard deviations indicate some variability, especially in Item 3 (SD = 0.67), which may reflect inconsistent performance among participants. In Section 2, Item 5 shows a mean of 0.00, while Item 6 records the highest mean in the entire instrument (M = 0.40), indicating this item may have been somewhat more accessible. The section's score mean is again 0.50, similar to Section 1, with a percentage mean of 16.67%. Notably, the median for the score is slightly higher (0.50), indicating a minor shift in central tendency compared to Section 1.

Section 3 reveals the weakest performance, with all items except Item 8 scoring a mean of 0.00. The total score mean is only 0.10 and the corresponding percentage mean is 3.33%, underscoring a significant gap in this content area. The Final Score Mean of 1.10 and Final Percentage Mean of 11.00% confirm that, overall, participants showed minimal achievement on the instrument. The low medians and modes (mostly 0.00) across items also support the conclusion that most students failed to perform adequately, indicating a clear need for targeted instructional intervention.

3.3.2. Post-test

After the application of the pre-test, a treatment lasting twelve sessions was carried out, in which the post-test was applied, evaluating their writing in the English language, using the UEB code. The test results were significant for the research. Throughout the first section, it can be seen that from the first item there is a significant advance compared to the pre-test. A mean of 1.00, an SD of 0.00, a mode of 1.00 and a median of 1.00 were captured. Likewise, the second item recorded a mean of 1.00, an SD of 0.0, a mode of 1.00 and a median of 1.00. In the third item there was a mean of 1.40, an SD of 0.84, a mode of 2.00 and a median of 2.00. The total score for the section had a mean of 3.40, a SD of 0.84, a mode of 4.00, and a median of 4.00. When converted to a scale of 1 to 100, the mean was 85.00, a SD of 21.8, a mode of 100.00, and a median of 100.00.

Table 3

UEB code posttest results

Section	Item	Mean	SD	Mode	Median
Section 1	Item 1	1.00	0.00	1.00	1.00
	Item 2	1.00	0.00	1.00	1.00
	Item 3	1.40	0.84	2.00	2.00
	Score	3.40	0.84	4.00	4.00
	%	85.00	21.8	100.00	100.0
Section 2	Item 4	1.00	0.00	1.00	1.00
	Item 5	0.30	0.48	0.00	0.00
	Item 6	0.70	0.48	1.00	1.00
	Score	2.00	0.82	2.00	2.00
	%	66.67	27.22	66.67	66.67
Section 3	Item 7	1.00	0.00	1.00	1.00
	Item 8	0.80	0.42	1.00	1.00
	Item 9	0.80	0.42	1.00	1.00
	Score	2.60	0.52	3.00	3.00
	%	86.67	17.21	100.0	100.0
Final	Score	8.00	1.56	10.00	8.0
	%	80.00	15.63	100.0	80.0

In the second section, starting from the fourth item, a mean of 1.00, an SD of 0.00, a mode of 1.00 and a median of 1.00 were obtained. On the other hand, in the fifth item, a mean of 0.30, an SD of 0.48, a mode of 0.00 and a median of 0.00 were recorded. The sixth item recorded a mean of 0.70, a SD of 0.48, a mode of 1.00 and a median of 1.00. The final result of the section had a mean of 2.00, a SD of 0.82, a mode of 2.00 and a median of 2.00. These values converted from one to one hundred, its mean was 66.67, a SD of 27.22, a mode of 66.67 and a median of 66.67.

In the third section, in the seventh item, a mean of 1.00, an SD of 0.00, a mode of 1.00 and a median of 1.00 were observed. Likewise, in the eighth item, a mean of 0.80, an SD of 0.42, a mode of 1.00 and a median of 1.00 were recorded. Meanwhile, the ninth item captured a mean of 0.80, an SD of 0.42, a mode of 1.00, and a median of 1.00. Likewise, the final results of the section obtained a mean of 2.60, an SD of 0.52, a mode of 3.00, and a median of 3.00. These data represented on a scale of one to one hundred, it is estimated that a mean of 86.67, an SD of 17.71, a mode of 100.0 and a median of 100.0 were obtained. The final results of the posttest had a mean of 8.00, a SD of 1.56, a mode of 10.0, and a median of 8.0. These values converted from one to one hundred, result in a mean of 80.0, a SD of 15.63, a mode of 100.0, and a median of 80.0.

Section 1 of the instrument reveals a notable trend in participant responses. Items 1 and 2 exhibit perfect scores, with a mean, standard deviation, mode, and median all registering at 1.00. This indicates that every participant answered these items identically, suggesting they were exceptionally easy for this sample or perhaps assessed a universally held piece of knowledge or skill. Consequently, there is no variability in the responses for these two items. Item 3 presents a different scenario. With a mean of 1.40 and a standard deviation of 0.84, it suggests a wider spread of responses. The mode and median of 2.00 hint that the response scale for this item might differ from the binary (0 or 1) nature implied by the other items, or there might be an anomaly in the data presentation. Assuming a different scale with a potential maximum of 2, the mean indicates an average response leaning towards the higher end of that scale.

The overall performance in Section 1, as indicated by the "Score," shows a mean of 3.40 with a standard deviation of 0.84. The mode and median score of 4.00 further reinforce this, indicating that the most frequent and central score achieved was the maximum possible. The "%"

row for Section 1 further supports this interpretation. The mean percentage of 85.00% suggests that, on average, participants achieved a high proportion of the total possible points. However, the standard deviation of 21.80% indicates some variability in this achievement, although the mode and median of 100.00% highlight that a substantial portion of the participants scored perfectly on this section. In contrast to Section 1, Section 2 demonstrates a greater range of performance across its items. Item 4 mirrors the perfect scores seen earlier, with all descriptive statistics at 1.00. However, Items 5 and 6 show more differentiation among participants. Item 5 has a lower mean of 0.30 and a standard deviation of 0.48, with a mode and median of 0.00. This suggests that a minority of participants answered this item with a "1," indicating it was likely more challenging. Item 6, with a mean of 0.70 and a similar standard deviation of 0.48, along with a mode and median of 1.00, indicates that a majority of participants answered this item with a "1," but with a notable portion answering differently.

The Section 2 has a mean of 2.00 and a standard deviation of 0.82. Assuming binary items, the maximum possible score for this section would be 3. Thus, the average score of 2.00 represents a moderate level of performance. The mode and median score of 2.00 align with this average. The "%" row for Section 2 shows a mean of 66.67% with a larger standard deviation of 27.22%, indicating greater variability in the percentage of the maximum score achieved compared to Section 1. The mode and median of 66.67% further characterize the central tendency of the percentage scores in this section. However, section 3 presents a performance profile somewhat similar to Section 1. Item 7 shows a perfect score across all descriptive statistics. Items 8 and 9 have means of 0.80, with standard deviations of 0.42, and modes and medians of 1.00. This indicates that the majority of participants answered these items with a "1," with a moderate level of agreement.

The "Score" for Section 3 has a mean of 2.60 and a standard deviation of 0.52. With three assumed binary items, the maximum score is 3, making the average performance quite high. The mode and median score of 3.00 reinforce this strong performance. The "%" row shows a mean of 86.67% with a standard deviation of 17.21%, indicating a high average percentage of the maximum score achieved with some variability. The mode and median of 100.00% suggest that a significant number of participants achieved a perfect score on this section.

The total section provides an overview of the overall instrument performance. The "Final Score" has a mean of 8.00 with a standard deviation of 1.56. Assuming a total maximum score of 10 (4 from Section 1 and 3 from Sections 2 and 3), the average performance across the entire instrument is quite robust. The mode of 10.00 indicates that the most frequently obtained total score was the maximum, while the median of 8.00 represents the central score. The "Final %" shows a mean of 80.00% with a standard deviation of 15.63%, signifying a strong overall average performance with moderate variability among participants. The mode of 100.00% and median of 80.00% further describe the distribution of the overall percentage scores.

In summary, the instrument reveals varying levels of difficulty across its sections and items. Sections 1 and 3 appear to contain easier items, resulting in higher average scores and percentages. Section 2 shows more variability and a lower average performance, suggesting it might contain more challenging or discriminating items. The total scores indicate a generally good performance across the entire instrument, but the item-level statistics highlight specific areas where the instrument might be less effective at differentiating among participants (e.g., the perfectly scored items). Further investigation into the nature of the items and the response scale of Item 3 would provide a more comprehensive understanding of these results.

3.3.3. T-test

The results of the T-test are part of the quantitative analysis process of the research. Therefore, the use of this function is to determine whether there was an impact on the participants based on their results in the UEB code test. When making the comparison between the pre and posttest, a series of results were observed that determine one of the objectives of this study. In the first section, item one had a result of 0.00001. Likewise, in the second item, it was scored 0.0020. In the same way, the third item, a total of 0.00324 was obtained. Thus, the t-test score of section one was 0.00001. In section number two, the score of item number four was 0.00001. In addition, item number five scored 0.08113, as well as item number 6. Consequently, giving a result of 0.00009 in the final score of section 2. In the third section, item number 7 obtained a result of 0.0001, while the eighth item registered 0.00132. In the ninth item it was 0.00020. Giving a final result of 0.0000.

Table 4

UEB code T-Test results

Section	Item	T-test results
Section 1	Item 1	0.00001
	Item 2	0.00020
	Item 3	0.00324
	Score	0.00001
	%	0.00001
Section 2	Item 4	0.00001
	Item 5	0.08113
	Item 6	0.08113
	Score	0.00009
	%	0.00009
Section 3	Item 7	0.00001
	Item 8	0.00132
	Item 9	0.00020
	Score	0.00000
	%	0.00000
Final	Score	0.000000680
	%	0.000000060
	Voc-Spell	0.0728
	Voc-Pro	0.8383
	Spell-Pro	0.0510

Likewise, the final score obtained was 0.000000680. This result represented as a percentage was 0.000000060%. The formula establishes that the result is equal to or less than 0.05, this means that there is a difference between the data compared. Thus, from this quantitative instrument it was determined that there is a difference between the pretest and posttest, thus showing significant progress in all dimensions addressed in the test.

In the same way, this formula when is compared between the pretest and posttest, gave results that demonstrated that there was an impact of NLP on the participants. This formula was also applied between the three sections of the posttest, with the aim of identifying whether there were differences in their performance between the sections of the posttest. In the first comparison, between the vocabulary (Voc) and spelling (Spell) sections in the posttest, a score of 0.0728 was obtained. Likewise, the vocabulary (Voc) and pronunciation (Pro) sections registered a score of 0.8383. Finally, the comparison between spelling (Spell) and pronunciation sections were 0.0510.

These results show that there were not many differences between the different sections of the posttest, so the participants' performance in their Braille writing was equitable. Thus, from the results of this instrument it can be determined that NLP had a positive impact on the study participants, also demonstrating that visually impaired children can learn a second language, developing all their linguistic skills, specifically Braille writing, using the UEB code as part of learning English as a foreign language for people with visual impairments.

3.4. Semi-structured group interview

Accordingly for the qualitative data results, a total of 228 frequency extracts were detected, coded and categorized, of which 37 belonged to participant PF1, 54 to PM1, 41 to PF2, 42 to PM4 and 54 to PF3. These frequencies were divided into several categories. One of them was the techniques implemented in the study. Also, the exposure of emerging categories that influenced the perception of the study participants. such categories as teaching work, family support, native language, previous experience in EFL classes, motivation, school environment and the participants' perception of their disability.

All qualitative results shown in this section were rigorously segmented. Throughout the interviews, the participants are considered a vulnerable group in Mexico, in addition to the interviewer and the participants, there was the head teacher of the institution, who intervened throughout the interviews. Part of the results presented come from the intervention of the head teacher throughout the interviews.

3.4.1. NLP techniques

In this section, a total of 48 excerpts of perceptions and experience, of which 11 are PM1, 8 are PF1, 8 are PM4, 8 are PF2, and 13 are PF3 were captured from the semi-structured interviews. Regarding perceptions, the participants' perspective was addressed when applying the techniques of the communicative model. On the other hand, regarding the experiences identified in the instrument, their experiences were categorized based on the corresponding techniques. The following categories describe in detail the results demonstrated by each technique used in the study.

3.4.1.1. Outcome technique

In this section, a total of 11 excerpts of perception were identified throughout the three interviews. In the first laboratory group, participants PM1 and PF1 mentioned that they felt comfortable with the activities carried out throughout the intervention. Likewise, these participants reiterated that the pace of the class was appropriate for their learning (extracts were translated into English).

Extract 1

Well... very normal (PM1).

Extract 2

It was fine, especially the team ones... they were my favorites... as if dancing (PF2).

Extract 3

Very good, I liked it a lot (PF3).

On the other hand, the second lab group argued that they felt the pace of the sessions was very good. Participant PF2 mentioned that teamwork helped the pace of the sessions. She also argued that it was her favorite aspect of these classes, mentioning that the rhythm of the class was as if she were dancing. While participant PM4 commented that he felt the pace of the class was very normal. Similarly, a similar pattern was observed in the third laboratory group. Participant PF3 stated that she enjoyed the pace of the classes, mentioning that she enjoyed the dynamics and that it helped her learn English.

3.4.1.2. Rapport technique

In this section, a total of 19 excerpts of strategies were identified throughout the three interviews. In the first laboratory group, participant PM1 mentioned that the teacher's attitude facilitated his learning of the English language. Likewise, participants PM1 and PF1 mentioned that throughout the intervention both members had a good relationship as classmates. Additionally, both participants described having a good relationship with the teacher throughout the treatment. In addition, both participants stated that it is important to have good communication between them for their English language learning.

Extract 4

I more or less... but what I did like... were some classes, I don't know which ones because I already forgot... but it's just that... his character helped me a lot (PM1).

On the other hand, participants in the second laboratory group argued that they liked activities that involved communication between their peers. Participant PF2 mentioned that participating in and completing team activities benefited her learning. She also mentioned that communication between her classmates and herself was a pleasant learning dynamic. She commented that these types of activities strengthened her friendships with her classmates, as all the participants in the second lab group have known each other since preschool. Participant PM4 made a similar comment. He argued that the communication between himself and his peers benefited his English learning. He also stated that, in addition to communication among his peers, the use of accessible teaching materials is key to using this technique.

Extract 5

I also love being put on a team... it's better because we become better friends and what's more, PM4 and I have been friends since preschool, since we started (PF2).

Similar comments were also made in the third laboratory group's interview. When asked about communication between the instructor and participants, PF3 responded "very good." She argued that the instructor used inclusive strategies that encouraged participation and effective communication in class.

Extract 6

When we wanted to speak or say something, the teacher told us to put our hands on the table. Then, he placed his hand in the middle of the table, and the first person to touch his hand would be the one to speak... so that we would have fair participation (PF3).

Extract 7

I found them to be super extraordinary. I think they helped me a lot, the English classes, learning to read, to write, and then with all the spelling mistakes I had because I made mistakes, they corrected them appropriately (PF3).

Likewise, participant PF3 does not think that the teacher's treatment of the blind student has much influence when it comes to correcting both spelling and pronunciation. Likewise, this type of technique encourages student participation and strengthens the trust between the teacher and student to feel comfortable participating in class.

3.4.1.3. Anchor technique

In this section, a total of 12 excerpts of strategies were identified throughout the three interviews. In the first laboratory group, participants PM1 and PF1 mentioned that they found the use of dynamic activities such as "Simon Says" very fun. PM1 also mentioned feeling like a preschooler when doing the dynamic activities throughout the treatment. The participant also mentioned that the use of accessible teaching materials such as the "Brailin" educational doll was not only satisfactory but also a key tool for learning the language. On the other hand, when participants were asked about what teaching materials helped them learn English, participant PM1 argued that using the Perkins Braille made it easier for him to learn the language. On the other hand, PF1 said that doing graphomotor exercises helped him learn the vocabulary seen in those sessions quickly.

Extract 8

I felt like a kindergarten child, but okay... more than that I felt happy... the Brailin doll... that one too because when I pressed it like that it was very satisfying (PM1).

Extract 9

Simon says's activity was really good... I found it fun... and the machine... the same when we color too... I'm still carrying the cat drawing (PF1).

Likewise, in the second laboratory group, both participants mentioned that the use of dynamic activities benefited their English language learning. Participant PM4 mentioned that his favorite activity was "Simon Says." He also commented that the use of other teaching resources, such as the Braille doll, Braille English books, and writing, were strategies that improved his language acquisition. Unlike participant PF2, she mentioned that she agreed with participant PM4's opinion, however PF2 argued that she preferred team activities because they facilitated learning compared to individual learning.

Extract 10

Very good, I liked it but... but I liked it more when they put us in teams... I loved being put in teams (PF2).

Extract 11

Playing, Simon says... I want to play, but I can't... With Braille doll, we read English books... and we write words in English (PM4).

Similar results were also presented in the third laboratory group. Participant PF3 argued that accessible teaching resources are important for learning the English language. PF3 commented that the use of dynamic activities like "Simon Says" and the use of activities where we applied what we learned to ourselves in the English language were enjoyable for her learning.

Extract 12

Well, I liked playing, singing, writing, with the teacher, and learning here with my friends. It was great. And spending time with everyone (PF3).

Likewise, PF3 argued that she liked the teacher's strategies for better communication in class through games, songs, and written exercises for better learning with her classmates. Probing her response, she argued that these types of strategies fostered good communication not only with

the teacher but also among her classmates, improving the pace of the class and her acquisition. She also argued that all the strategies and teaching materials were of great support to her EFL learning. A key factor mentioned by PF3 was that for the use of accessible teaching materials to be beneficial for the learning of blind students, pedagogical strategies that involve student participation and teamwork are used.

3.4.1.4. Modeling technique

In this section, a total of 6 excerpts of perception were identified throughout the three interviews. In the first laboratory group, when participants PM1 and PF1 were asked if they could apply what they learned throughout the intervention to their lives, they answered undecidedly with a "maybe." On the other hand, in the second laboratory group it was mentioned that both agreed that the techniques used in class could be applied in various aspects of their daily lives, however, both did not apply what they learned in their daily lives. However, in the third lab group, participant PF3 agreed that the techniques she used in her English language learning could be applied to various areas of everyday life. She argued that she has applied them in the family setting.

3.4.2 Emerging variables

From the qualitative instruments of the semi-structured interviews, emerging variables stood out in the data analysis. A total of 179 excerpts were identified throughout the three interviews, of which 43 were PM1, 29 were PF1, 34 were PM4, 33 were PF2, and 41 were PF3. These data were relevant to the research, because from these emerging variables, the NLP techniques not only influence the Braille writing performance of the participants. Throughout the following sections, the results obtained in the intervention will be discussed in detail.

3.4.2.1. Family support

In this section, a total of 15 excerpts of challenges and 20 excerpts of strategies were identified throughout the three interviews. In the challenges section, a series of limitations were detected by the family environment throughout the semi-structured interviews. In the first laboratory group, participant PM1 mentioned that the person who cared for him the most was his grandmother, arguing that his mother does not pay attention to him. While participant PF1 said it was her father, although he is absent.

When participants were asked who helped them with their homework, both answered no one. In the case of participant PM1, he mentioned that since he does not have the support of a family member, he resorts to the support of virtual assistants such as "Alexa" to carry out his school projects.

Extract 12

My grandmother takes care of me because my mother spends most of her time on her cell phone (PM1).

Furthermore, when participants were asked if their family motivates them to get ahead, PM1 said yes, while PF1 said no. Probing the issue, participants were asked how their family treated them. This trigger question resulted in participant PF1 mentioning that her relationship with her family is average. She said that being handicapped, she cannot decide things and has no say in her home. Meanwhile, PM1 said that he was getting along with his family more or less. When asked in his response, the participant did not want to talk about it.

Extract 13

Well now, one part of my family gets along well, and the other part is not in the family (PM1).

Extract 14

More or less... mmm... because I understand that because I'm handicapped, I don't have... a vote (PF1).

A relevant factor for participant PM1 was when he began his comprehensive Braille literacy process. The head teacher commented that at the beginning the participant PM1 had many difficulties in acquiring the integral Braille system. The situation was so serious that the participants, instead of progressing, regressed in their acquisition process. It was not until one summer vacation that his cousin supported him and he managed to learn to read and write. Likewise, when participants were asked what their parents thought about the intervention, PF1 mentioned that his father showed partial interest in his education, while his mother did not.

On the other hand, PM1 mentioned that the only one who partially supports and motivates him is his grandmother.

Extract 15

It took them both a little bit more work, for PM1. PM1 arrived at a time when he didn't know... he wasn't moving forward... but on the contrary... he went backwards. Hmm... but I think during one summer vacation, then... I think it was your cousin Shareni, what was her name?... I think she supported him, and then, like... he got better (MT).

On the other hand, in the section on strategies involving family support, a series of interview extracts were detected that favored learning through the participants' family support. Something interesting was the data found in the second and third laboratory groups. In the second laboratory group, participant PM4 mentioned that his grandmother is the one who cares for him the most because his mother and father have to work. On the other hand, participant PF2 mentioned that her mother is the one who cares for her the most. When participants were asked if they received help with their chores, Participant P.M. 4 said yes. He mentioned that his grandmother is the person who helps him the most, and that his mother occasionally supports him, especially when she's unemployed. Meanwhile, Participant PF2 reiterated that her mother is the person who primarily supports her with her homework.

Extract 16

My grandmother helps me when there are investigations and all that, well...and when she's free my mother helps me (PM4).

Extract 17

My teacher had no knowledge... but my grandmother helped him a little with a folder. He was learning about the alphabet... and also, when I hand in my homework, my mom... what I write... she does it in ink... transcribes it in ink (PM4).

A relevant fact was that both mentioned that their families, in addition to motivating them to succeed, treated them well. On the other hand, P.M. four mentioned that a teacher at his regular school has no knowledge of Braille code, but his grandmother is involved in his education and

supports the teacher in learning the Braille system. Likewise, PM4 mentioned that his mother is the one who supports him in transcribing his homework in ink. Meanwhile, participant PF2 also reiterated that her mother supports him in transcribing his homework in ink so that his teacher can better understand his activities. When participants were asked what their parents thought about English classes, both agreed. Participant PM4 said his parents liked the idea of their son learning other languages, while PF2 made a similar point.

Extract 18

My mom also helps me transcribe it in ink. She translates it... She translates what I write so the teacher can understand (PF2).

Extract 19

They like... They liked that I learned other languages (PM4).

On the other hand, there is a similar perspective in the third laboratory group. Participant PF3 mentioned that the ones who take care of her the most are her mother and her nanny. Likewise, PF3 mentioned that her entire family helped her get ahead, specifically her half-grandmother. Similarly, when asked how her family treated her, she mentioned that they treated her well and that she hasn't been the subject of ridicule or debate in her family. When asked if she gets any homework, PF3 mentioned that her mother helps her. Although her teacher has forgotten to check her homework on several occasions, PF3 mentioned that her mother transcribes it into handwriting, because her regular school teacher has very little knowledge of Braille code.

Extract 20

Yes... everyone motivates me, honestly, the one who motivates me the most is my grandmother (PF3).

Extract 21

My mom supports me, but then the teacher forgets... I write it for her in Braille and she writes it for me in ink (PF3).

Extract 22

My mom told me they were very good for me, that it was a very good language to learn, that I should try hard... she even helped me with my homework (PF3).

A very relevant piece of information was that PS3 mentioned that her mother was very attentive both in her classes at her regular school and in English classes. She mentions that her mother strongly motivated her to learn the language, and she even supported her with the homework assigned during the intervention.

3.4.2.2. Teaching work

In this section, a total of 25 excerpts of challenges and 15 excerpts of strategies were identified throughout the three interviews. In the challenges section, a series of limitations were detected by the teaching work throughout the semi-structured interviews. In the first laboratory group, participants PM1 and PF1 mentioned that the activities that their teachers at their regular schools make them do is dictation. Both participants also mentioned that their teachers usually do not make them do anything, due to the lack of adaptations of the activities according to their needs. Likewise, both participants mentioned that they only use a Perkins Braille or Braille slate and Braille stylus to work in class. In the case of participant PM1, he has access to free textbooks provided by the Ministry of Public Education adapted to the Braille system. However, he mentions that he does not use them.

Extract 23

Mmm... For me... in my class they dictate to me... or else... when it's homework in the book... they don't make me do anything (PF1).

When asked if their regular school teachers had knowledge of the Braille system, both participants said no, however in their respective regular schools they have the support of a special education teacher. Inquiring into their responses, participants were asked about the role that the special education teacher has in their education.

Being a triggering question, PF1 answered that his teacher engages in bad practices in his profession, because his teacher spends all his time on his cell phone. A similar response was given by participant PM1, who expressed his frustration when his special education teacher does not pay attention to him when he is talking to her (because she is on her cell phone). He also argued that he does not trust his teacher because she tells other people about PM1's personal problems.

On the other hand, participant PF1 mentioned having had an experience with a teacher. She said she had a bad experience when she was beginning her literacy process in the Braille system. She says she received very bad treatment from her preschool teacher. Although she managed to learn to read and write, she says it was an experience that left its mark on her childhood.

Extract 24

My teacher rarely gives me classes and when she gives me classes... she spends her time talking to me about my problems. What does she care! (PM1).

Extract 25

Oh, how horrible it is when you're talking and no one pays attention... and sometimes the teacher would make a face and stand like this... with her cell phone in her hand... and I would say, "Are you listening to me?"... and she said "yes, can you repeat what you said?"... Ugh... (PM1).

Extract 26

Terrible... because the preschool teacher scolded me a lot if I did something wrong. Because teacher did something, someone would say something like, I remember her saying, "No!" It's not like that, but she would correct me in a way... a little bit wrong (PF1).

On the other hand, in the section on strategies involving this section, a series of interview extracts were detected that favored learning through the participants' teaching work. In the second lab group, participants PF2 and PM4 were asked about their classes. PM4 described their classes as average, while PF2 mentioned having enjoyable classes. PF2 mentions that in her classes, the teacher has them draw, use a calculator, and do other activities. She also mentioned that the teacher lends them his computer so they can complete the activities more quickly.

On the other hand, PM4 mentions that his teacher dictates to him and they review, do community projects, do some experiments, and create papers. In his case, everything is handled in Braille. Likewise, both argued that they are given homework.

Extract 27

Mmm... they're so pretty. Sometimes they make us draw... also... mmm... um... use a calculator... they give us activities (PF2).

Extract 28

Sometimes... He makes us do... these last few days of school. He makes us do dictation and review... But sometimes we have to do projects. Some experiments... and if we have to read something, we do projects... in Braille (PM4).

In contrast, PE2 mentions that their school uses a punching ruler, Braille books, and notebooks in their classes. PM4 also mentions using metric figures, geometry shapes, and reliefs in their classes. An interesting fact was mentioned by participant PF2. She mentioned not having a special education teacher at her regular school, while participant PM4 said she did. He mentioned that she supports him in reading and writing the necessary activities for class.

Similar patterns emerged in the third laboratory group. When PF3 was asked what her classes were like, she described them as very good. When probed, she mentioned that her teacher has them read, review, sing, dance, and do various activities throughout the day. Likewise, despite having mentioned having access to free textbooks in Braille, she doesn't use her books because they're not practical to carry. Therefore, she uses booklets, as well as geoplans, handkerchiefs, paintbrushes, Inés paintbrushes, aprons, and old t-shirts with teaching materials.

Extract 29

My teacher has us read, look at the (fachones) stuff, review, sing, and dance... I don't use Braille books, we use geoplan notebooks, tangrams... uh... handkerchiefs, paintbrushes, small paintbrushes, aprons, old t-shirts... (PF3).

However, this is when the role of the special education teacher comes into play in the education of blind children. This is because PS3 mentioned that her special education teacher is the one who helps her stay engaged in class. She also mentioned that she has a very good relationship with her and supports her in all her homework and activities. Her special education teacher is familiar with Braille, so they only use a Perkins machine. She also mentioned that the school donates the sheets used for her activities.

Extract 30

More or less... because she hardly helps me with my activities... but the special education teacher supports me... I get along very well with her and she helps me with my homework (PF3).

3.4.2.3. School environment

In this section, a total of 17 excerpts of challenges and 14 excerpts of strategies were identified throughout the three interviews. In the challenges section, a series of limitations were detected by school environment throughout the semi-structured interviews. In the first laboratory group, participants PM1 and PF1 mentioned having a conflictive relationship with their peers at their regular school. PF1 mentioned that there are certain groups of peers at his school who treat him badly, while there are others who do not. On the other hand, participant PM1 argued that at his regular school he is overprotected to the point of not having any privacy, while there is a group of peers who harass him. PF1 also mentioned that she had gotten into trouble with her classmates. This is because she was trying to defend herself from her aggressors. She mentions that bullying is part of her daily life. On the other hand, PM1 mentioned having had similar experiences to PF1. He mentions that he has been discriminated against for his visual impairment, so his colleagues make tasteless jokes in front of him, damaging his integrity.

Extract 31

Uhm... as if I were a baby... they treat me more or less, well... there are some children who have passed me by... Who have played jokes on me... sometimes (PM1).

Extract 32

In my case, half good and half bad... in fifth grade, once some fourth-year kids were making fun of me... because... I can't see.

Extract 33

We were... well, it was a girl, they were some kids who were playing with me... I just remembered... they were telling me... Hey, why don't you have a girlfriend? Oh right... because love is at first sight and you're blind...(PM1).

An additional noteworthy observation from the second laboratory group was the contrast in experiences: participant PM4 indicated no experience of discrimination at her regular school, while participant PF2 reported having faced such treatment. In her response, PF2 mentioned that an older girl had started bullying her, though she didn't elaborate. A similar case also occurred in the third laboratory group, when participant PF3 was asked if she had been a victim of bullying at her regular school. She responded no, but she did mention that she was sometimes left alone during recess.

Extract 34

No... well, there was once... a fifth-grade girl started telling me... it really started to bother me... she wasn't in my group... she was from another class... (PF2).

On the other hand, in the section on strategies involving this section, a series of interview extracts were detected that favored learning through the participants' school environment. The opposite is true in the second lab group. Participant PF2 mentions that her classmates even help her dictate the activities. Meanwhile, PM4 said that her teacher supports her by dictating things to her on the board, and when they can't, her classmates help her. In this way, PF2 also mentioned that her classmates support her in getting around her school because there are many stairs in her regular school.

Extract 35

They help me a lot... my teammates take me to the bathroom, or sometimes when we go out to the court... they help me... this is because in my school there are many stairs (PF2).

Then, participants PM4 and PF2 weren't asked if they liked going to their regular school, and both answered yes. When probed, they both argued that they have friends, making it easier to interact with their regular school. Likewise, in the third laboratory group, participant PF3 was asked how her classmates treated her, and she stated that they treated her well. She also stated that they include her in activities and that she enjoys going to her regular school.

Extract 36

My classmates treat me well... some leave me alone eating in the kitchen... but I like going to my regular school (PF3).

3.4.2.4. Prior English language experience

In this section, a total of 12 excerpts of challenges and 5 excerpts of strategies were identified throughout the three interviews. In the challenges section, a series of limitations were detected by prior English language experience throughout the semi-structured interviews. In the first laboratory group, PF1 mentioned that she had no previous experience learning the English language. However, PM1 mentioned that he had taken some English classes in second grade at his regular school. He mentions that the teacher does not include him in his classes, because the teacher did not have knowledge of adaptations and how to treat a student with a disability. Although the teacher gave the instructions out loud, the teacher did not explain in the most appropriate way the activities that the students were going to do, so PM1 did not understand the activities they had to do. At one point, PM1 recalls hearing the English teacher's uncertainties about not knowing how to include him in his classes. However, at the suggestion of the head teacher, teacher ended up marginalizing him in class.

Extract 37

Yes, and like teacher W****... she was telling him... she was saying that... he is a special child... that he is visually impaired... and how are we going to handle him... and I remember that teacher said... oh no... don't worry, we'll see later... then we'll see how we handle him. They simply told me, lie down there... sleep there for a while... and I was like, agh... (PM1).

PM1 also mentions that he would not have learned English better if his classmates had supported him. This is because, in PM1's own words, his classmates are very "rough" when it comes to explaining things, and they do not have the ability to describe illustrations to visually impaired people. A participant in the second lab group faced a similar situation. Participant PM4 stated that she had no prior experience learning English, whereas PF2 did. Participant P.S. 4 mentioned that she took English classes at her regular elementary school. She mentioned that in those classes she learned very basic things like pronouns, the alphabet, and numbers. She

mentioned that the dynamic was that her classmates would tell her what to do because the teacher didn't know how to work with her.

Extract 38

Well, I learned the pronouns, the alphabet... we started at the beginning, numbers, and the alphabet. Well... I'd put my classmates next to me, and they'd tell me what I was going to do (PF2).

On the other hand, in the strategies section, excerpts from the third laboratory group were analyzed. Participant PS3 mentioned having previous experience learning English in her regular school. She mentioned that her English teacher teaches them to read and write, sing, and dance. When asked if reading and writing are taught in Braille, she said yes. However, her teacher has almost no knowledge of Braille, let alone the UEB code, so the strategy implemented was dictation. When participant PS3 was asked if she had any support in her previous English classes, she mentioned that when she could, her English teacher supported her, but when she couldn't, her partner who looked after her supported her.

Extract 39

I tell her that sometimes she makes us read. Write, sing, and dance... It's just that... the teacher barely knows Braille. She dictates it to me. As such, almost no one helped me... well, the teacher when she could... oh, but the classmate who takes care of me... yes (PF3).

3.4.2.5. Native Language

In this section, a total of 24 excerpts of challenges and 10 excerpts of strategies were identified throughout the three interviews. In the challenges section, a series of limitations were detected by native language throughout the semi-structured interviews. In laboratory group one, participants PM1 and PF1 mentioned that they had difficulty writing Braille in the English language. Both argued that they prefer to write in their native language than using the UEB code. This is because they have difficulty relating how words are pronounced in English and how they are written. PF1 argued that he had difficulty because in his perception the English language uses

many letters. Likewise, PM1 said that the order of both words and letters used in the UEB code is different from that of his native language.

Extract 40

I had a hard time... well... I had a hard time... writing. Um... how things are written... I mean... the letters are different... I mean, it's because there are so many letters... (PM1).

The second laboratory group presented a similar situation. Throughout the intervention, PF2 mentioned that he found it very difficult to write the dance code in English using the USB flash drive. On the other hand, PM4 said it wasn't complicated; he just kept forgetting it. When participants PM4 and PF2 were asked how it had become difficult for them, PM4 commented that they had difficulty with the letters, while PM2 mentioned that in addition to the pronunciation of words, it confused them, making it difficult for them to read and write English Braille. The participants mentioned that they preferred to write in Spanish than in English, because it was easier for them and they were better adapted to their mother tongue, that is, Spanish.

Extract 41

I had a little difficulty with it because I didn't really know how to spell the letters... It's just that... What's difficult for me is that I don't know how to pronounce it, but I got it mixed up with other letters. And it's difficult for me to read, because they have other letters... I didn't understand... (PF2).

Extract 42

It wasn't difficult for me at all, except that sometimes I forgot... how to spell the... well, the letters (PM4).

Extract 43

I find it difficult to write it sometimes because they have different letters and they're not spelled the same, so I don't know how to pronounce them. Um... that's already very difficult to learn (PF2).

These types of comments were also found in the third laboratory group. Participant PF3, in her own words, mentioned that she found it more difficult to write in English than in Spanish because Spanish is a language, she is familiar with, while English is not. She argued that she found the beginning of her learning difficult because there were many new words she didn't know. She also agreed that her spelling of words didn't match her pronunciation at first.

Extract 44

It was difficult for me because there were new words that I didn't know... that's why I prefer the Braille in Spanish, because that's the language I'm most used to, and because they are different words (PF3).

On the other hand, in the section on strategies involving this section, a series of interview extracts were detected that favored learning through the participants' native language. In the third lab group, participant PF3 was asked about her experience learning Braille using the UEB code. She mentioned that it was easy for her. From her perspective, she found it easy to learn to use the Braille slate and the Perkins machine.

The latter led her to develop her Braille writing skills well, as it made it easier for her to write using the Perkins Braille machine. When asked about Braille writing using the UEB code, she mentioned that she liked it, although she commented that at first it was difficult, for her it seemed like a new and attractive language to learn.

Extract 45

Well... something easy... well, I found it easy to learn the ruler, and even more so the Perkins typewriter... it's more practical... and you type quickly (PF3).

3.4.2.6. Motivation

In this section, a total of 7 excerpts of perception were identified throughout the three interviews. In the first laboratory group, when participants PM1 and PF1 were asked whether their attitude determined their interest in learning English, they both answered yes. However, when participants were asked what kind of attitudes influence their interest, PM1 mentioned that hers

was negative, because she did not like the language, while PF1 did not want to answer the question. Similarly, similar comments were found in the second laboratory group.

When participants PM4 and PF2 were asked if motivation determined their attitude toward learning English, both responded yes. When asked what their attitude was throughout the intervention, they rated it as "average." Similarly, in the third laboratory group, PF3 was asked whether her attitude determined her interest in learning English, and she responded with a resounding yes. She mentioned that a positive attitude would improve English language learning. When asked what her attitude was throughout the intervention, she rated it as positive.

3.4.2.7. Participants' perception of their disability

In this section, a total of 15 excerpts of perception were identified throughout the three interviews. In the first laboratory group, when the participants PM1 and PF1 were asked if their disability was included in their learning of the English language, both answered no. Likewise, when they were asked again if their disability was considered a limitation to their learning, both again answered no. However, when they were asked how they felt about their visual disability, both flatly refused to answer the question. The participants made it clear that it is a topic they do not like to talk about. A similar situation was found in the second laboratory group. When participants were asked if visual impairment influenced their English language learning, PM4 said it was average, while PF2 said it was. When probed for their response, participants were asked what they meant by their argument, but neither of them chose to answer. When asked whether their disability positively or negatively influenced their English language learning, PF2 gave no answer, while PM4 said negatively, not wanting to elaborate. However, when asked if their disability was a limitation to their learning, both said no.

On the other hand, when participant PS3 was asked if she believed her disability influenced her English language learning, she responded yes. When asked how, she argued that her learning experience is different compared to a blind population. She argued that it is due primarily to the Braille system. Likewise, when asked if her disability was a limitation to her learning, she

responded with a resounding yes. When asked about her answer, PF3 argued that she sees it as a limitation because many teachers in the field don't know how to adapt their teaching strategies to visually impaired students.

Extract 46

Yes... ..because it is different compared to someone who can see... mostly through Braille... in part it is a limitation because there are many teachers who do not know how to work with people like me... (PF3).

In this chapter, both quantitative and qualitative data were analyzed to provide a comprehensive understanding of the factors influencing participants' experiences. The qualitative data consisted of 228 frequency extracts, distributed across various participants: 37 for participant PF1, 54 for PM1, 41 for PF2, 42 for PM4, and 54 for PF3. These extracts were coded and categorized into key themes, including teaching work, family support, native language, previous experience in EFL classes, motivation, school environment, and participants' perception of their disability. These themes provided valuable insights into the factors shaping the participants' learning experiences.

Quantitative data were also analyzed, focusing on the results from the descriptive statistics for each section of the instrument. The following table summarizes these results according to APA formatting guidelines. Statistics for each section were presented, showing the mean, standard deviation, mode, and median for each item, score, and percentage. The data indicates variability in responses across different sections, with Section 1 exhibiting the highest mean scores and Section 3 showing significantly lower values. These findings provide a strong basis for understanding how the emerging qualitative variables—such as teaching work, family support, and perceptions of disability—might influence both the academic outcomes and experiences of participants. The integration of both qualitative and quantitative data in this chapter contributes to a more nuanced view of the factors impacting participant learning and engagement.

Chapter IV: Discussion

4. Discussion

Throughout this final chapter, the interpretation and correlation of the research project's results is be addressed. First, a thorough analysis is be conducted of blind students' ability to learn a second language, specifically the development of Braille in a foreign language context. Likewise, the comparison of existing literature with the results obtained from the qualitative and quantitative research instruments demonstrate the hypothesis raised at the beginning of the study. On the other hand, the quantitative data obtained from the study is interpreted. In this section, the impact of NLP on the participants' Braille writing performance is analyzed and correlated, both at the beginning and end of the intervention. These data obtained is also correlated with existing literature, providing linguistic programming as a pedagogical alternative that facilitates the development of Braille writing in English in a foreign language context.

However, qualitative data obtained from the semi-structured group interviews is investigated. At this point, participants' perceptions throughout the intervention will be analyzed. As part of the protocol, the frequency of communicative model techniques used and how these influenced their performance in developing Braille writing in English as a foreign language is determined. Likewise, the importance of the emerging variables identified through the qualitative research instruments was interpreted. Both the comparison of existing literature and the results of this research project confirm that the implementation of neurolinguistic programming in English as a foreign language class is not the only factor influencing blind students' performance. The frequencies obtained from the semi-structured interviews confirm that family support, teaching support, school environment, native language, perception of disability, motivation, and prior experience are key factors determining student performance. The contributions of the research, its limitations and future lines of research is addressed throughout this chapter.

4.1. The adaptability of blind children in their environment.

Despite a doubt, previous results demonstrate that a visually impaired child has the ability to learn a foreign language, developing all linguistic skills such as sighted-people. Thanks to adaptability that a blind person has developed to function in their environment. Previous studies had already addressed the possibility from a neurological perspective that a blind child can learn a second language (Silva et. al., 2018). On the other hand, other studies have demonstrated, through educational interventions, the ability of blind students to learn English as a Foreign Language through the use of adapted teaching materials (Efsthathiou & Polichronopoulou., 2015). However, despite the progress and research carried out to include people with visual impairments in second language learning in a regular school context (INCI, 2020), there are a large number of limitations on the part of both teachers and blind students in achieving meaningful language learning (Velázquez & Ortiz, 2024).

However, the research project has analyzed patterns that had not been mentioned in previous studies. One of them was the adaptability of blind students in their academic performance according to their classroom context. This series of behaviors were found in both the quantitative and qualitative instruments of the study, thus demonstrating that environment in which the blind student develops is crucial for their learning. In this way, both the survey and the semi-structured interviews confirm that adaptability in a non-inclusive school environment disadvantages blind students in their learning. In the survey, of the participants who had previous experience learning English before the intervention, 66.67% mentioned that the greatest difficulties they had was the lack of support from their classmates, while others argued that the teacher ignores them (16.67%) or only supports them in the oral part (16.67%). Investigating the problems mentioned through a qualitative research instrument, it found a frequency of 78 excerpts of challenges throughout the semi-structured group interviews related to the school context of the blind participants.

First, although 16% of participants argued that one of the limitations was the lack of attention from the teacher in the survey, a frequency of 25 excerpts of challenges related to teaching work was found in the semi-structured interviews. Becoming the emerging variable with the highest number of frequencies related to challenges that blind students face in their learning. •

Some participants commented that their teachers make minimal attempts to integrate them into school activities, but in most cases, they end up marginalizing them from their classrooms, using the most basic materials for their learning. Some studies argue that this type of attitude on the part of teachers is due to the fact that teachers are in training in inclusive education, specifically in the adaptation of both pedagogical strategies and teaching materials for visually impaired people (Aquino, et al., 2012). However, even if the teacher does not have knowledge of the Braille system or the inclusion of blind people in the classroom, the role of the special education teacher is vital to the education of the child. Some participants mentioned that despite having access to special education teachers in their regular schools, they lack their support. This emerging variable was strongly emphasized in the first laboratory group. This is because these special education teachers do not perform their profession properly, to the extent that participants confessed to not trusting them.

On the other hand, this type of pattern differs from the 15 excerpts of strategies collected throughout the semi-structural interviews in work teaching. Several participants mentioned that even though the teachers in their regular school may not be familiar with Braille, they have the support of special education teachers, parents, and classmates. Another key factor is the participants' access to adaptable learning materials in their regular schools. Some participants mention that, in addition to basic learning materials such as the Perkins machine or Braille slate, they use tactile learning resources that support their learning. In the case of participant PF2, although she did not have a special education teacher, her teacher adapted her computer activities so that she could complete the exercises just like her sighted classmates.

Undoubtedly, this type of perspective favors the identification of external factors that influence English language learning among people with visual impairments. Both perspectives show the opposing sides of the importance of teaching in the learning of blind students. Similarly, the teaching work can influence the rigidity of the teacher in the education of the blind child (Efsthathiou & Polichronopoulou., 2015). However, in this study, rather than a degree of rigidity that a teacher might show when working with blind people, the teachers choose to marginalize the student instead of using pedagogical strategies unsuitable for their learning.

In the survey, 66.67% of participants reported having experienced an unfavorable school environment. Based on this variable from the qualitative instrument, a total of 17 excerpts of challenges that affect the blind student's learning were captured. Some participants mention having a difficult relationship with their peers at their regular school. Some report having a very conflictive relationship with them, to the point of being the target of ridicule and being bullied at their regular schools. On the other hand, other participants argue that they feel overprotected by their classmates. This is because, as impaired people, their classmates think they want special care for their surroundings. These factors are the product of a series of prejudices that exist toward impaired people (Gurdián-Fernández et al., 2019). Furthermore, this phenomenon is nothing new. Since the 19th century, there have been writings stating that visual impairment is the worst condition a human being could have (Trujillo, 2020). Furthermore, considering that the first public policies for the inclusion of people with disabilities in the education sector began at the end of the 20th century and the study was conducted in one of the most marginalized areas of the country, it can be established that quality-of-life conditions for people with visual disabilities in Tabasco are deplorable.

However, there are also contexts in which the school environment for the participants was favorable for their learning. Some participants mentioned that their treatment of their peers is appropriate for a healthy coexistence. They also mentioned that their peers show a certain degree of empathy toward blind students, resulting from small classroom adaptations such as dictating what's written on the board or moving them around the classroom. Another factor to consider is that the participants also mentioned not having been bullied or harassed by their peers. They mentioned having friends and enjoying their regular school. Without a doubt, this contrast that exists in this emerging variable is crucial to understanding the context in which the study participants operate. On the one hand, the environment of the blind participant is understood, which could be described as a deplorable situation as well as a favorable one for functioning in the classroom. Discrimination and bullying are serious factors that hinder the learning of blind students. At this point, the blind child, in addition to being marginalized by teachers and being the victim of discrimination from their peers, is definitely affected by their academic performance and attitude.

Likewise, this type of patterns is also observed in the variables of previous experience in learning the English language as well as in their literacy process in the Braille system of their native language. From a negative perspective, some participants mention having had unpleasant experiences in learning the English language prior to the intervention, either by marginalizing them in the classroom or by using pedagogical strategies that are not favorable for visually impaired people. Likewise, some participants mentioned having experienced difficulties in their Braille literacy process. While some were mistreated by their preschool teachers, others reported not receiving sufficient support in learning to read and write in Braille. On the other hand, some participants mentioned having had difficulties in their process of developing their native language; however, with the support of teachers and family, they were able to learn Braille. A similar case occurred with participant PF3 regarding her previous experience with the English language. She mentioned that despite having difficulties, her teacher used various strategies to help her learn the language. In addition to receiving so much support from her student caregiver, her teacher always tried to involve her in the class.

Without a doubt, both perspectives help us construct both the challenges and the strategies that teachers and their classmates use to construct their language. On the one hand, case studies have already been analyzed in which university students with VI were victims of mistreatment by their teachers due to the teachers' lack of knowledge in adapting their teaching to them (Aquino, et al., 2012). Likewise, this marginalization and discriminatory attitudes towards this population were observed in other studies (Comparán, 2025). However, a key factor that helps us understand the participants' school context is the differentiation of the laboratory groups that were made in the qualitative part of the study. It can be observed that the students who obtained the lowest scores in the post-test are the students who suffer the most discrimination and marginalization in their regular schools. On the other hand, it can be observed that in both the second and third laboratory groups, due to a healthier living environment and coordinated work between the special education teacher as their regular schools, the blind student's academic performance improves.

However, in addition to the teaching work and the school environment, there is a pattern that points to the influence of the native language in the EFL learning by blind students. In previous studies, it would already be considered as an external factor that influences the learning of the English language in visually impaired people (Nagar & Krisi, 2022). However, there were no studies in which this factor was analyzed in the Mexican context. Therefore, the application of an instrument that measures the blind child's language level of knowledge in Braille writing system was applied. This is because one of the objectives of this study was to analyze whether a blind person could learn to develop all their language skills in EFL classes, specifically writing skill using UEB code. To reach this conclusion, this instrument was applied to select the intervention participants.

As a result, native language influence has two key factors were being founded in previous studies for intervention plans. First, exposure to the mother tongue was a key factor determining English language learning in blind participants. From a quantitative perspective, it was found that students who obtained the highest scores in the post-test had been exposed to Braille writing in their native language since their early education. Likewise, the survey recorded that the average exposure to the Braille system in their native language was six years. This exposure helped them adapt to writing Braille in the English language based on their previous experience in their literacy process. In the semi-structured interviews, it was found that the participant in the third laboratory group (who obtained a perfect score) mentioned having a positive experience and finding ease in her literacy process using Braille. Similarly, PF3 mentioned that her Braille skills improved when she began using the Perkins Brailler, making her writing easier.

On the other hand, in the first laboratory group, circumstances were found that disadvantaged the participants in their Braille literacy process. Participant PF1 mentioned having a negative experience learning Braille from her preschool teacher, arguing that she was mistreated by the teacher. Likewise, PM1 mentioned that he found Braille extremely difficult, to the point that his academic performance declined compared to her peers. However, with the support of a family member, PM1 could acquire Braille. Therefore, his difficulty was due to the lack of exposure to Braille in his environment.

In this way, exposing blind students to their native language in Braille is crucial for better English language acquisition. This can be seen in the results of the study's quantitative instruments. It was observed that participants who scored highest on the Spanish Braille instrument were also those who obtained the highest scores on the posttest. This pattern itself was observed in the qualitative semi-structured interviews, where it was observed that the more difficulties the participant had in their Braille literacy process in their native language, the greater the difficulties they would have in learning English, specifically in the UEB code.

In this way, prior exposure to the Braille system in the participant's native language influences both positively and negatively the blind student's experience. Another factor to consider is the influence of the blind child's family on his or her education. Previous literature has already mentioned that family support is a critical factor in foreign language learning for visually impaired people (Nagar & Kisi, 2022). Family involvement in the education of blind child is essential for the student's academic performance. In this study, a total of 35 excerpts of challenges and strategies were obtained in the emerging variable of family support in this research study, this being the second largest recorded in the study. Investigating the 15 challenge excerpts, it was identified that the majority came from the first laboratory group. This is because both participants in the first laboratory group reported having conflictive relationships with their families. PF1 mentioned that at home they don't take her into account, especially when it comes to decisions about her education and personal matters, because she is a impaired girl. PM1 responded with a similar situation. He argued that certain groups of family members have a poor relationship with him due to his disability, but when I pressed his response, he declined to comment on it.

Likewise, both participants reported that they did not have the support of their parents to complete homework at their regular school, and this pattern was also reflected in the interest shown by the parents throughout the intervention. Since parents lack interest in their blind children's education, there is a strong bias toward someone who actually does. This pattern was most strongly reflected in the study's posttest.

This difference was reflected when the first laboratory group was compared with both the second and third groups. The second group both commented on a certain degree of family involvement in their education. PM4 argued that even though his parents support him from time to time, his grandmother is the person who supports him most, since his parents work. Similarly, he argued that his grandmother supports his regular school teacher in adapting the teaching materials to him, also integrating him with his classmates. PF2 argued a similar situation. She mentions that the person who supports her the most is her mother, she supports her both in the transcription of her tasks from the Braille system to ink, as well as in the support of transfer and teaching material required. This pattern was also reflected in the third laboratory group. PF3 mentioned having support from both her mother and her nanny in her early education. She also mentioned that her mother is the one who supports her in transcribing her homework from Braille to ink. Similarly, she mentioned that her mother is involved in her education, arguing that her mother showed interest in her English classes, to the point of helping her with her English homework.

Comparing the three laboratory groups, there is a significant difference in family support among participants. A degree of adaptability in the education of the participants can be observed from the family support they receive. Comparing emerging variables such as family support, school environment, and native language, a pattern was found that influenced the blind student's academic performance in the intervention. Based on the research instruments, it can be observed that students who scored higher on the posttest had family support, which involved them in their education, and also had a teaching staff that worked cooperatively on behalf of the blind student. A pattern was also observed, which determined that as long as the school environment was favorable for blind students after integration, their academic performance in both their native language and English benefited. This last factor was reflected in the first laboratory group. This is because the more blind students are exposed to discrimination and marginalization in their school environment, the more they are affected both in their Braille literacy process and in their second language learning. Thus, both qualitative and quantitative research instruments demonstrate that essential integration that benefits blind students, both in the teaching environment and in their school environment, benefits both their learning of the English language and their writing skills in their native language.

4.2. The impact of the NLP with visually impaired children.

Without a doubt, some of the results presented in the previous chapter demonstrate that NLP had a positive impact on the study participants. This aspect was reflected in the results of the study's quantitative instruments. Since there were no existing instruments that quantitatively measured the writing of a blind student using the UEB code as a foreign writing code, a specifically tailored instrument was designed to measure the vocabulary knowledge acquired by the blind student in his Braille writing. Thus, the previous results presented the progress made by the participants in the three laboratory groups in the study.

In the first section, the blind student's prior vocabulary knowledge represented in foreign Braille writing was assessed by translating the words into their native language. The pre-test results were very low, with a mean of 12.5%, a standard deviation (SD) of 17.78%, and a mode and median of 0%. This section assessed whether the participants had prior knowledge of the meaning of the word in both English and Spanish. However, the post-test results showed significant progress in this section. The results obtained were a mean of 85%, a standard deviation of 21.08%, a mode of 100%, and a median of 100%. These improvements are significant for the study because they represent significant progress in vocabulary acquisition through translation using the Braille system. It can be observed that there was a trend of 0% in the results obtained in the pre-test, while in the post-test, there was a mode of 100% in this section. Their results demonstrate that almost all participants developed the connection between meaning and signifier using the UEB code in a foreign language context. Performing basic exercises such as writing "apple" in English or the meaning of "watermelon" in Spanish represents a major advance in the study participants' English language acquisition. This also demonstrates that the use of both accessible teaching materials and the development of pedagogical strategies such as spelling aids the blind student's learning. In fact, in the survey, all participants mentioned that using the anchor method greatly facilitated their English language acquisition. Likewise, in the semi-structured group interview, several participants mentioned that using the anchor strategy facilitated their learning, since, using teaching materials and strategies tailored to them, they were able to truly understand aspects of the English language that they themselves claimed they had not learned in their regular schools.

In the second section, participants were dictated random words so they could represent them in Braille, and their knowledge level of their writing skills using the UEB code was rated. The pre-test results showed very low scores, with a mean of 16.67%, a standard deviation of 17.57%, a mode of 0%, and a median of 16.67%. On the other hand, the results obtained in the post-test were significant, with an increase in the mean of 66.67%, a standard deviation of 27.22%, a mode of 66.67%, and a median of 66.67%. These results demonstrate an increase in the participants' academic performance through word spelling. In this section, the blind student's listening skills and the knowledge of spelling in English words on their writing were evaluated. As can be seen, there was a 50% increase compared to the pre-test. This is because students developed all of their basic language skills for learning a second language throughout the intervention. Although there was a 33.3% drop in the student's academic performance compared to the first section of the post-test, it can be understood that the blind student developed better Braille writing skills from the translation of the vocabulary learned than from the spelling.

In the third section, participants were again dictated English words that required the use of listening skills to decipher which word they should write using the UEB code. The results obtained from the pre-test were a mean of 3.3%, a standard deviation of 10.54%, a mode of 0%, and a median of 0.0%. On the other hand, the results of the post-test demonstrated a positive impact on the blind student's Braille writing. The results obtained were a mean of 86.67%, a standard deviation of 17.21%, a mode of 100%, and a median of 100%. And these results undoubtedly demonstrate the positive impact that NLP had on the study participants' academic performance in Braille writing. In this last section, the blind student's performance increased by 33.3% compared to the second section. This means that using strategies such as translating words from Spanish into English and identifying words through listening skills are much more effective than focusing on spelling English words. Likewise, a comparative analysis of the final scores from both the pre-test and post-test reveals significant progress among participants. The pre-test averaged 11%, while the post-test averaged 80%. The standard deviation was 11.97% for the pre-test, while the post-test averaged 15.63%. In the pre-test, a mode and median of 10% were obtained, while in the post-test the mode was 100% and a median of 80%.

Without a doubt, the progress in all sections of the UEB Code Test is significant, as it confirms that, in addition to progress in their learning of the English language, it demonstrates the effectiveness of NLP as a pedagogical alternative that can be implemented in English classes for blind children. When a comparative analysis was performed between the pre-test and the post-test using the t-test, data were discovered that confirm the hypothesis proposed in the research. When comparing the first section of the pre-test and the post-test using the t-test, a score of 0.00001 was obtained. This percentage does not mean that there was a huge difference between the results of the instrument applied at the beginning and at the end of the treatment. Likewise, in the second section a score of 0.00009 was obtained, confirming again that there was a significant difference. Although the third section obtained a much higher score than the two already mentioned, it was 0.000001. A comparative analysis of the final results from both the pre-test and post-test yielded a score of 0.000000060. This once again confirmed that there was a difference in the coefficient between the two assessments, which favored the learning of the blind student using the UEB code.

The results confirm a statistically significant improvement in the students' vocabulary acquisition, Braille writing, and listening-based word recognition. Since all p-values are far below the standard significance threshold of 0.05, the probability that these improvements occurred by chance is extremely low. Likewise, the trend of 0% in pre-test results, especially in the first and third sections, suggests an initial lack of knowledge that was substantially improved through the intervention. Moreover, the median and mode shifting to 100% in some sections indicates that most students reached near-perfect performance levels in those areas.

However, when this statistical analysis was compared between the three sections of the post-test, the results were surprising. To perform a comparative analysis using this test between the first and second post-test sections, a result of 0.0728 was obtained. On the other hand, when comparing the first section with the third, a score of 0.8383 was obtained. However, when a comparison was made between the second section and the third, a result of 0.0510 was obtained. These results demonstrate relevant data in the research. First, in the comparison between the first and second sections, the value obtained was 0.0728, slightly above the common significance level ($R = 0.05$). This suggests that the difference between these two sections is not statistically significant, but is close to it.

On the other hand, when comparing the first and third sections, a value of 0.8383 was obtained, so the value is very high, indicating that there is no significant difference between these two sections. The fact that there were no differences between these two groups is due to the fact that, based on the score obtained from the instrument, a behavior could be observed in which both the first and third sections were the dimensions in which the participants best mastered their Braille writing. Likewise, when comparing the second section with the third, a value of 0.0510 is obtained. This value is very close to 0.05, meaning the difference is almost significant. However, if a slightly higher threshold had been set (for example, $\alpha = 0.10$), it could be considered significant. However, by using a threshold of 0.05, the difference could be classified as minimal.

Once this information is understood, there may be some difference between the first and second sections, and between the second and third, but not enough to confirm it statistically with a threshold of 0.05. However, the first and third sections appear to be very similar, given the high p-value. Thus, based on the statistical analysis, it can be established that there was a huge difference between the pre-test and post-test, which benefited the participants' English language learning. It showed a statistical improvement that favored their learning of Braille, both in their native language and in the UEB code.

Similarly, these results are not at all surprising, as they were also confirmed by the survey administered to participants at the end of treatment. Previous studies have already mentioned that the application of linguistic programming techniques has a positive impact on both students and teachers who apply these techniques in their teaching (Purnama et. al., 2023). However, this study showed that the application of NLP techniques to blind children had a positive impact on their Braille writing performance in English classes. This is due to both the adaptations that were applied to both the techniques and the teaching materials implemented throughout the treatment. The application of the four techniques was of great relevance, and their impact was recorded in both quantitative and qualitative instruments.

First, outcome technique achieved a 90% acceptance rate in the surveys. All study participants agreed that the pace of the class and the instructor's willingness to answer questions benefited their learning. In the semi-structured interviews, some participants commented that the pace of the class was tailored to their needs. Little phrases like "pleasant" or "feeling like they were dancing" were metaphors participants mentioned when referring to this technique. When participants were asked how they felt about the pace of the classes, their responses ranged from "normal" to "calm." Undoubtedly, despite to being the third most frequently used technique in semi-structured interviews, this strategy is key to learning English, because the participants have disabilities, and its pedagogy must be adapted not only to the materials but also to the structure in which a class is organized.

Second, rapport technique achieves an 80% acceptance rate in the surveys. All study participants agreed they had a good relationship with the teacher throughout the intervention. They also mentioned that they all felt comfortable participating in class after these techniques were applied. Furthermore, when participants were asked if the teacher asked them for advice on improving their teaching practices, 80% said yes, and they affirmed that their suggestions were applied during the intervention. Another key aspect of this technique is when participants were asked if the teacher's attitude in their classes influences their participation, which they all answered yes. When participants were asked whether they had a positive or negative attitude toward the language at the beginning of the intervention, 80% said they had a positive attitude, while 20% said they had a negative attitude. At the end of the intervention, all participants reported having a positive attitude toward the language. Same, when it is in the Faith of the participants and the positive attitude on the part of the teacher influenced their participation during the treatment, 90% affirmed while the other 10% denied it.

Likewise, in the semi-structured group interviews it was found that the technique had the highest number of frequencies. All participants mentioned having a good relationship with the teacher, also stating that communication between teacher and student is essential for better learning. In the first laboratory group reported not having a strong interest in the language, but they did mention that the teacher's personality helped them learn it. They also commented on the technique applied throughout their sessions that benefited their coexistence.

Similarly, several participants mentioned that teamwork led to better coexistence among their classmates and improved language acquisition. They mentioned that teamwork was more conducive to both coexistence and learning, since doing it individually, in addition to making it more boring, was not conducive to a better friendship relationship among their classmates. In this way, participant PF3 mentioned a very relevant factor: the application of this technique in favor of inclusive pedagogy in the classroom. She argued for an adapted pedagogical strategy in which the teacher used it to participate in class. This technique, in addition to promoting peer interaction, also strengthens communication between teacher and student. A relevant factor to consider was when comparing the interaction between the participants' regular school English classes and the intervention class. In this comparison, all participants described the interaction between their teacher and classmates as poor, while they rated the intervention class as good. This type of behavior has already been observed in various studies in the Mexican context, which described the complex relationship and communication that visually impaired people experience with both their teachers and classmates (Aquino, García and Izquierdo, 2012).

Third, anchor technique achieves a 90% acceptance rate in the surveys. In this technique, priority is given to creating teaching materials tailored to promote meaningful learning (Rayati, 2021). 90% of respondents stated that using Braille-adapted textbooks facilitated their English language learning. Likewise, all participants agreed that the use of strategies such as dictation and "Simon Says" and the use of adaptable learning materials like the "Brailin" doll were beneficial in their learning. In the semi-structured group interviews, participants reported having fun and enjoying both the activities and the teaching materials adapted throughout the sessions. From this instrument, a series of comments emerged in which participants described the emotions they felt while carrying out the activities; some participants mentioned feeling like preschool children when carrying out the activities, while others mentioned that certain teaching materials gave them satisfaction when doing them, specifically the use of the "Brailin" doll. Likewise, many participants mentioned that the use of dynamic pedagogical strategies, in which the student uses more than two senses to carry out an activity, they describe it as fun. Likewise, they also mentioned the relevance of materials such as the Perkins Brailier, spelling strategies, Braille slate, Braille stylus, opaline sheets, moldable formats, among others.

Fourth, modeling technique achieves a 50% acceptance rate in the surveys. Although it was the technique with the lowest percentage of approval among participants, it was relevant throughout the study. All participants agreed that the aforementioned techniques facilitated their learning in English classes. Likewise, all participants mentioned taking into account the suggestions their teachers gave them to improve their English. However, only 50% of participants reported applying these strategies to other subjects or aspects of their daily lives. A similar situation occurred in the semi-structured group interviews, with a frequency of six excerpts of perception. In the first lab group, participants mentioned that they could perhaps apply these strategies in their regular school as well as in their daily lives. A similar response was seen in the second lab group, where participants also commented that they could implement these techniques in their daily lives. However, in the third laboratory group, participant PF3 mentioned that she had applied these strategies in her daily life, specifically in her family.

On the other hand, when participants were asked how they found these English classes, 50% rated them as great while the other 50% rated them as enjoyable. When participants were asked again if they would like to continue learning the language, 90% said yes, while 10% said no. A similar situation occurred in the structured group interviews: while in the first laboratory group, participant PM1 mentioned having no interest to learn the language. However, in other laboratory groups, participants showed interest in continuing to learn the language.

Without a doubt, this set of techniques had a positive impact on the study participants' learning of English using the UEB code. The qualitative and quantitative instruments of the study demonstrated that, in addition to enjoying the learning process, the participants achieved good academic performance in Braille writing. Likewise, linguistics programming plays a very important role throughout the intervention, because the techniques implemented in second language teaching favored both the interaction between peers and the teacher, and their improvement in a second educational skill (Zhang et al., 2023). Likewise, some of the positive impact of NLP in English as a foreign language class had already been observed, however, no studies had been applied to blind children (Bagherkazemi & Shekarabi., 2022).

Similarly, some of the techniques implemented in the study favor Jean Piaget's constructivist theory. This is not entirely true, since NLP encourages students to explore, participate, and engage in the classroom to improve language acquisition (Rastelli, 2016). Although NLP had previously been proposed as an alternative to improve the education of people with visual impairments, it had never been implemented in the teaching of second languages, specifically to blind children (Helm, 2000). However, part of what NLP promotes is the constructivist theory applied in this study. Part of this theory embraces the idea that the student becomes an essential figure in learning, taking center stage in the educational aspect (Benítez-Vargas., 2023). It is also addressed in NLP, in which the student constructs his own reality from life experiences and perceptions (Rayati., 2021). Likewise, constructivism focuses on the fact that the individual understands the world around him based on his own point of view, and always taking into account the experiences he has had in the past that will help him face the present and the future (Benítez-Vargas., 2023).

At this point, this is where the role of the teacher comes in, applying NLP techniques to improve their learning of the English language (Purnama et. al., 2023). In theory, the teacher remains in the background, although they serve as a guide for the student, trying to prioritize the student during learning thanks to the tools provided and the practical application of them (Benítez-Vargas., 2023). Meanwhile, in NLP, techniques such as anchor and rapport are used, supporting students and facilitating their learning (Zhang et al., 2023). In the intervention, both theory and the communicative model were involved to promote blind students' learning of the English language. Although some studies had mentioned that teaching Braille writing in English in a foreign language context was very difficult for blind users (Efstathiou & Polichronopoulou., 2015). However, the opposite occurred in the study. The context in which the blind student would operate was based on constructivist theory, and techniques derived from Neurolinguistic Programming were implemented throughout the intervention. Consequently, both the theory and the communication model should have been adapted to the student population. Understanding that the student is the center of learning due to the limitations that arise from their disability, so that the application of strategies had to be adapted to the user. As a result, all the instruments in this research showed that this combination between theory and techniques had a positive impact on the study participants in their performance in Braille writing.

4.3. Importance of blind students' perception in foreign language learning

Without a doubt, part of EFL teaching to vulnerable groups is to understand the context in which they perceive the language. Studies have already suggested that considering the perceptions of visually impaired people when they are learning a second language is vital for the pedagogical adaptation teachers must implement in their classes (Nagar & Krisi., 2022). Part of understanding the perception of blind students in their school environment is due to a series of external and internal factors that could affect their academic performance both positively and negatively.

An internal factor could be the NLP techniques implemented throughout the intervention. Without a doubt, understanding students' perceptions of the techniques implemented in their learning is essential for teaching improvement. Of the four techniques implemented in the study, the rapport technique was the most relevant strategy implemented in the intervention. Having a total of nine 19 excerpts of perception in qualitative instrument and an 80% approval in the surveys. In this way, establishing good communication between teacher and student and promoting a favorable environment for learning and healthy coexistence among students are fundamental in the learning of EFL in blind children. Secondly, anchor technique is classified as the second most relevant intervention strategy, with a total of 12 excerpts of perception and 90% approval from participants. Without a doubt, the adaptation of teaching materials was vital to their learning, playing an important role in Braille books and the use of the "Braille" doll in their initial learning process of the UEB code. From this point on, the differences between the techniques can be seen both in the frequency of semi-structured interviews and in the percentage of acceptance of surveys, demonstrating that effective communication between student and teacher is much more beneficial than the adaptation of teaching materials.

The level of preference among participants was not surprising, given that in their daily lives at their regular school, students have to adapt to the lack of adaptations in teaching materials and improve language skills such as listening and speaking (Aquino, et al., 2012). Actually, some studies mentioned one of the biggest problems in second language teaching for visually impaired people is the lack of adaptability of teaching materials that suffer visually impaired students in English classes (Quiroz, 2017).

Thus, a blind student initially has a learning limitation, which forces him to undergo a process of adaptability, in which he is forced to understand or engage in classes through the use of other language skills such as listening and speaking. Starting from the first limitation, the second factor arises: exposure to the English language. This factor is key, because for people with normal vision, EFL classes are designed to illustrate the language through visual material. Thus, blind students are not being exposed to all of linguistic skills, such as reading and writing in Braille, lacking the prior knowledge to function in the language. Therefore, when these types of circumstances exist, they generate a series of beliefs that hinder blind people's learning. This type of perception was recorded in one of the semi-structural group interviews, where participant PM1 mentioned the frustration his regular school English teacher had with not knowing how to adapt to blind students, such that factors such as ignorance and uncertainty end up marginalizing the blind student.

This type of perspective helps us understand the challenges blind children face in their regular schools, understanding the context of teaching English to people with visual impairments in Mexico. Thus, the use of these techniques plays an important role in the learning of blind students. This is because once the problems are identified, the techniques can be adapted to facilitate blind students' learning. These results are demonstrable from the UEB code test, where there was an increase in academic performance in Braille writing at the end of the intervention, thus demonstrating that NLP techniques played an important role in the participants' English language learning.

The results were also observed in other techniques, such as outcome technique. With a 90% approval rate in the surveys and a frequency of 11 excerpts of perception in the structured interviews, the technique played an important role because the strategies implemented in the study were postponed according to the blind student's agility in class. A very important aspect not discussed in inclusive education research is the agility of blind students in their academic performance. Comparing a sighted student with a blind student, it is clear that the student who will be more agile in class activities will be the sighted student.

So, when a teacher is going to teach English to blind students, teacher must consider that the pace of the class will not be the same as that of a sighted student. Likewise, a key factor about this technique was that when applying NLP, you teach me second languages, prioritizing the student's development of their language skills rather than prioritizing the content that will be addressed throughout the sessions (Purnama et. al., 2023). Finally, the modeling technique ranks fourth among the most used strategies throughout the intervention. With a 50% approval rating in the surveys and a frequency of 9 exceptions of perception in the qualitative instrument, this technique is characterized by applying the aforementioned techniques to various aspects of daily life.

This technique, by making the least use of intervention, is due to an external factor present in second language teaching: motivation. Without a doubt, motivation is one of the most important factors in second language acquisition, because it fosters improvement and perfection in a second language (Lightbown & Spada, 2013). Likewise, in NLP, motivation is a fundamental factor because many of the strategies implemented are driven by motivation to achieve specific objectives (Rayati, 2021). However, in both the quantitative and qualitative instruments it was detected that in each laboratory group the degree of motivation that the participants reported was different. In the survey, one participant mentioned not being interested in learning English, due to the difficulties they had and a lack of motivation to continue learning. In the interviews, both participants mentioned having many difficulties learning the language, describing their attitude as negative because they did not like the language. In the second laboratory group, both participants mentioned that their attitude determined their motivation to learn the language, but they described their attitude as average due to the difficulties they encountered throughout treatment. While in the third laboratory group, participants agreed that their attitude determines their interest in learning the language, describing that they had a positive attitude, thus improving their English language learning.

By doing a comparative analysis, I can observe that the participants who had a negative attitude toward the language were the ones who had the lowest scores in the posttest, while those who had a positive and resilient attitude were the ones who obtained a perfect score. Likewise, motivation is not the only aspect that affects the learning of second languages, but also native language too.

And there is no doubt that the influence of the mother tongue on second language learning is an external factor observed in multiple linguistic studies (Lightbown & Spada, 2013). Throughout the semi-structured interviews, all study participants reported experiencing some degree of frustration when they began learning the language. Some participants commented that their frustration stemmed from not being accustomed to reading many letters that aren't commonly used in Spanish. Other participants argued that the pronunciation of words didn't match the way they were written, which caused them frustration. Thus, these difficulties cause participants to constantly compare their native language Braille writing to the UEB code. All participants claimed to be more accustomed to the Spanish Braille system than the English Braille system, so feelings of frustration arose throughout the intervention.

A pattern has been observed that blind students who have greater knowledge of the Braille system in their native language more easily master their Braille writing skills using UEB code. This factor was undoubtedly obtained from the instrument administered to the participants prior to the intervention. It was observed that the participants in the third laboratory group, in addition to obtaining the highest scores on the posttest, had also obtained the highest scores on the Spanish Braille test. Similarly, the participants in the first laboratory group who obtained the lowest scores in the posttest also obtained the lowest scores in the Spanish Braille test. However, both laboratory groups reported a total of six years of exposure to the Spanish Braille system. In this way, the possibility that the exposure time in which the blind child has been learning the Braille system is not a determining factor in his or her ability to use the Braille system in other languages is ruled out.

However, this response was found in the qualitative research instrument. Throughout the semi-structured interviews, a pattern was found in which the blind students' prior experience in their Braille literacy process was vital to the development of their native language. It was observed that the participants in the first laboratory group disliked writing in Braille due to the poor experience they had during their literacy learning process. The opposite was true for the third laboratory group; in addition to facilitating their literacy, the use of Perkins Braille helped them improve their Braille writing in their native language.

On the other hand, a huge part of evidence represented in the qualitative instrument demonstrates that perception is vital to identifying factors or variables that favor or affect the blind student. For instance, the importance of family support for participants. Through the participants' perceptions, it was observed that the more involved the family is in integrating the blind user, the better their academic performance both in their regular school and in their English language learning. A similar situation was also observed in the student's school environment. It was observed that when blind students feel integrated into the classroom and receive good treatment and support from their classmates, they are more likely to perform well academically.

Nevertheless, thorough the semi-structured interviews, an emerging variable was found that had not been mentioned in previous studies, called the participants' perception of their disability. This variable is interesting because blind children's acceptance of their visual impairment influences their academic performance. For instance, it was found that in the first laboratory group, despite both participants arguing that their visual impairment does not influence their English language learning and that their disability is a limitation to learning, both mentioned in the interview that it is a topic they do not like to talk about. This is because it is a topic that still causes internal conflict among the participants of the first laboratory group.

A similar situation occurred in the second lab group. When participants were asked if their disability affected their English language skills, participant PM4 said it did, so-so, while PF2 said it did. When participants were asked why they responded, both declined to answer. However, in the third laboratory group, the opposite occurred. When participant PF3 was asked if her disability influenced her learning, she responded yes. Further investigation into her response revealed that her learning is very different from that of her normal-sighted peers. She also argued that one of the biggest differences is the use of Braille. Probing her response again, she argued that her disability is a limitation to her learning. She commented that she considers her disability a limitation because many teachers don't know how to work with her, so she perceives her impairment as a limitation.

Despite a doubt, this perception makes us reflect on the degree of awareness that visually impaired people have about their disability. People with visual impairments, whether acquired or congenital, reach a stage known as the "grieving period." This period of grief refers to the moment when a person with visual impairment begins to realize that their blindness is a limitation compared to the rest of the population, entering a state of depression or rebellion, depending on the blind person (Jacinto, 2022). This topic has been very little explored in children who were blind from birth, because there is already a record of the period of mourning suffered by parents of handicapped children and of people who have acquired blindness. However, this was a phenomenon that occurred throughout the intervention, specifically when the qualitative instrument of the study was applied.

The results presented demonstrate that the group of participants who are most vulnerable to bullying, lack of attention from parents, termination by teachers in the classroom, and a poor experience in their Braille literacy process, result in poor academic performance, as well as greater difficulty in their grieving process and in their acceptance of their disability. Without a doubt, visual impairment has been considered a limitation since the mid-19th century. Although in recent years both the Mexican government and international cooperation agencies have worked to include this population in the education sector, there are several limitations that hinder the learning of blind students. This research project is proposed as a pedagogical alternative to include visually impaired children in learning English as a foreign language, developing all their linguistic skills, just like their sighted peers.

4.4. Limitations of the study

From the theoretical-methodological approach of this study, a series of limitations began to emerge that prevented a good intervention. Initially, the greatest limitation was the difficult access for the visually impaired population. Although the state of Tabasco ranks fifth nationwide in terms of the disabled population (INEGI, 2020), since this intervention took place in the first half of 2024, it was during election season in Mexico, so the state government's efforts to ensure access for outsiders to have contact with vulnerable groups was extremely stringent.

In terms of implementation was the lack of communication between the University of Tabasco and the DIF Tabasco (National Institute of Family Development). On more than two occasions, the project was on the verge of being canceled during the intervention. In terms of participant was the population with visual impairments in primary education. All students were administered the Spanish Braille Test, of which only 10 participants passed. These results demonstrate the enormous educational gap faced by visually impaired children in Mexico, specifically in the southeast.

On the other hand, a limitation of the study was the limited time available to the Tabasco DIF for the intervention. Unfortunately, at that time, they only authorized a total of two hours per week for each laboratory group. Finally, another limitation in the study was that at no time was there direct contact with the participants' guardians; the Tabasco DIF was the intermediary between the researchers and the parents.

4.5. Future lines of research

Despite the limitations encountered throughout the treatment, this research project proved to be very enriching for second language teaching. This is because many of the alternatives proposed by NLP help us understand how to create pedagogical strategies, such as knowing what type of adapted teaching materials are beneficial for blind children's English language learning. Although this research study prioritized the development of Braille writing in the English language, reading comprehension in the Braille system would be enriching in the field. Likewise, this type of study could also be applied to learning other languages, such as French, Italian, and German, all within a foreign language context.

In the other hand, a proposal would be to implement the study in languages such as Chinese and Japanese, where the Braille system code goes from 6 to 8 dots. Another interesting proposal would be to teach English to children with visual impairments, as well as to teach it to adults and adolescents with low vision. Likewise, instead of using educational skills as the basis for NLP techniques, priority is given to disability acceptance in blind students in English classes.

4.6 Conclusion

Today, foreign language teaching has become one of the most important pillars of education for the globalized world in which we live. Of all languages, English is the most predominant language in the world (Beneti & Angelovska, 2016). Thousands of studies have been conducted over the last decade seeking solutions for a more beneficial language acquisition/learning process for future generations (Lightbown & Spada, 2013). Currently, public policies exist, both at the national level and through international cooperation, for the learning of foreign languages, specifically English. Both the Common European Framework and the New Mexican School (La Nueva Escuela Mexicana [NEM]) are examples of policies applied in the Mexican context (Manrique & Izquierdo, 2024). However, during the 2020 pandemic, research began to emerge proposing linguistics programming as a pedagogical alternative that improves students' English proficiency in a foreign language context. NLP could be defined as a communication model that seeks to apply a series of techniques through motivation that favor the goals established by the user (Bagherkazemi & Shekarabi, 2022). This communication model has already been applied in other fields, however, in recent years NLP has begun to be applied in EFL classes with satisfactory results. Recently, studies have proposed that through NLP techniques, in addition to teaching English, educational skills can be reinforced, promoting academic performance (Zhang et al., 2023).

On the other hand, part of the progress in education is reflected in the integration of people with disabilities in public schools. Through inclusive education, efforts have been made to involve people with disabilities in the teaching of second languages (UN, 2006). However, the visually impaired population is one of the most marginalized populations in the context of foreign language teaching. In the field, studies have been conducted that analyze the difficulties, external factors, and strategies that can be implemented in English classes focused on blind students (Efstathiou & Polichronopoulou, 2015). An estimated 338 million have visual impairments, including 295 million with low vision and 43 million who are blind (IAPB, 2021; ORBIS, 2021). In Mexico, approximately 2.2 million people have visual impairments and 416,000 are blind, ranking the country among the top 20 most affected worldwide (Gutiérrez et al., 2023). In Tabasco, 17.2% of the population has a disability, with nearly half (48.3%) experiencing visual impairment (INEGI, 2020). In the Mexican context, there are public policies that favor the education of people with

disabilities. Despite the great efforts made by the Mexican government to guarantee inclusive education for people with visual disabilities in the country, the inclusion of students with disabilities in the education sector remains a challenge for educational institutions (Aquino, et al., 2012). Within the education sector, there are many myths that claim that students with visual impairments have the cognitive ability to learn a second language. This is because they lack all the skills to develop their language. However, recent studies have shown that people with disabilities have both the cognitive and adaptive ability to acquire a second language (Silva et al., 2018).

Likewise, from the theory of constructivism that the education of the student must be a continuous process in which the student must acquire knowledge from the experiences obtained in order to reflect on the activities carried out in the learning process (Mora, 2019). Similarly, studies had already been carried out where NLP was applied to blind students (Peng, 1989). However, part of teaching English as a foreign language to people with visual impairments must consider a fundamental aspect of language skill. Braille writing. Braille code is defined as "a tactile method of reading and writing for blind people developed by Louis Braille in 1825" (Simpson, 2013). Considered a universal writing system for people with visual impairments, in the Anglo-Saxon context, this writing has evolved due to unification by all English-speaking countries (Nagar & Kisi, 2022). At the beginning of the millennium, a Braille code was implemented in all English-speaking countries, called Unified English Brailles (UEB). Undoubtedly, this code has favored a significant unification of people with visual impairments in an Anglo-Saxon context (Cryer, Home, & Morley Wilkins, 2013); however, there are no studies where this code is taught in a foreign language context. Likewise, there are no studies that rectify the use of NLP in people with visual impairments in teaching foreign languages. On the other hand, there are no studies on teaching English to blind children within the Mexican context.

Thus, the overall objective of the research was to implement NLP techniques using UEB code in EFL classes designed for blind children's students. Likewise, among the specific objectives of the research were • Measure the impact of NLP techniques in EFL classes during the treatment, analyze the perception of the participants about the implementation of these techniques in their pedagogy, identify what factors influenced the participant's academic performance throughout the intervention, determine what difficulties the participants had throughout their learning and compare

the influence of the native language with the use of English language on their Braille writing. On the other hand, through the research questions we sought to resolve both the myths that exist among the visually impaired population and the analysis of perception and the impact that NLP had on the study participants. In this way, part of the hypothesis raised in the research, it can be stated that depending on the L1 Braille literacy, Neurolinguistic Programming could have a positive impact in EFL classes using UEB code designed for beginning blind children in a public-school context. Part of the identification of the independent, dependent and controllable variables was key to the development of the research instruments. On the part of the independent variable, a numerical quantitative instrument was created to measure the impact of NLP on the study participants: A closed-questions survey. Likewise, for the independent variable of the research, the impact of NLP had to be measured both at the beginning and at the end of the intervention, creating an instrument adapted to the Braille system for the study participants: UEB code Test. Furthermore, for the selection of study participants, an instrument was created to measure the blind children's level of knowledge of the Braille system in their native language. This controllable variable benefited both the selection of participants and the blind user's level of knowledge of writing in Braille; from knowing how to use a Braille Slate to the accented vowel codes in Braille. This instrument was the Spanish Braille Test. Finally, to analyze participants' perceptions, a qualitative instrument was created and administered at the end of the intervention through a series of semi-structured group interviews with the three laboratory groups. These groups were selected based on the results of the study's dependent variable. Due to population access limitations, a total of ten participants with VI who were studying primary education in southwestern Mexico were obtained.

The findings obtained in the present study demonstrated that NLP had a positive impact on the participants' Braille writing skills and contribute to an inclusive education in L2 education. These results were obtained from the study's quantitative instruments. In the first instrument for the controllable variable, a pattern was observed in which all participants selected for the study had good command of their Braille writing skills in their native language. Likewise, in the second instrument for the study's dependent variable, significant progress was observed in the pre-test compared to the post-test. These results showed the progress the participants had in Braille writing in the English language using the UEB code. Likewise, in the instrument for the study's independent variable, it was demonstrated that NLP had a positive impact on the student's academic

performance using the UEB code. In this survey, each technique had a certain degree of acceptance by the participants, mentioning that effective communication between teacher and student is fundamental for learning second languages. Likewise, it was observed that the use of accessible teaching materials had a positive impact on their learning, facilitating their acquisition and improving their Braille writing skills. On the other hand, both the pace of the class and the use of the techniques in various aspects of daily life play a key role in the intervention, so that the use of the techniques as a pedagogical alternative for teaching English to children with visual impairments is effective for the study participants. A thorough analysis of the structured group interviews revealed that, in addition to participants' perceptions of the use of these techniques throughout the intervention, emerging variables such as family support, teaching experience, school environment, native language, prior English language experience, motivation, and perception of their disability were also involved in the intervention.

Thus, by performing a comparative analysis of all the results obtained from the four research instruments, very relevant data were found on the behavior and academic performance of blind children in learning English as a foreign language. The first term applied to discuss the results was "the blind student's adaptability to their environment." This term was applied because it was found that blind students exhibit adaptability depending on the school and social environment in which they can operate. It was observed that emerging variables, such as teaching work, greatly influence blind students' academic performance, both in the learning of their native language and a second language. These data were extracted from both quantitative and qualitative research instruments. The tools teachers provide blind students are critical factors determining their learning. It was observed from the three laboratory groups that the better the student's learning, the better their learning will be from both their homeroom teacher and their special education teacher. Another factor discovered was the teaching materials used. It was identified that the more varied the teaching materials used in class, the better their academic performance and understanding of complex topics will be. On the contrary, it was shown that when blind students receive less support from their teachers, such as marginalization in the classroom, this is detrimental to both their learning and their social environment. A similar situation was also observed with the emerging variable of the participant's school environment. It was observed that the more supportive the environment in which the blind student develops, that is, the more supportive he or she receives

both from his or her classmates and school staff, the better his or her academic performance. On the other hand, it was also observed that when blind students are victims of discrimination and marginalization both in the classroom and at school, the likelihood of achieving efficient academic performance is very low.

Likewise, another external factor found in the research study was the influence of the native language on second language learning. Although other studies that analyzed the importance of the native language for people with disabilities (Nagar & Krisi, 2022) are congruence with our findings. In the Mexican context, it turns out to be a variable that involves both the blind student's knowledge of their native language in Braille and their Braille literacy process. It was documented that the participants who scored highest on the Spanish Braille Tests also obtained the highest scores on the UEB code Test. However, both the first group, who had the lowest scores on the posttest, and the third laboratory group both had the same amount of exposure to Braille. Furthermore, it was discovered that the participants' experience in their Braille literacy process determined their ability to use this universal writing code. Participants in the third lab group, who scored highest on the posttest, reported having an efficient Braille literacy process, while the first lab group mentioned having had difficulties and a bad experience with their teachers when adapting to the Braille system. On the other hand, it was identified that family support plays a crucial role in the learning of blind children. It was observed that families who were most involved in the education of the study participants, both in the acquisition of their native language and in the learning of a second language, had higher scores. On the other hand, it was noted that participants who lacked family involvement in their education and had poor relationships with their relatives were the ones who obtained the lowest grades in the study. Thus, an external influence can be observed between family support, teaching work, and the school environment on the performance of their Braille writing in English.

Another key factor was the positive impact NLP had on the participants' Braille writing performance. It was observed that in the pre-test, despite having prior experience in the English language, the participants' Braille writing scores were very low. However, at the end of the intervention, they made significant progress in their Braille writing performance using the UEB code. In the surveys, a high level of acceptance was observed among participants, who mentioned

that various techniques such as "rapport," "anchor," and "outcome" techniques benefited their learning, thus facilitating their adaptation to the English language. However, it was noted that participants who used the "modeling" technique obtained the highest scores on the posttest. Investigating these results, it was discovered that motivation is another key external factor determining English language learning in blind children. Multiple studies have previously mentioned motivation as a key factor determining a learner's level of perfectionism in adapting to the language (Lightbown & Spada, 2013). However, this study found that their motivation was determined by the context in which the blind student developed. In the structured group interviews, participants' perceptions of the intervention techniques were analyzed, commenting that they were beneficial to their learning. A key factor discovered in the qualitative research instrument was that at the beginning of their English language learning, because it was so adapted to their disability, several participants mentioned feeling frustrated when learning the language, arguing that letters are used that are not as common in their native language, as well as realizing that the pronunciation of a word in English is not spelled as it sounds.

However, a key factor observed in the qualitative research instrument was the participants' perception of their disability. This emerging variable has been little studied in children born blind. Thus, it was discovered that the more blind students accept their disability and open up about it, while also questioning the environment in which they operate, the more easily they will identify their limitations in second language learning and be able to implement NLP techniques tailored to the needs of blind students. In conclusion, the present research contributes to promotes the inclusion of children with visual impairments in foreign language learning, identifying both external and internal factors that may influence their academic performance. This research project determined that NLP had a positive impact on English language learning, specifically developing Braille writing using the UEB code, depending on the blind student's proficiency with Braille in their native language, as well as the socioeconomic context surrounding the blind child.

Future studies could complement the impact of NLP on blind students in other languages within a foreign language context, which would allow for a deeper understanding of the development of linguistic skills such as Braille writing in blind children. The findings of this research may be useful for teachers, special education teachers, universities, and institutions specializing in blindness to include in their language policies. It is essential that educational and government institutions and stakeholders take these results into account when designing more inclusive and effective inclusive language policies and second language teaching strategies that considers this kind of population. Completing this thesis not only allowed me to address the topic academically but also strengthened a critical awareness of the current situation faced by people with disabilities within the education sector, specifically in the teaching of foreign languages. Without a doubt, this research project was a life lesson for me, bringing this situation to light through scientific research. I conclude my contribution to scientific research as noted by Uruguayan journalist Eduardo Galeano:

Personas pequeñas, en lugares pequeños,

Personas pequeñas, en lugares pequeños,

haciendo cosas pequeñas, pueden cambiar el mundo.

haciendo cosas pequeñas, pueden cambiar el mundo.

Thanks for your attention

Thanks for your attention

Reference

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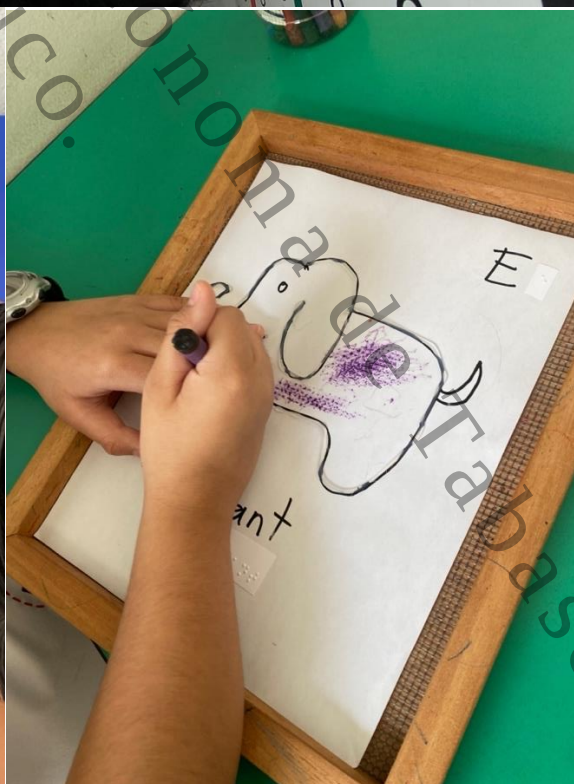
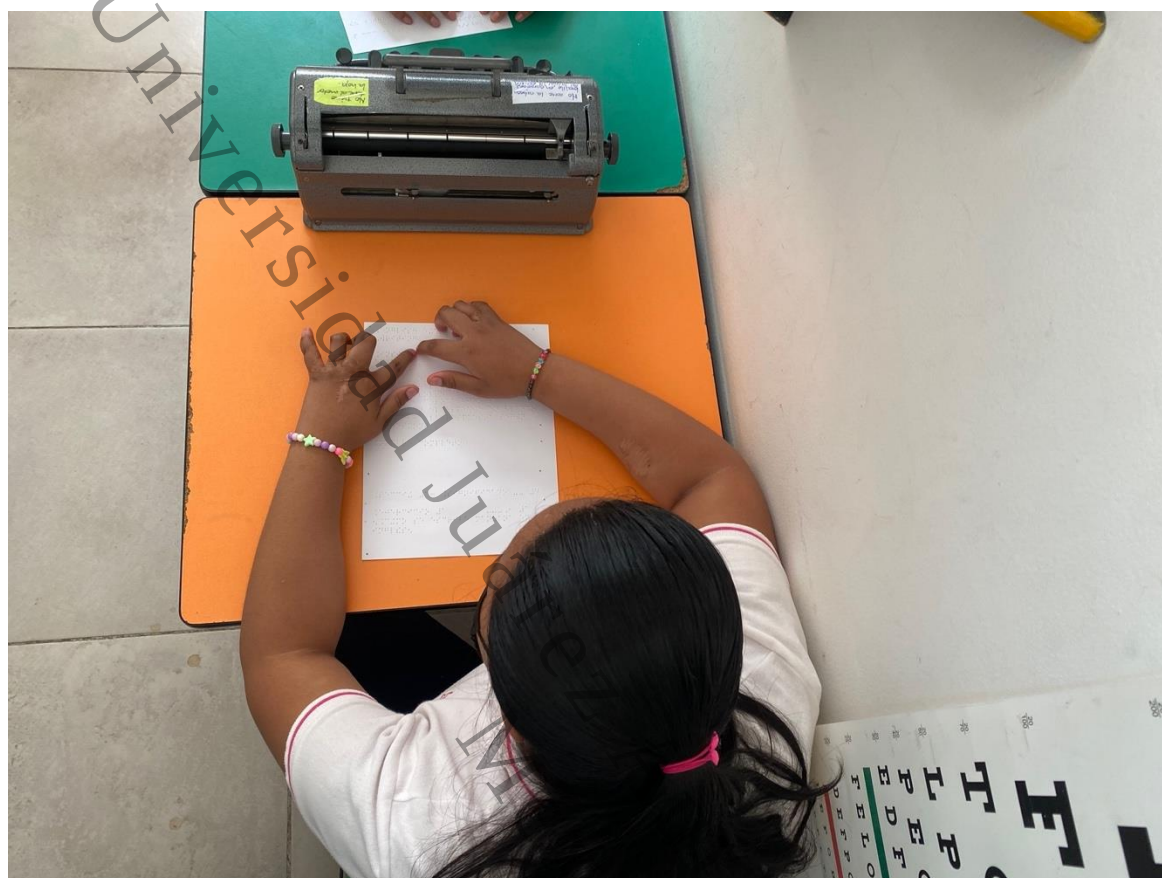
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Appendices

Appendix A.- Photographic evidence







Appendix B.- Consent letters



UNIVERSIDAD JUÁREZ
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26

de Junio del 2024

José Víctor López Madrigal
Estudiante de la Lic. En Idiomas
División Académica de Educación y Artes
Universidad Juárez Autónoma de Tabasco
Av. Universidad S/N, Col. Magisterial
86025, Villahermosa, Tabasco, Méx.
211J25037@alumno.ujat.mx
Asunto: Carta de Consentimiento

Estimado Padre de Familia y/o tutor responsable:

Por medio de la presente me dirijo a usted de la manera más respetuosa posible para solicitarle la participación de su hijo/a en un curso introductorio de la enseñanza del idioma Inglés como Lengua Extranjera (EFL) enfocado en la escritura Braille utilizado en países anglosajones denominado "Unified English Braille" (UEB). El objetivo de este proyecto de investigación es analizar el impacto de un modelo comunicativo, analizado mediante una serie de encuestas, evaluaciones y evidencias fotográficas que nos permitirán descubrir múltiples áreas de oportunidad y tener una mejor intervención en futuras sesiones.

El periodo de intervención del curso introductorio es del Lunes 8 de Abril hasta el Viernes 28 de Junio del presente año. A lo largo de ese periodo, también se aplicarán las encuestas y evaluaciones ya mencionadas. La información brindada será manejada de manera confidencial y anónima. De igual forma, los resultados se podrán emplear de manera anónima en reportes institucionales y de divulgación. Asimismo, después que el beneficiario haya concluido tanto las encuestas como las evaluaciones, si desea que sus respuestas sean excluidas de la base de datos, favor de remitir su solicitud a 211J25037@alumno.ujat.mx.

De este modo, el Señor/Sra. Ana Lila del Carmen Ovando Morales autorice que el beneficiario Jesús Francisco Cabrera Ovando participe en el curso introductorio del idioma Inglés, como en las respectivas evaluaciones.

Firma del Padre o Tutor



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José Víctor López Madrigal
Estudiante de la Lic. En Idiomas
División Académica de Educación y Artes
Universidad Juárez Autónoma de Tabasco
Av. Universidad S/N, Col. Magisterial
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De este modo, el Señor/Sra. Beltran de la Cruz Gonzalez
autorice que el beneficiario Rosa Isela de la Cruz Bautista
participe en el curso introductorio del idioma Inglés, como en las respectivas evaluaciones.

Firma del Padre o Tutor



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de Junio del 2024

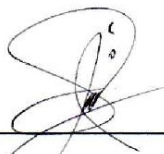
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Estudiante de la Lic. En Idiomas
División Académica de Educación y Artes
Universidad Juárez Autónoma de Tabasco
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De este modo, el Señor/Sra. José Víctor López Madrigal
autorice que el beneficiario Zaid Reyes de la Cruz
participe en el curso introductorio del idioma Inglés, como en las respectivas evaluaciones.


Firma del Padre o Tutor



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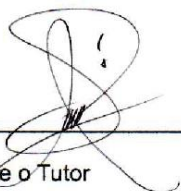
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De este modo, el Señor/Sra. José Víctor López Madrigal
autorice que el beneficiario Dylan Reyes de la Cruz
participe en el curso introductorio del idioma Inglés, como en las respectivas evaluaciones.


Firma del Padre o Tutor



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27

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José Víctor López Madrigal
Estudiante de la Lic. En Idiomas
División Académica de Educación y Artes
Universidad Juárez Autónoma de Tabasco
Av. Universidad S/N, Col. Magisterial
86025, Villahermosa, Tabasco, Méx.
211J25037@alumno.ujat.mx
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De este modo, el Señor/Sra. Ma. Victoria Hernandez de la O.
autorice que el beneficiario Axel Matias Cerino Martinez
participe en el curso introductorio del idioma Inglés, como en las respectivas evaluaciones.

Firma del Padre o Tutor



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José Víctor López Madrigal
Estudiante de la Lic. En Idiomas
División Académica de Educación y Artes
Universidad Juárez Autónoma de Tabasco
Av. Universidad S/N, Col. Magisterial
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De este modo, el Señor/Sra. habed Potenciano Ocampo
autorice que el beneficiario Xyrtzi J. Garcia Potenciano
participe en el curso introductorio del idioma Inglés, como en las respectivas evaluaciones.

Firma del Padre o Tutor



UNIVERSIDAD JUÁREZ
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POSGRADO Y
VINCULACIÓN

DIRECCIÓN
DE INVESTIGACIÓN



José Víctor López Madrigal
Av. Universidad S/N, Col. Magisterial
Villahermosa, Tabasco, Méx.
211J25037@alumno.ujat.mx
993 348 5339

Febrero 9 de Febrero del 2024

DIF Tabasco
Centro de Atención Integral a Ciegos y Débiles Visuales (CAICVD)
Felipe Carrillo Puerto 2702, Atasta de Serra
Villahermosa, Tabasco.
Asunto: Carta de Autorización

Estimado Padre de Familia:

Por medio de la presente me dirijo a usted de la manera más respetuosa posible para concebir que el Sr./Sra. Elena Dionisio Hdez de su respectivo consentimiento, permiso y/o autorización del alumno/a Mariana Sofia Sandra Carballo realice una serie de evaluaciones diagnosticas que analizen los conocimientos adquiridos en el aprendizaje de la lectoescritura Braille a lo largo de su trayectoria académica. De igual forma, estas pruebas nos permitirán desarrollar un curso intensivo el cual el alumno podrá regularizarse e incluso mejorar sus competencias lingüísticas a lo largo de sus estudios. Estas evaluaciones serán de tipo pedagógico, informativo y académico que permitirá dar a conocer datos relevantes para la realización de un estudio experimental que permita el desarrollo de la escritura en Braille en Inglés.

De antemano agradezco su atención.

Acepto

Sí ☒

No ☐

Firma

Elena Dionisio Hdez
C.C



UNIVERSIDAD JUÁREZ
AUTÓNOMA DE TABASCO

"ESTUDIO EN LA DUDA. ACCIÓN EN LA FE"

SECRETARÍA
DE INVESTIGACIÓN,
POSGRADO Y
VINCULACIÓN

DIRECCIÓN
DE INVESTIGACIÓN



2024
Felipe Carrillo
PUERTO

José Víctor López Madrigal
Av. Universidad S/N, Col. Magisterial
Villahermosa, Tabasco, Méx.
211J25037@alumno.ujat.mx
993 348 5339

Vianos A de Febrero del 2024

DIF Tabasco
Centro de Atención Integral a Ciegos y Débiles Visuales (CAICVD)
Felipe Carrillo Puerto 2702, Atasta de Serra
Villahermosa, Tabasco.

Asunto: Carta de Autorización

Estimado Padre de Familia:

Por medio de la presente me dirijo a usted de la manera más respetuosa posible para concebir que el Sr./Sra. Madalina Durán Hernández de su respectivo consentimiento, permiso y/o autorización del alumno/a Ana Milagro Ortiz Madrigal realice una serie de evaluaciones diagnosticas que analizen los conocimientos adquiridos en el aprendizaje de la lectoescritura Braille a lo largo de su trayectoria académica. De igual forma, estas pruebas nos permitirán desarrollar un curso intensivo el cual el alumno podrá regularizarse e incluso mejorar sus competencias lingüísticas a lo largo de sus estudios. Estas evaluaciones serán de tipo pedagógico, informativo y académico que permitirá dar a conocer datos relevantes para la realización de un estudio experimental que permita el desarrollo de la escritura en Braille en Inglés.

De antemano agradezco su atención.

Acepto Sí ☒ No ☐

Firma


C.C



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2024
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211J25037@alumno.ujat.mx
993 348 5339

Jueves 8 de Febrero del 2024

DIF Tabasco

Centro de Atención Integral a Ciegos y Débiles Visuales (CAICVD)

Felipe Carrillo Puerto 2702, Atasta de Serra

Villahermosa, Tabasco.

Asunto: Carta de Autorización

Estimado Padre de Familia:

Por medio de la presente me dirijo a usted de la manera más respetuosa posible para concebir que el Sr./Sra. Maria Remedio Almeida Carriel de su respectivo consentimiento, permiso y/o autorización del alumno/a Mirani Yamileth Sanchez Almeida realice una serie de evaluaciones diagnosticas que analizen los conocimientos adquiridos en el aprendizaje de la lectoescritura Braille a lo largo de su trayectoria académica. De igual forma, estas pruebas nos permitirán desarrollar un curso intensivo el cual el alumno podrá regularizarse e incluso mejorar sus competencias lingüísticas a lo largo de sus estudios. Estas evaluaciones serán de tipo pedagógico, informativo y académico que permitirá dar a conocer datos relevantes para la realización de un estudio experimental que permita el desarrollo de la escritura en Braille en Inglés.

De antemano agradezco su atención.

Acepto

Sí

☒

No

☐

Firma

C.C.

Appendix C.- Spanish Braille Test

viernes 8 de febrero del 2024
Ana Milagros Orozco Madrigal,
a P. y a
checha
8 42 41 3 20 4a
aur en lucier naga 19az
di ca ma hormiga mariposa
mi mamá me mimó mucho tanto que
me quiere mucho
Paco el chato era un niño que vi
vivía en el rancho, al
cumplir 8 años Paco entró
a la escuela de modo que se
fue a vivir con su abuelita a la
ciudad.

[Signature]

Univer
sidad Juárez Autónoma de Tabasco.
México.

Dylan ✓
a f u n g sa che cha ze ✓
a 42 1'3 000 1 aaz ✓
a vien luciernago mariposa jica
ma (h)ormiga
mi mamá me mimaba mucho tanto
que me quería mucho. ✓
poco el chato era un niño que
vivía en el rancho al cumplir
6 años poco después entró a
la escuela

a p y n g
 sa x 1/2 1/2 11a x
 8 113 1a a z
 ablon luciervnaga mariposa
 sica me hormiga
 mí nana memina mucho tanto que
 mequieremicho
 paco el chato heral un niño
 que vibian al cumplir 6 años
 paco debía entrar a ~~de~~ e la.

viernes 14 de Febrero del
2024. Ravel y Guadalupe
Pérez Gómez.

a F. A. G.
30✓ chei chat✓ te✓ ya✓
8 42 113✓ 508✓ laa✓

abían haciernaga mariposa✓
91 ca ma hormiga✓

mí mamá me mínd mucho tanto
que me quiere mucho. ✓

Paco el chato era un niño que
vivía en el rancho. a l
cumplir 6 años Paco debía
entrar a la escuela, de modo
que se fue a vivir con su
abuelita a la ciudad. ✓



4ñ9 sa chē chā yē yñ

af 12 103 28 1990

auñon l u ⑤ ernaga mariposa

ii ca ma hormiga mucho

mi ma ma me mi ma

tanto que me quiere mucho

pa co el cha ta era un niño

que vi u ⑤ en el rancho

al cum baños pa co de ba

entrar a la escuela

afugada ✓ che chaze ✓
laa? abix ✓ n' lucieragal ✓ ma ri po sa ✓ ma
por mi o? = mi mame ma mucho taitoo que
me quiere mucho.
paco el chato era un niño que vivía en el
rancho. al cumplir 15 años papá debí
entrar a la escuela.

✓ ✓ ✓ ✓ ✓
a p y n g x ya
sa che da ce so o idaz
ac 11 31
ab un a usiena ya mariposa
dica ma hormiga
mi mamá me mima mucho
tanto que me quiere mucho
-paco el chato era un niño que
bibia en el rancho
al cumplir seis años paco
debía entrar a la escuela
de modo que se fue a bibir
con su abuelita a la ciudad.

a p y a
 a che cha ze ra
 8 92 113 508 1 a 92
 ab lo x i u z e r n a g a x f a r i p o z a x
 j l c a m a h o r m i g a
 m i m a m e m i m o m u c h o t a n t o
 q u e m e q u i e r e m u c h o .

p a c o e l c h a t o e r a u n n i o q u e
 v i v i a e n e l r a n c h o . a l c u m p l i r
 6 a n o s p a c o d e v i a e n t r a r
 a l a e s c u e l a d e m o d o q u e s e
 f u e a v i v i r c o n s u a b u e l i t a
 a l a c i u d a d .

afuñosa che cha za va
8 42 113 300 1992
ablon vapor naga mavi pasa
jica ma or miga
mi ma má me mí ma macho tanto
que me quiere mucho
paco el chatapeva un niño que
vivía en el ancho
a cumplir 6 años paco de
entrar a la escuela

Appendix D.- Survey Format

Neuro-linguistic Programming (NLP) as an alternative to develop UEB writing learning in EFL classes for blind children.

Encuesta

Instrucciones:

A continuación, corresponderé a leerte una serie de preguntas con sus respectivas respuestas, de modo que dependiendo de cada pregunta tendrás que escoger la respuesta que mejor se acomode para ti. Todas las respuestas serán confidenciales, es decir, nadie sabrá las respuestas de tu encuesta. De igual forma, si en algún momento deseas no terminar la encuesta o simplemente no contestarla, te puedes acercar a mí en cualquier momento.

Datos personales

Instrucciones: A continuación, voy a leerte una pregunta, te voy a dar seis opciones y vas a escoger solamente una, la cual mejor se ajuste a ti.

1) ¿Cuántos años tienes?

☐

8 años

☐

9 años

☐

10 años

☐

11 años

☐

12 años

☐

13 años

Instrucciones: A continuación, voy a leerte varias preguntas, te voy a dar dos opciones y vas a escoger solamente una, la mejor se ajuste a ti.

2) ¿Eres niño o niña?

☐

Niño

☐

Niña

3) ¿Eres débil visual o invidente?

☐

Débil visual

☐

Invidente

Instrucciones: A continuación, voy a leerte una pregunta, te voy a dar cinco opciones y vas a escoger solamente una, la cual mejor se ajuste a ti.

4) ¿Qué día de la semana te corresponde llegar al centro?

☐

Lunes

☐

Martes

☐

Miércoles

☐

Jueves

☐

Viernes

Instrucciones: A continuación, voy a leerte una pregunta, te voy a dar dieciocho opciones y vas a escoger solamente una, la cual mejor se ajuste a ti.

5) ¿En qué municipio del estado de Tabasco vives?

- | | | | | |
|--|--|---------------------------------------|------------------------------------|-------------------------------------|
| ☐ Balancán | ☐ Cárdenas | ☐ Centla | ☐ Centro | ☐ Comalcalco |
| ☐ Cunduacán | ☐ Emiliano Zapata | ☐ Huimanguillo | ☐ Jalapa | |
| ☐ Jalpa de Méndez | ☐ Jonuta | ☐ Macuspana | ☐ Nacajuca | |
| ☐ Paraíso | ☐ Tacotalpa | ☐ Teapa | ☐ Tenosique | |

Instrucciones: A continuación, voy a leerte una pregunta, te voy a dar dos opciones y vas a escoger solamente una, la cual mejor se ajuste a ti.

6) ¿Tu escuela regular es pública o privada?

- ☐ Pública
- ☐ Privada

Instrucciones: A continuación, voy a leerte unas preguntas, te voy a dar seis opciones y vas a escoger solamente una, la cual mejor se ajuste a ti.

7) ¿En qué grado vas en tu escuela regular?

- | | | |
|---------------------------------------|--|---------------------------------------|
| ☐ Primer grado | ☐ Segundo grado | ☐ Tercer grado |
| ☐ Cuarto grado | ☐ Quinto grado | ☐ Sexto grado |

8) ¿Cuántos años llevan aprendiendo Braille?

☐

Un año

☐

Dos años

☐

Tres años

☐

Cuatro años

☐

Cinco años

☐

Seis años

Instrucciones: A continuación, voy a leerte una pregunta, te voy a dar dos opciones y vas a escoger solamente una, la cual mejor se ajuste a ti.

9) ¿Practicas el Braille en tu casa?

☐

Sí

☐

No

Instrucciones: A continuación, voy a leerte una pregunta, te voy a dar dos opciones y vas a escoger solamente una. Si tu respuesta en la primera pregunta es no, proseguirás a responder hasta la pregunta 12.

10) Antes de este curso ¿te había llamado la atención el inglés?

☐

Sí

☐

No

Instrucciones: Sí tu respuesta es sí, en la siguiente pregunta te voy a dar seis opciones y vas a escoger solamente dos, las cuales mejor se ajusten a ti.

11) ¿Qué aspecto influyó en tu interés en el inglés?

- ☐ Familiares y/o amigos
- ☐ Programas de televisión
- ☐ La radio
- ☐ Redes sociales (TikTok, YouTube, Instagram, etc.)
- ☐ Canciones
- ☐ Programas infantiles

Instrucciones: A continuación, voy a leerte una serie de preguntas, te voy a dar dos opciones y vas a escoger solamente una, la cual mejor se ajuste a ti. Si en las preguntas 12 y 13 tu respuesta es no, favor de no responder las preguntas 14 y 15.

12) ¿Has llevado clases de inglés en tu escuela regular?

- ☐ Sí ☐ No

13) ¿Has llevado clases de inglés fuera de tu escuela regular?

- ☐ Sí ☐ No

Instrucciones: A continuación, voy a leerte una pregunta, te voy a dar cuatro opciones y vas a escoger solamente una, la cual mejor se ajuste a ti.

14) ¿Cuál de las siguientes palabras describiría tu experiencia con el inglés antes del curso?

- | | |
|------------------------------------|------------------------------------|
| ☐ Padrísimo | ☐ Agradable |
| ☐ Aburrido | ☐ Horrible |

Instrucciones: Si en las preguntas 12 y 13 tu respuesta es sí, responde la siguiente pregunta. A continuación, voy a leerte una pregunta, te voy a dar seis opciones y puedes escoger hasta tres respuestas, las cuales mejor se ajusten a ti.

15) Antes del curso ¿qué dificultades has tenido en tus clases de inglés?

- ☐ El maestro/a te ignora
- ☐ Los compañeros no te ayudan en clase
- ☐ Tus compañeros se han burlado de ti al participar en clase
- ☐ El maestro/a no sabe trabajar contigo
- ☐ El maestro/a te apoya, pero solo en la parte oral
- ☐ Otra: _____

Método 1: Objetivos (*Outcome technique*)

Instrucciones: A continuación, voy a leerte una serie de preguntas, te voy a dar dos opciones y vas a escoger solamente una, la cual mejor se ajuste a ti.

1. ¿Los temas te ayudaron a aprender inglés de una manera más fácil?

☐

Sí

☐

No

2. ¿El ritmo de la clase te facilitó a aprender más rápido el inglés?

☐

Sí

☐

No

3. ¿El maestro resolvió todas tus dudas en clase?

☐

Sí

☐

No

Método 2: Interacción (*Rapport technique*)

Instrucciones: A continuación, voy a leerte una serie de preguntas, te voy a dar dos opciones y vas a escoger solamente una, la cual mejor se ajuste a ti.

1. ¿Cómo describirías la relación entre el maestro y tú?

☐

Buena

☐

Mala

2. ¿Te sentías cómodo al participar en clase?

☐

Sí

☐

No

3. ¿El maestro te pedía consejos y recomendaciones para las siguientes clases?

☐

Sí

☐

No

4. ¿El maestro incorporaba las sugerencias que le dabas?

☐

Sí

☐

No

5. ¿La actitud del maestro influyó en tu participación en clase?

☐

Sí

☐

No

6. Antes de iniciar el curso de inglés ¿qué actitud tenías al escribir en Braille?

☐

Positiva

☐

Negativa

7. Al final del curso ¿Qué actitud tuviste respecto al escribir en Braille?

☐

Positiva

☐

Negativa

8. ¿La actitud positiva influyó en tu participación en clase?

☐

Sí

☐

No

Método 3: Ambiente (*Anchor technique*)

Instrucciones: A continuación, voy a leerte una serie de preguntas, te voy a dar dos opciones y vas a escoger solamente una, la cual mejor se ajuste a ti.

1. ¿El uso de un libro en Braille me facilitó a aprender a escribir palabras en inglés?

☐

Sí

☐

No

2. ¿El dictado me ayudó a mejorar mi ortografía en el inglés?

☐

Sí

☐

No

3. ¿El uso del “Brailin” me ayudó a aprenderme el alfabeto y signos ortográficos en inglés?

☐ Sí

☐ No

4. ¿El juego “Simón dice” me ayudó a aprenderme palabras en inglés?

☐ Sí

☐ No

Método 4: Experiencia (*Modeling technique*)

Instrucciones: A continuación, voy a leerte una serie de preguntas, te voy a dar dos opciones y vas a escoger solamente una, la cual mejor se ajuste a ti.

1. ¿Las actividades en clase te ayudaron a aprender inglés más rápido?

☐ Sí

☐ No

2. ¿Tomabas en cuenta las sugerencias del profesor en la clase?

☐ Sí

☐ No

3. ¿Tomabas en cuenta las sugerencias del profesor en otras materias?

☐ Sí

☐ No

Instrucciones: A continuación, voy a leerte una pregunta, te voy a dar cuatro opciones y vas a escoger solamente una, la cual mejor se ajuste a ti.

4. ¿Qué te parecieron las clases de inglés?

☐ Padrísimo

☐ Agradable

☐ Aburrido

☐ Horrible

5. ¿Quieres seguir aprendiendo inglés?

☐ Sí

☐ No

¡Pasu mecha! ¿ya acabaste puej? Muchisimas gracias por haber respondido esta encuesta. La comunidad científica y yo agradecemos de todo corazón tu participación en este curso introductorio al idioma inglés. Tu opinión importa ¡y mucho! Ya que gracias a ella podemos seguir construyendo a un México más inclusivo.

Appendix E.- Survey Results

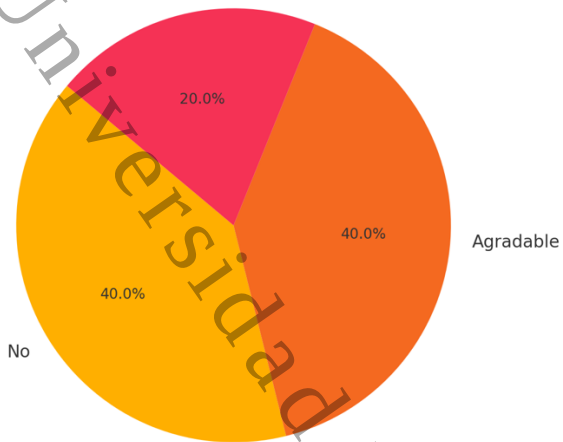
Participants	1.- Personal Information							
	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7	Item 8
1	10	niño	Invidente	Jueves	Comalcalco	Privada	Cuarto Grado	5 años
2	9	niño	Invidente	Jueves	Jalpa de Mendez	Pública	Tercer Grado	5 años
3	12	niño	Invidente	Miercoles	Emiliano Zapata	Pública	Sexto Grado	6 años
4	10	niño	Invidente	Jueves	Comalcalco	Privada	Cuarto Grado	5 años
5	9	niña	Invidente	Jueves	Chiapas	Pública	Cuarto Grado	5 años
6	10	niña	Invidente	Viernes	Tenosique	Pública	Sexto Grado	6 años
7	13	niña	Invidente	Miercoles	Centro	Privada	Quinto Grado	6 años
8	11	niña	Invidente	Lunes	Tacotalpa	Pública	Quinto Grado	6 años
9	11	niña	Invidente	Viernes	Cunduacán	Pública	Quinto Grado	6 años
10	8	niña	Invidente	Viernes	Centro	Pública	Tercer Grado	4 años

Personal Information								Outcome
Item 9	Item 10	Item 11	Item 12	Item 13	Item 14	Item 15		Item 16
Sí	Sí	Familia y amigos	Sí	Sí	Aburrido	El maestro me apoya pero solo en la parte oral		Sí
Sí	Sí	Familia y amigos	No	No				Sí
Sí	No		No	No				Sí
Sí	Sí	Familia y amigos	Sí	Sí	Agradable	Los compañeros no te ayudan en clase		Sí
No	Sí	Redes sociales	No	Sí	Agradable	Los compañeros no te ayudan en clase		Sí
No	Sí	Canciones	Sí	Sí	Padrisimo	Los compañeros no te ayudan en clase		Sí
Sí	No		No	No				No
Sí	Sí	Canciones	Sí	Sí	Agradable	El maestro te ignora		Sí
Sí	Sí	Redes sociales	No	No				Sí
No	Sí	Familia y amigos	Sí	No	Aburrido	Los compañeros no te ayudan en clase		Sí

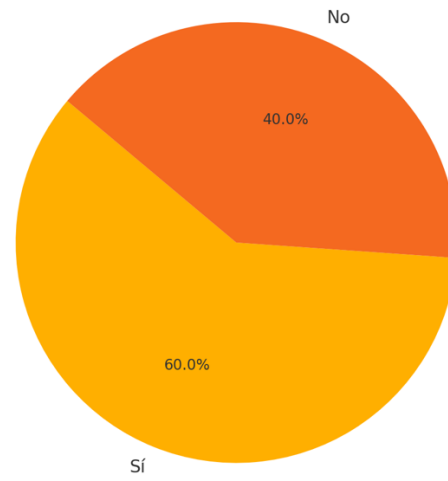
Sections									
Outcome approach			Rapport technique						
Item 16	Item 17	Item 18	Item 19	Item 20	Item 21	Item 22	Item 23	Item 24	Item 25
Sí	Sí	Sí	Buena	Sí	Sí	Sí	Sí	Positiva	Positiva
Sí	Sí	Sí	Buena	Sí	No	No	Sí	Positiva	Positiva
Sí	Sí	Sí	Buena	Sí	Sí	Sí	Sí	Positiva	Positiva
Sí	Sí	Sí	Buena	Sí	Sí	Sí	Sí	Positiva	Positiva
Sí	Sí	Sí	Buena	Sí	Sí	No	Sí	Negativa	Positiva
Sí	Sí	Sí	Buena	Sí	Sí	Sí	Sí	Positiva	Positiva
No	Sí	Sí	Buena	Sí	No	No	Sí	Negativa	Positiva
Sí	Sí	Sí	Buena	Sí	Sí	Sí	Sí	Positiva	Positiva
Sí	Sí	Sí	Buena	Sí	Sí	Sí	Sí	Positiva	Positiva
Sí	Sí	Sí	Buena	Sí	Sí	Sí	Sí	Negativa	Positiva

Anchor technique									
Anchor technique					Modeling technique				
Item 26	Item 27	Item 28	Item 29	Item 30	Item 31	Item 32	Item 33	Item 34	Item 35
Sí	Sí	Sí	Sí	Sí	Sí	Sí	Sí	Padrisimo	Sí
Sí	Sí	Sí	Sí	Sí	Sí	Sí	No	Agradable	Sí
Sí	No	Sí	Sí	Sí	Sí	Sí	Sí	Agradable	No
Sí	Sí	Sí	Sí	Sí	Sí	Sí	Sí	Padrisimo	Sí
Sí	Sí	Sí	Sí	Sí	Sí	Sí	Sí	Agradable	Sí
Sí	Sí	Sí	Sí	Sí	Sí	Sí	No	Padrisimo	Sí
No	Sí	Sí	Sí	Sí	Sí	Sí	No	Agradable	Sí
Sí	Sí	Sí	Sí	Sí	Sí	Sí	No	Padrisimo	Sí
Sí	Sí	Sí	Sí	Sí	Sí	Sí	Sí	Agradable	Sí
Sí	Sí	Sí	Sí	Sí	Sí	Sí	No	Padrisimo	Sí

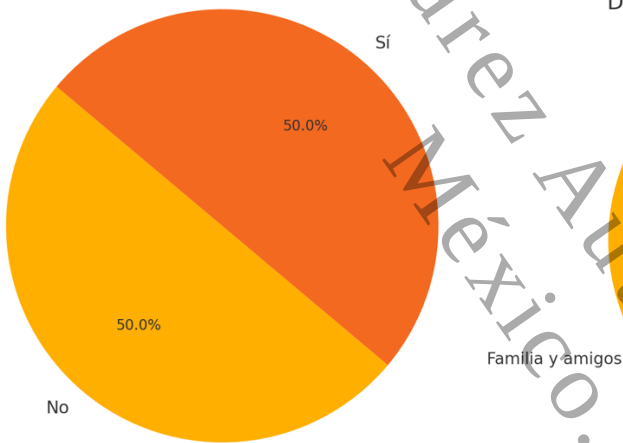
Distribución de respuestas en Item 14



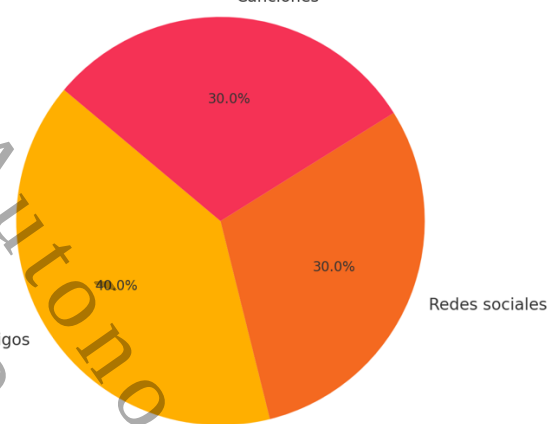
Distribución de respuestas en Item 13



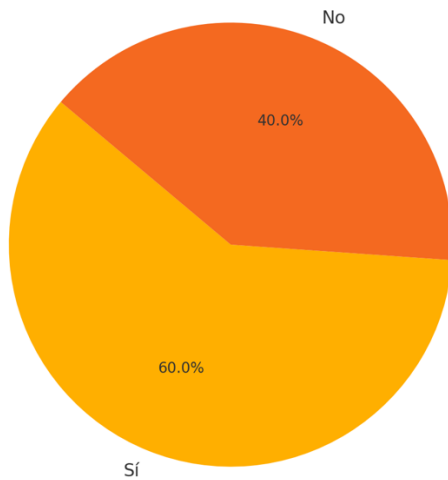
Distribución de respuestas en Item 12



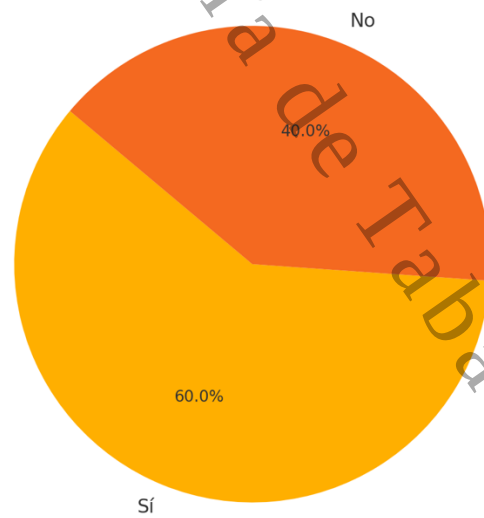
Distribución de respuestas en Item 11

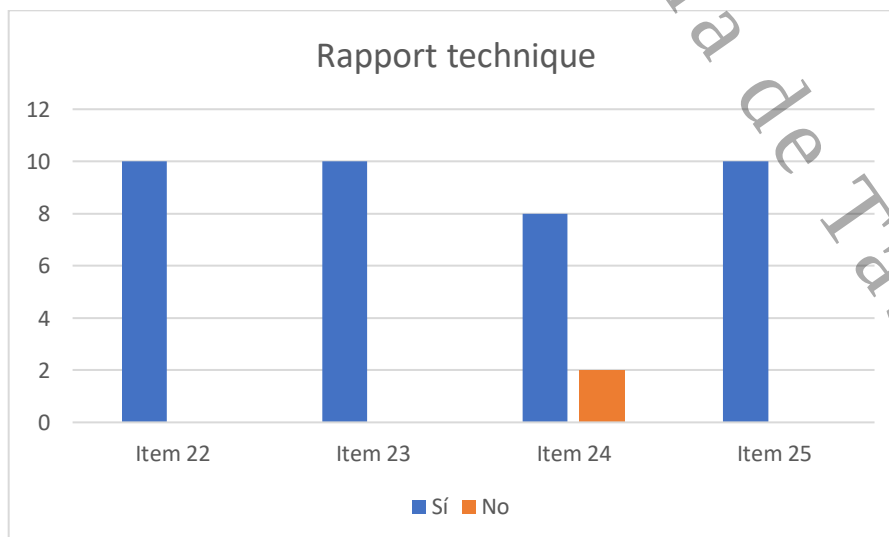
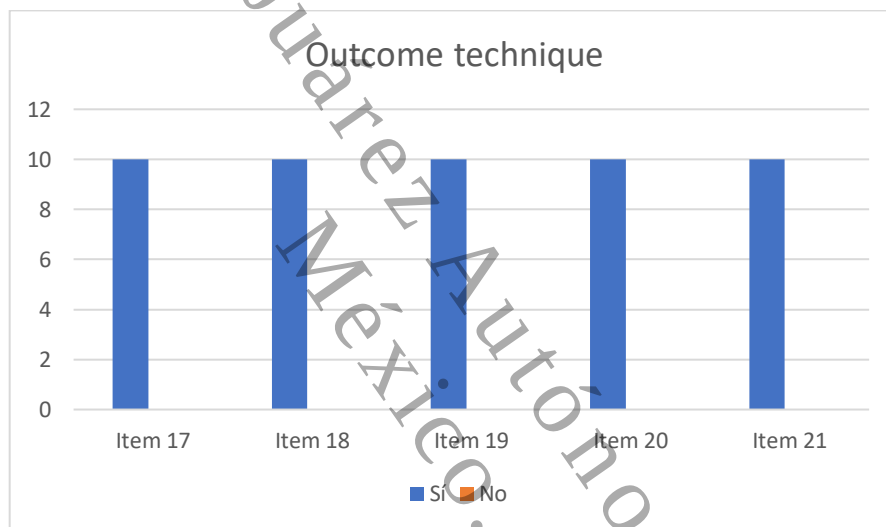
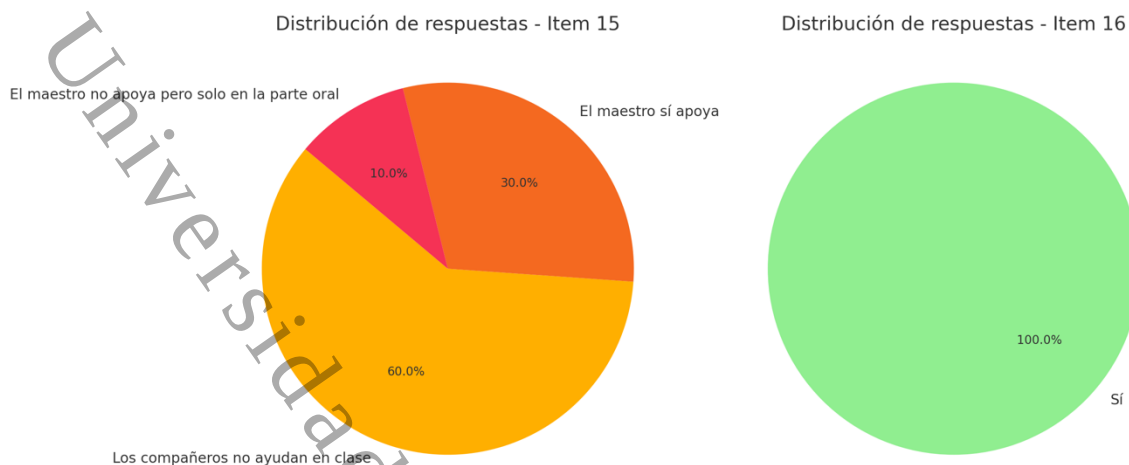


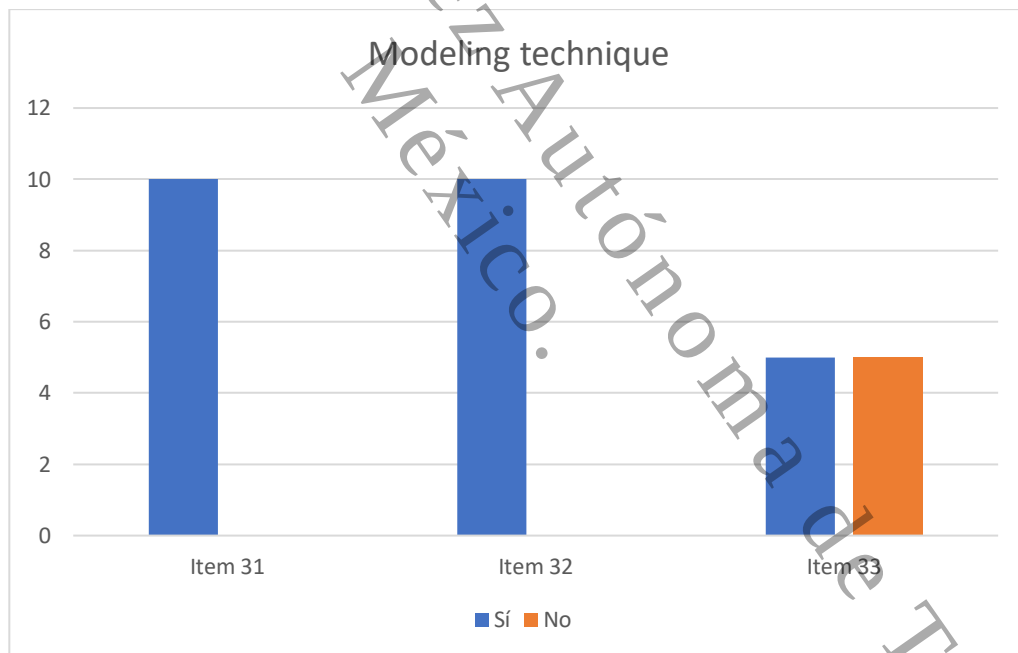
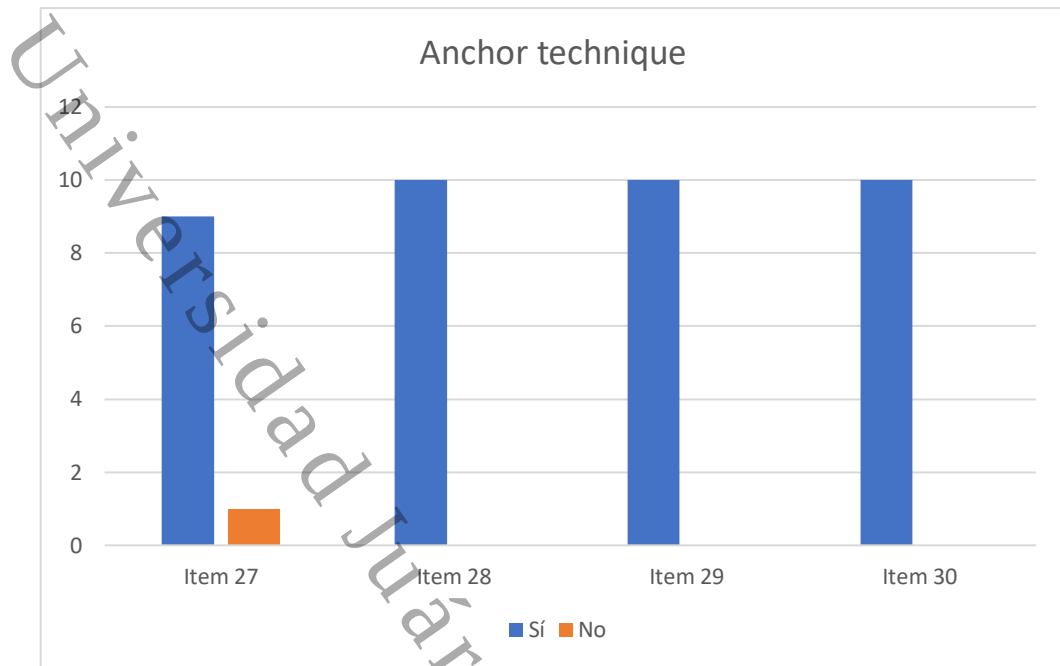
Distribución de respuestas en Item 10

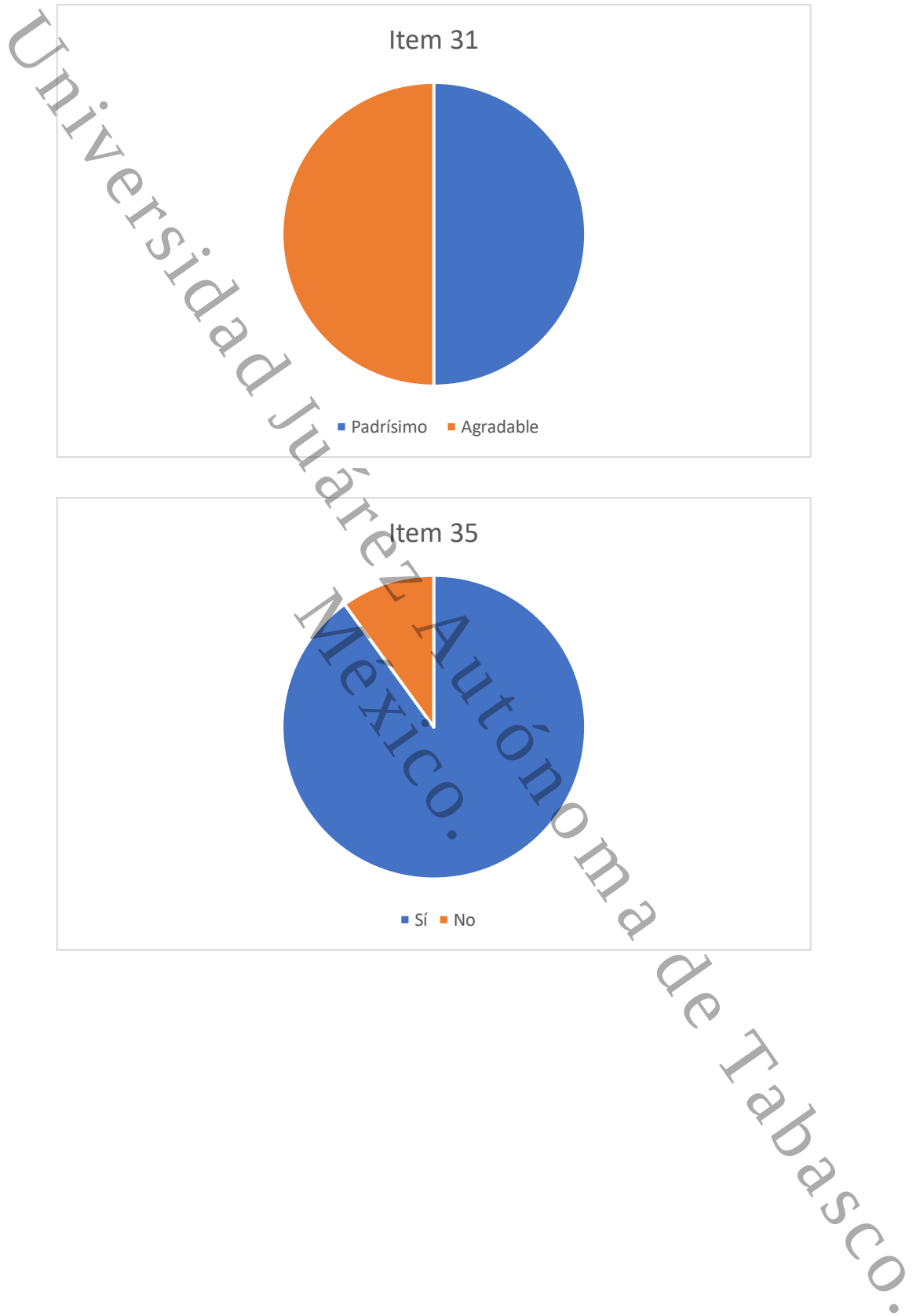


Distribución de respuestas en Item 9

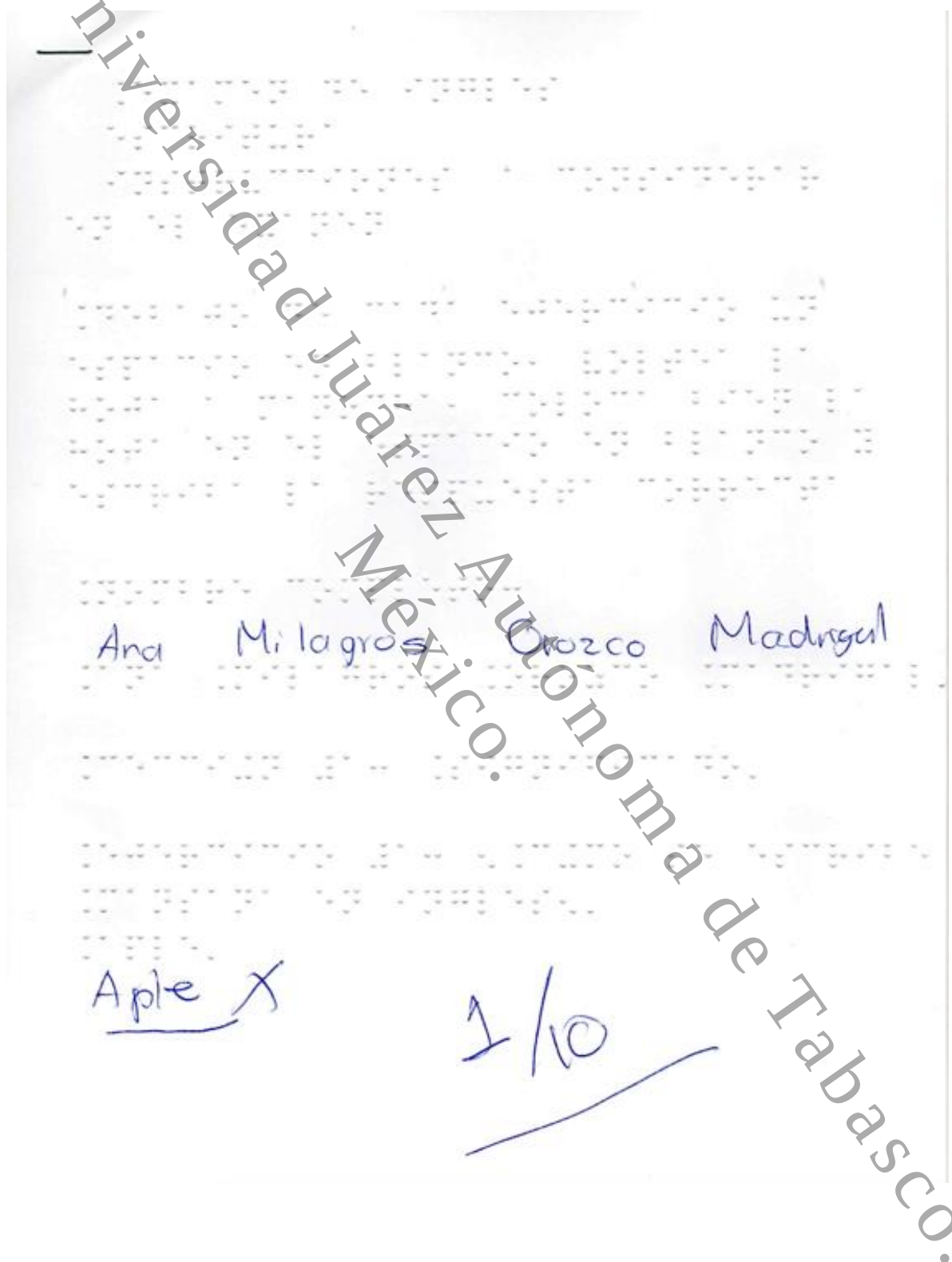








Appendix F.- Pre-test



Axel Matías Cerino Martínez

1. Apol X
2. reina ✓
3. la remero 2 X
dor. X portal de dul

Brao tslet X

abaquius X

Atryi X

dor X

cheor X

1 / 10

México.

Universidad Juárez Autónoma de Tabasco.

Unidad 1
1. apol X
2. reina ✓
3. wawermelo pora X?
dor X
brel 5 lei + X
abaco 5 ✓
fri X
dor X
cher X

2/10

Universidad Juárez Autónoma de Tabasco.
México.

Universidad Juárez Autónoma de Tabasco.

Jesús Francisco Cabrera

Quando

manzana ? X

0/0

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Karelu Guadalupe

Pérez Gómez

1/10

Aple X

nô sé X

Universidad Juárez Autónoma de Tabasco.
México.

mariana sofía sanchez
Carballe

apoi X

0/0

0/10

Universidad Juárez Autónoma de Tabasco.

Mirara Yamilet Sánchez

Almeida

0

Universidad Juárez Autónoma de Tabasco.

1/20

Rosa Isela de la Cruz

Bautista

X

Universidad Juárez Autónoma de Tabasco.

Yeyetz Iocabel García

Potenciando

2.

Aple X

Oso X

9/10

Zaid Reyes de la Cruz

1- R: aple X

2- R: elefante - X

3- R:

3arver melon

Gua de ? X

1- dor X

R:

Brail o p e t X

abawo ✓

5r

dor X tri

cher X

1/10

México.

Juárez Autónoma de Tabasco.

Appendix G.- Posttest

Ana Milagros Orozco Madrigal

Apple ✓

queen - reina ✓

watermelon ✓ Sandra ✓

door ✓ puerta ✓

Braille slate ✓

abacus ✓

Door ✓

chair ✓

three ✓

10

ms

Arrel Matías Cerno Martínez
apple ✓
queen reinal ✓
watermelon X
door ✓
breil sleet X
abagius X
door ✓
chert
three ✓

5/10 ✓

Universidad Juárez Autónoma de Tabasco.
México.

Pyran Reyes de la Cruz

apple ✓

reina ✓

watermelon ✓ sandia ✓
door ✓

Braille eslate X

abaqus ✓
door ✓

tree X

charv ✓

8

10

México.

8/10

Universidad Juárez Autónoma de Tabasco.

Univesidad Juárez Autónoma de Tabasco.

Jesús Francisco Cabrera

Ovenelo
apple ✓
reinal ✓
waverenob X
sandra ✓
door ✓
pveita ta
breylegleit X
regreta
abawre X
door ✓
three ✓
tres
chanar ✓ X
sila

6/10 ✓

Karely Guadalupe Pérez
Gomez ✓
apple ✓
reina ✓
watermelon - sandía ✓
door ✓
Braille slate ✓
abaws ✓
door ✓
three ✓
chair ✓

10/10

México.

Universidad Juárez Autónoma de Tabasco.

Mariana Sofia Sánchez

Carballo

apple ✓

queen reina ✓

waterpendia sandia ✓

door puerta

Braille oldate X

aacus X

door ✓

chair ✓

three ✓

7/10

México. Juárez Autónoma de Tabasco.

Univerisidad Juárez Autónoma de Tabasco.

mirari yamileth Sanchez
Almeida
apple ✓
queen reina ✓
watermelon ✓
door ✓
braille slant X
abaco X
door ✓
chair ✓
three ✓

9/10

Rosa Isela de la Cruz

Bautista ✓
apple ✓
reina ✓ X
wademelo zandig X
door ✓
puerta
braille ✓ selex
abacus ✓
door
three ✓
chair ✓

7/10

México.

Univesidad Juárez Autónoma de Tabasco.

Universidad Juárez Autónoma de Tabasco.

meyeren Tocated Garra
 Potenciano apple ✓
 queen rena ✓
 water melon sandra ✓
 door ✓ puerta
 a braile grade slate X
 Abacos ✓
 door → three
 chador X

8/10

Zaid Reyes de la Cruz

apple ✓

reingr

water melon - Sandra
door ✓

braille slate

abacis ✓
door ✓

door ✓

three

chair ✓

$$10/10$$

México

Zaid Reyes de la Cruz

apple ✓

reins ✓ ✓

watermelon - Sandra ✓

door ✓

braille slate ✓

abaas ✓

door ✓

three ✓

chair ✓

10 / 10

México.

Universidad Juárez Autónoma de Tabasco.

Appendix H.- UEB code Test results

Pre-test

Instrument #2										
Pre-Test										
Items										
Participants	Section 1: Vocabulary					Section 2: Dictation				
	Exercise 1	Exercise 2	Exercise 3	Section Score	Score %	Exercise 4	Exercise 5	Exercise 6	Section Score	Score %
Mariana Sofía Sánchez Carballo	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zaid Reyes de la Cruz	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	33.33
Mirari Yamileth Sánchez Almeida	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Axel Matías Cerino Martínez	0.00	1.00	0.00	1.00	25.00	0.00	0.00	0.00	0.00	0.00
Dylan Reyes de la Cruz	0.00	1.00	0.00	1.00	25.00	0.00	0.00	1.00	1.00	33.33
Ana Milagros Orozco Madrigal	0.00	0.00	1.00	1.00	25.00	0.00	0.00	0.00	0.00	0.00
Yeyetzy Jocabed García Potenciano	0.00	0.00	2.00	2.00	50.00	1.00	0.00	0.00	1.00	33.33
Jesús Francisco Cabrera Ovando	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Karely Guadalupe Pérez Gómez	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	33.33
Rosa Isela de la Cruz Bautista	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	33.33
Mean	0.00	0.20	0.30	0.50	12.50	0.10	0.00	0.40	0.50	16.67
SD	0.00	0.42	0.67	0.71	17.68	0.32	0.00	0.52	0.53	17.57
Mode	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Median	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50	16.67

Instrument #2										
Pre-Test										
Items										
Section 3: Pronunciation					Other features					
Exercise 7	Exercise 8	Exercise 9	Section Score	Score %	Final score	Score%	Time			
0.00	0.00	0.00	0.00	0.00	0.00	0.00				
0.00	0.00	0.00	0.00	0.00	1.00	10.00	0.89			
0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00			
0.00	0.00	0.00	0.00	0.00	1.00	10.00	0.84			
0.00	0.00	0.00	0.00	0.00	2.00	20.00	0.93			
0.00	0.00	0.00	0.00	0.00	1.00	10.00	0.65			
0.00	1.00	0.00	1.00	33.33	4.00	40.00	0.73			
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.82			
0.00	0.00	0.00	0.00	0.00	1.00	10.00	0.59			
0.00	0.00	0.00	0.00	0.00	1.00	10.00	0.82			
0.00	0.10	0.00	0.10	3.33	1.10	11.00	0.81			
0.00	0.32	0.00	0.32	10.54	1.20	11.97	0.13			
0.00	0.00	0.00	0.00	0.00	1.00	10.00	#N/D			
0.00	0.00	0.00	0.00	0.00	1.00	10.00	0.82			

Posttest results

Instrument #3											
Post-Test											
Participants	Items										
	Section 1					Section 2					
	Exercise 1	Exercise 2	Exercise 3	Section Score	Score %	Exercise 4	Exercise 5	Exercise 6	Section Score	Score %	
Mariana Sofia Sánchez Carballo	1.00	1.00	1.00	3.00	75.00	1.00	0.00	0.00	1.00	33.33	
Zaid Reyes de la Cruz	1.00	1.00	2.00	4.00	100.00	1.00	1.00	1.00	3.00	100.00	
Mirari Yamileth Sánchez Almeida	1.00	1.00	2.00	4.00	100.00	1.00	0.00	0.00	1.00	33.33	
Axel Matías Cerino Martínez	1.00	1.00	0.00	2.00	50.00	1.00	0.00	1.00	2.00	66.67	
Dylan Reyes de la Cruz	1.00	1.00	2.00	4.00	100.00	1.00	0.00	1.00	2.00	66.67	
Ana Milagros Orozco Madrigal	1.00	1.00	2.00	4.00	100.00	1.00	1.00	1.00	3.00	100.00	
Yeyetzty Jocabed García Potenciano	1.00	1.00	2.00	4.00	100.00	1.00	0.00	1.00	2.00	66.67	
Jesús Francisco Cabrera Ovando	1.00	1.00	1.00	3.00	75.00	1.00	0.00	0.00	1.00	33.33	
Karely Guadalupe Pérez Gómez	1.00	1.00	2.00	4.00	100.00	1.00	1.00	1.00	3.00	100.00	
Rosa Isela de la Cruz Bautista	1.00	1.00	0.00	2.00	50.00	1.00	0.00	1.00	2.00	66.67	
Mean	1.00	1.00	1.40	3.40	85.00	1.00	0.30	0.70	2.00	66.67	
SD	0.00	0.00	0.84	0.84	21.08	0.00	0.48	0.48	0.82	27.22	
Mode	1.00	1.00	2.00	4.00	100.00	1.00	0.00	1.00	2.00	66.67	
Median	1.00	1.00	2.00	4.00	100.00	1.00	0.00	1.00	2.00	66.67	
T-test		0.00020	0.00324	0.00001	0.00001	0.00001	0.08113	0.08113	0.00009	0.00009	

Items												
Section 2					Section 3							
Exercise 4	Exercise 5	Exercise 6	Section Score	Score %	Exercise 7	Exercise 8	Exercise 9	Section Score	Score %	Final score	Score %	Time
1.00	0.00	0.00	1.00	33.33	1.00	1.00	1.00	3.00	100.00	7.00	70.00	0.77
1.00	1.00	1.00	3.00	100.00	1.00	1.00	1.00	3.00	100.00	10.00	100.00	0.52
1.00	0.00	0.00	1.00	33.33	1.00	1.00	1.00	3.00	100.00	8.00	80.00	0.60
1.00	0.00	1.00	2.00	66.67	1.00	0.00	1.00	2.00	66.67	6.00	60.00	0.59
1.00	0.00	1.00	2.00	66.67	1.00	0.00	1.00	2.00	66.67	8.00	80.00	0.57
1.00	1.00	1.00	3.00	100.00	1.00	1.00	1.00	3.00	100.00	10.00	100.00	0.36
1.00	0.00	1.00	2.00	66.67	1.00	1.00	0.00	2.00	66.67	8.00	80.00	0.45
1.00	0.00	0.00	1.00	33.33	1.00	1.00	0.00	2.00	66.67	6.00	60.00	0.54
1.00	1.00	1.00	3.00	100.00	1.00	1.00	1.00	3.00	100.00	10.00	100.00	0.30
1.00	0.00	1.00	2.00	66.67	1.00	1.00	1.00	3.00	100.00	7.00	70.00	0.49
1.00	0.30	0.70	2.00	66.67	1.00	0.80	0.80	2.60	86.67	8.00	80.00	0.52
0.00	0.48	0.48	0.82	27.22	0.00	0.42	0.42	0.52	17.21	1.56	15.63	0.13
1.00	0.00	1.00	2.00	66.67	1.00	1.00	1.00	3.00	100.00	10.00	100.00	#N/D
1.00	0.00	1.00	2.00	66.67	1.00	1.00	1.00	3.00	100.00	8.00	80.00	0.53
0.00001	0.08113	0.08113	0.00009	0.00009	#DIV/0!	0.00132	0.00020	0.00000	0.00000	0.000000680	0.000000060	0.02220
Voc-Dict	0.0728											
Voc-Pro	0.8383											
Dict-Pro	0.0510											

Appendix I: Semi-structured Interview group

Entrevista Semi-Estructurada grupal

Instrumento de Investigación de carácter Cualitativo

Est. José Víctor López Madrigal

Licenciatura en Idiomas

Objetivo del instrumento

El objetivo de este instrumento de investigación de carácter cualitativo es analizar la percepción de los participantes en la implementación de la Programación Neurolingüística enfocado en el aprendizaje de la escritura del Braille Inglés Unificado (UEB) en el aula de L2 aplicado en niños de primaria con condición de ceguera en el suroeste mexicano.

Instrucciones a considerar: A continuación, el moderador va a hacerte una serie de preguntas. Responde de la manera más honesta y sensata posible. Recuerda que tus respuestas son confidenciales y si en algún momento no decides continuar, favor de acercarse a un servidor o por medio de la maestra titular del área.

Categoría 1: Datos sociodemograficos

1. ¿Cuántos años tienes?
2. ¿Dónde vives?
3. ¿Con quienes vives?
4. ¿A que se dedican tus papás?
5. ¿Tienes hermanos?

Categoría 2: Apoyo familiar

1. ¿Quién te cuida más?
2. ¿Quién te ayuda a hacer tarea?
3. ¿Quién te ayuda a asearte?
4. ¿Tu familia te motiva a salir adelante?
5. ¿Cómo te trata tu familia?

Categoría 3: Experiencia en la escuela regular

1. Tu escuela regular ¿Es pública o privada?
2. ¿Cómo son las clases?
1. ¿Qué les pone a hacer el maestro/a?
2. ¿Qué materiales didácticos usan en clase?
3. ¿Cómo te trata tu maestro/a?
4. ¿Tu maestro/a tiene conocimientos del Braille?
5. ¿Cómo te tratan tus compañeros?
6. ¿Te dejan tarea?
7. ¿Y como la haces?
8. ¿Cómo fue tu experiencia al aprender el Braille?
9. ¿Te gusta ir a tu escuela regular?

Categoría 4: Experiencia en el Aprendizaje del idioma Inglés

1. ¿Has llevado clases de inglés en tu escuela regular?
2. ¿Has llevado clases de inglés de manera particular?

Si la respuesta es sí, no responder las preguntas 1 y 5:

1. ¿Cómo eran esas clases?
2. En esas clases ¿Qué hacían con el maestro/a?
3. ¿Y que te parecieron estas clases?
4. ¿Te gustaron?
5. ¿Por qué?
6. Y en estas clases ¿Qué hacían?

7. ¿Cómo se sintieron al escribir en inglés?
8. ¿Te gusto?
9. ¿qué se les facilitó/dificultó?
10. ¿Qué es más fácil: escribir en Braille en español o en inglés?
11. ¿Por qué?
12. ¿Hay diferencias al escribir en braille tanto español como en inglés?
13. ¿Necesitan más tiempo para seguir aprendiendo a escribir el Braille?
14. ¿Cómo sintieron las actividades?
15. ¿Les gusto las actividades?
16. ¿Cuáles fueron sus favoritas?
17. ¿Cuáles no les gustaron?
18. ¿Qué opinaban tus papás respecto a las clases?
19. ¿Qué sugerencias darías para tener mejores clases?
20. ¿Qué materiales se te facilitan más?
21. ¿Qué materiales sugerirías que se implementaran en futuras clases?

Categoría 5: Programación Neurolingüística

22. ¿Cómo describirías la relación entre tus compañeros?
23. ¿Cómo describirías la relación con tus compañeros de tu escuela regular?
24. ¿Cómo describirías la relación entre tu profesor y tu?
25. ¿Cómo describirías la relación entre tu maestro de la escuela regular y tu?

26. ¿Crees que una mejor comunicación entre tus compañeros y tu es importante al aprender el inglés?
27. ¿Crees que una buena relación entre tu profesor y tu son importantes para aprender el inglés?
28. ¿Consideras que los materiales didácticos ayudaron a aprender mejor el idioma?
29. ¿Cómo sentiste el ritmo de la clase?
30. ¿Consideras que lo aprendido en clase lo puedas llevar a cabo en otros aspectos de tu vida?
31. ¿Crees que tu actitud determina tu interés al aprender el idioma inglés?
32. ¿Crees que tu discapacidad visual influye en el aprendizaje del idioma inglés?
33. ¿Consideras que tu discapacidad visual es una limitante para aprender el idioma inglés?
34. Describe en una palabra tu experiencia al aprender el idioma inglés.
35. ¿Te gustaría seguir aprendiendo inglés?

Nomenclatura de los participantes:

Grupo 1:

Rosa Isela de la Cruz Bautista – PF1

Jesús Francisco Cabrera Ovando – PM1

Grupo 2:

Mirari Yamilet Sanchez Almeida – PF2

Dylan Reyes de la Cruz - PM2

Zaid Reyes de la Cruz – PM3

Alex Matias Cerino Martínez – PM4

Grupo 3:

Ana Milagros Orozco Madrigal – PF3

Karely Guadalupe Pérez Gómez – PF4

Appendix J.- Transcriptions

First Laboratory Group

Entrevista

Objetivo: Rescatar las percepciones de los participantes de la respectiva intervención previa del uso de la Programación Neurolingüística como una alternativa para la enseñanza del sistema Braille Inglés Unificado (UEB) en clases de inglés enfocado en niños con condición de ceguera.

Duración de la entrevista: 20:54 minutos

Fecha de realización: Miércoles 3 de Julio del 2024

Lugar de la entrevista: Centro de Atención Integral a Ciegos y Débiles Visuales (CAICDV).

Datos generales del entrevistado:

Entrevistador: Est. José Víctor Lopez Madrigal (L1-DI)

Entrevistados: PM1: Jesús Francisco Ovando López

PF1: Rosa Isela de la Cruz Bautista

Edad: PM1: 11 años

PF1: 13 años

Condición de discapacidad:

PM1: Discapacidad Visual con condición de ceguera

PF1: Discapacidad Visual con condición de ceguera

Diagnosticos: PM1: Retinopatía del Prematuro Grado V

PF1: Glaucoma

Entrevista:

L1: Miércoles 3 de julio del año 2024, hora 11:07 minutos, con los participantes para la entrevista semi-estructurada grupal con los participantes del grupo...de la... del estudio cuasi-experimental de laboratorio grupo 1, con los participantes PF1 Y PM1. Pregunta

número 1... Categoría 1: Datos sociodemográficos... **¿Cuántos años tienen? ... ¿chicos?**

PF1: 13

PM1: 12

L1: **¿Dónde viven?**

PM1: Emiliano Zapata

L1: **¿Y tu rosita?**

PF1: Municipio del Centro

L1: **¿Con quienes viven?**

PF1: Con mi papá y mi hermano.

PM1: Mi mamá y mi hermano

L1: Ok, **¿A qué se dedican sus papás?**

PM1: Mi mamá nada...

L1: **¿Ama de casa?**

PM1: Ama de casa pero...

PF1: Albañilería y vendedor de agua

L1: ¡Ah! Okay

PM1: Quiero un papá así

L1: Y **¿tienen hermanos?**

PM1: Sí

PF1: 2

L1: ¡Ah! Okay. Categoría 2: Apoyo Familiar. **¿Quién te cuida más?**

PM1: Mí abuela

PF1: Mí papá

L1: Okay

PM1: Mi abuela porqué mi mamá, la mayoría en el tiempo se la pasa en el celular.

L1: **¿Quién te ayuda a hacer la tarea?**

PM1: Yo

PF1: Nadie

L1: ¡Okay! Nadie

PM1: Yo, y la Alexa, y a veces mi mamá, y es raro pero de una vez.

L1: Mmm... **¿Entonces tú utilizas recursos tecnológicos para hacer tus tareas?**

PM1: Sí

L1: Ah okay **¿y tu Rosita?**

PF1: No

L1: ¡Ah okay! Este de... **¿quién te ayuda a asearte?**

PF1: Nadie

PM1: Nadie

L1: Nadie... **¿son independientes en esa parte verdad?**

PF1: Sí

PM1: Yo... me dejaron de ayudar desde los cinco años.

L1: Okay **¿Tu familia te motiva a salir adelante?**

PM1: Sí

PF1: No

L1: Okay **¿cómo les trata su familia?**

PF1: Mas o menos

L1: **¿Mas o menos?**

PM1: Pues ahora, una parte de mi familia se lleva bien comingo, y la otra parte esta mal de la familia.

L1: **¿Se puede saber a que se debe eso?**

PM1: ¡No!

L1: Ah ok... No se preocupen.

PM1: Solo te lo he dicho a ti ...

L1: No...no No se preocupen. ¿Rosita?

PF1: Mmm... Porque tengo entendido que por ser discapacitada no tengo... Voto.

L1: Ah... okay que bueno, ahorita vamos a hablar de eso. Categoría 3: Experiencia en su escuela regular. **¿tu escuela regular es pública o privada?**

PF1: Pública

PM1: Pública

L1: **¿Cómo son sus clases?**

PM1: Pues...

L1: **¿Cómo es la dinamica con sus maestros?**

PM1: Tarea...

PF1: No sé

PM1: ¿Cómo que dinamica?

F1: Osea... **¿Qué les pone a hacer el maestro?**

PM1: Tarea... Tarea y más tarea.

L1: **¿Tarea? ¿Cómo es la dinámica en su clase?** Osea, cuando estan en su salon de clases **¿Qué les pone a hacer el maestro?**

PM1: Ya no me acuerdo

PF1: Mmm... A mí... en mi clase me dictan... o si no ... cuando es tarea en el libro no me pone a hacer nada.

L1: Ahh... ya

PM1: Igual a tampoco, igual a mi... me...me dicen que vaya escribiendo tal...tal cosa y ya.

L1: Ah... ok **¿Tiene acceso a sus libros en Braille?**

PM1: Sí

PF1: No

L1: No... ok

PM1: Bueno yo ya no porque se los regale a la maestra

L1: Si... bueno Y en este caso Cuando estan en clase **¿Qué materiales didácticos utilizan? ¿regleta, punzón, Maquina perkins?¿qué utilizan?**

PM1: Maquina Perkins

PF1: Regleta y punzón

MP1: Maquina Perkins

L1: **¿Hojas tambien no?**

PM1. Sí

PF1: Sí

L1: Este de... **¿Qué más?... ¿Nada más?... orale, ¿libros?...**

PM1: No

L1: Ok... Bueno... eh... **¿Sus maestros tienen conocimientos del braille?**

Ambos: No

L1: ¿Ni la de educación especial?

PF1: Sí

PM1: Ella si pero...

L1: **¿les apoya en si en cierta manera?**

PM1: No

PF1: La mía es más floja Que quien sabe Que cosa.

L1: Ah... ok

PM1: Mi maestra es raro que me de clases y cuando me da clases... ahí se la pasa platicando me la pasa diciendo de mis problemas ¡Que le importa!

L1: Ah... ok. Esta bien

PF1: Mi maestra se la pasa en el telefono cada que (no se entiende)

L1: Ok...

PM1: Ay que horrible cuando estas hablando Y nadie te presta atención Y a ver si la maestra Hacia el pico Y estaba asi... Con el celular en la mano... y le digo ¿me esta escuchando? Si... Agh...

L1: **¿Ustedes creen que ese es igual un problema?** Que a veces las personas No les ponen atención...

PM1: Pues obvio

L1: En su escuela osea... **¿cuando quieren aprender?**

PM1: En mi escuela igual

L1: Ah... ok Bueno... Este de.... **¿Cómo les tratan sus compañeros?**

PM1: Uhm... como si fuera un bebé

L1:

PF1: En mi caso mitad bien y mitad mal ...

PM1: Bueno a mi me tratan mas o menos, Bueno... hay unos niños que se me han pasado... Que me han hecho bromas...a veces

L1: Okay...

PM1: Osea me han hecho bromas pero yo se las devuelvo Eh....

L1: **¿Se han metido en problemas por intentar defenderse?**

PM1: Yo casi...

PF1: En quinto año una vez

L1: **¿Qué sucedió?**

PF1: Unos chamacos de cuarto me estaban burlando... por..que no puedo ver

L1: Ay dios... **¿es común eso verdad? ¿Qué que les digan eso?**

PF1: Sí...

L1: Se pasan deberas...

PM1: Pues yo... Es que unos... Unas niñas mas bien...

L1: Mhm....

PM1: Me.... Recuerda ah... Rosita Pue... pues todavia nosé porque no te gusta que te diga tu otro nombre

L1: Ah okay... Bueno.... Eh...

PM1: Eh... ayer se lo platique Bueno no todo.... Estabamos.... Bueno era una niña Eran unos niños que estaban jugando conmigo Que la acabo de recordar...

L1: Ok...

PM1: Me estaban diciendo... Oyes, **¿Por qué no tienes novia?** Ah cierto... porque el amor Es a primera vista y tu no ves...

L1: hijuela... No manches **¿eso te dijeron?...**

PM1: Sí...

PF1: Fran... No me lo dijiste...

(Ambos discuten)

(Maestra titular interviene)

MT: Lo escencial es invisible a los ojos... Aprendete esa frase

PM1: Ay que rico huele...

MT: Lo escencial es invisible a los ojos, A veces no necesitamos Caras bonitas Y ojos bonitos Sino buenos pensamientos Buenos... buen corazon Y pues... trato... hacia Tus compañeros, Tus amigos, Tu... novio... Lo que sea... Pero... esa es una buena respuesta.

L1: Sí, una buena respuesta

PM1: Ay... ¿Qué hecho ahorita la maestra?

MT. Eche un desodorante hijo

L1: Ok... Bueno, cambiando de tema... **¿Les dejan tarea?**

Ambos: Sí

L1: Y **¿Cómo le hacen para hacer las tareas? ¿La hacen solos verdad?**

Ambos. Sí

PM1: Pero.... Hay veces que mi mamá me ayuda En algunas cosas Que la alexa no tiene internet... O hay veces porque En los libros no los he querido buscar Porque tengo que buscar... Porque son en tomos... Y las cajas estan guardadas... Tengo que buscar libros...Buscar página por página...

F1: Y... Bueno, en esa parte se te dificulta...

PM1: ¡Sí! Pues por eso le digo a la Alexa ¡Alexa! ¿Cuál es el tal-tal-tal?

L1: Y... **¿no tienen computadora?**

PM1: Mmm... no Pues no... Pues por eso quiero tener una

L1: Ah... ok

PM1: Es por eso que Daniel me esta provocando Me esta presumiendo esa compu...

L1: Y... **¿tu Rosa?**

PF1: Ehm... Pues cuando... Estoy haciendo tarea... Ahí veo como le hago... O si no... necesito opiniones de mis papás pues ahí me invento cada cosa

L1: Ah...ok **¿te las ingenias podríamos decir?**

PF1: Sí

L1: Ah...ok

PM1: Y **¿qué sabes? ¿Cómo sabes?**

PF1: Mmm... termino con mucho ...

L1: Ok... bueno **¿Cómo fue su experiencia al aprender el Braille chicos?** Desde que estaban en preescolar.

PM1: No sé...

PF1: Pésimo...

L1: **¿Pésimo? ¿Por qué?**

PF1: Porque la maestra Miriam. Me regañaba mucho si me salía mal

L1: **¿Apoco?**

PM1: Sí... Así es la maestra.

L1: Y... **¿y tu Francisco?** Lo poco que recuerdes

PM1: Uhm... a ver... (risas) ... a ver...

L1: **¿Se les dificultaba?**

PM1: Ehm... bueno para mí la maestra Me enseñaba con los cuadratines y la que más me ayudaba era la maestra ana creo que sí...

L1: ah ok

PM1: porque la maestra Miriam hacia algo alguien decía más o menos recuerdo que decia ¡no! así no es pero me corregía de una manera... un poco mal

L1: ah ok, del no de la mejor forma

PM1: no de la mejor forma No así como ustedes decían No...

MT: **¿La maestra...?**

PM1: Miriam

L1: Ah ok

PM1: A veces... A veces... Solo es lo unico que recuerdo...

L1: No...

PM1: Que no sea con pajita de huevo

L1: Y cuando empezaban en primaria **¿cómo le hacian?**

PM1: No recuerdo...

L1: **¿Tu Rosa?**

PF1: Maestro... Como le

L1: No... Les pregunto si no... no

(Maestra titular interviene)

L1: Primaria

MT: ¿Qué?

L1: **¿Cómo iban aprendiendo Braille?**

MT: A ellos dos Les costo un poquito más de trabajo Mas a fran. Fran llegó en un momento En que no sabe... No avanzaba Sino al contrario... Retrocedio Mmm... pero creo que en unas vacaciones Luego como que... Creo que era tu prima Sharení ¿Cómo se llamaba?

PM1: Sharon... Con H

MT: Andale... Ella creo que le apoyaba Y ya como que

L1: Ah.. ok

MT: Mejoro

L1: Que bueno **¿ustedes creen que el apoyo De una segunda persona les ayuda a impulsar la escritura braille?**

PM1: Sí

L1: **¿en tu caso Rosa?**

PF1: No

L1: **¿No?**

PM1: Bueno... Depende de como sea la persona Si es mala pues ya... Eso ya no ocupa nada...

L1: Ustedes creen **¿Qué el carácter una persona influye en el ...?**

PM1: Pues sí Pues como el de usted cuando es serio. Pero como lo veo asi relajado pues por eso uno puede continuar

L1: Ok... Bueno...

PM1: Quiero tener el cabello así como el maestro

(Risas)

L1: y la siguiente pregunta **¿les gusta ir a su escuela regular?**

PM1: No

PF1: No

L1: **¿Por qué?**... Bueno, me imagino por todo lo que me comentaron

PM1: Y otras cosas que no quiero comentar ahorita.

L1: Ah perfecto no se preocupen... Categoría 4: Experiencia en el aprendizaje del idioma inglés **¿han llevado clases en su escuela regular?**

Ambos: No

L1: y... **¿de manera particular?**

PM1: No

PF1: Tampoco

L1: Bueno...

PM1: Ah si en segundo grado un maestro ahí raro...

L1: **¿Y que tal?**

PM1: Mmm... No me incluía... Y luego me decía: "escribe todo el abecedario en inglés" Y yo... como me costaba entender No decía nada... Puro relajo Y no sé cuanta cosa

L1: Ah... ok **¿no tenía un orden de dar su clase?**

PM1: No, Bueno... Sí, pero solo a ellos pero en tinta lo ponía "lo voy a poner en el pizarrón"

L1: Ah... todo lo manejaban en tinta

PM1: Sí y como la maestra Wendy... Me comentaba.... Decía que... es que es un niño especial... que es discapacitado visual... y como le vamos a manejar... y me acuerdo que ese maestro dijo... ah no... no se preocupe, ahorita vemos... ahí veremos como le manejamos simplemente me decían, acuestate ahí... duermete ahí un ratito... y yo de agh...

L1: Ah... ok

PM1: Yo no me dormía...Yo me quedaba para saber que decían

L1:Mmm...

MT: **¿Qué escuchaste?**

PM1: Solo si el maestro nos estaba diciendo ¿Cómo le haremos?... ¿Cómo le haremos para hacer... Para... enseñarle inglés a este niño especial? Si no ve... ¿Cómo le vamos a hacer? Y todavía es un niño... Algunos niños decían..... Si... ¿Cómo le haremos? Pero otros niños decían No... ya Francisco...

L1: Ah... ok...Tu crees si en ese momento, tus compañeros te hubieran involucrado en las clases **¿Hubieses aprendido mejor el inglés?**

PM1: No

L1: ¿Aunque...

PM1: Porque igual esos... Son toscos pa' explicar Literal, explican y

L1: **¿No tienen la facilidad de ...**

PM1: No tiene la facilidad, Explican y cuando explican algo adelante... Todavía me dicen: arriba hay como dos rayitas... Un puntito, un circulito y ya... Y pues no entiendo...

MT: Te explican como si fuera en tinta

PM1: Sí

L1: Mmmm... esa es la situación bueno... y estas clases **¿Cómo les parecieron chicos?**

PF1: Bien

PM1: Bien

(silencio)

L1: **¿por qué? ¿Bien?... osea ¿Cómo lo sintieron? ¿les gusto?... ¿o más o menos?**

PM1: Yo mas o menos pero lo que si me gusto Fueron algunas clases, no se cuales porque ya se me olvido... pero es solo que... me ayudo mucho su carácter

L1: Ah...ok

PM1: Con usted, Porque si fuera con otro maestro, como con la maestra miriam...

L1: Ah... ok, Bueno, esta bien **¿y en estas clases se acuerdan que hacian?... ¿Qué les ponía a hacer el maestro?**

PF1: Escribir palabras en inglés

PM1: La tarea de... Las palabras...

PF1: Investigar palabras en español Y en inglés

L1: Mhm...

PF1: Y el alfabeto en inglés

PM1: Algunos

L1: Ah... ok, bueno Y por ejemplo, **¿Cómo se sintieron al escribir en ingles?**

PM1: bien

L1: **¿Bien? ¿mal? ¿se les dificultó?**

PM1: Se me dificu... Bueno... Se me dificultó

L1: **¿Por qué se les dificultó?** Osea... Les pregunto...

PM1: La escritura

L1: La escritura **¿pero en que sentido?**

PM1: Ehm... como se escriben las cosas... osea... las letras son diferentes...

L1: Ah...ok Esta bien **¿y tu rosita?**

PF1: ¿De cosas? Que digo...

L1: las cosas se escribe muy diferente verdad una cosa es escharla y otra es escribirla **¿verdad?**

PF1: Sí

L1: Si, eso pasa muy común **¿pero les gusto?**

PM1: Si

L1: Ah... ok Bueno... Que es mas fácil **¿escribir el Braille en español o en inglés?**

PM1: En español

PF1: En español

L1. **¿Por qué?**

PM1: Porque no esta... Complicado de aprender

L1: **¿no esta tan complicado?**

PM1: Osea, es que tiene tantas letras...

L1: Ah.. ok Pero por ejemplo: **¿Qué diferencias hay para escribir el braille tanto del idioma español como en inglés?**

PM1: Las letras

PF1: Las letras

PM1: Y el orden

L1: El orden de las letras... Ah... ok Bueno... y por ejemplo **¿ustedes creen que si siguiera ese curso necesitarian mas tiempo para seguir aprendiendo el braille en inglés?**

PM1: Sí

PF1: Sí

L1: **¿O en cuanto tiempo? ¿mas o menos?**

PM1: como dos años

L1: ¿Dos años? Bueno... esta bien no se preocupen...

PF1: En tres meses

L1: **¿En tres meses?** Ok... si se puede

PM1: Bueno... Y ahorita ¿A dónde se van?

L1: No estamos hablando de eso Y por ejemplo: **¿Cómo se sintieron en las actividades que hicieron en clase?**

PM1: Bien

PF1: Bien

L1: Bueno, pero en actividades como Simon dice...

PF1: Estaba muy buena, la actividad de simon dice... se me hizo divertida

PM1: A mi igual... Solo senti que en una parte me estaban mirando por detrás pero era la maestra Luisa

L1: Ah ok.

PM1: Me senti como un niño de preescolar pero esta bien... mas que eso senti felicidad

PF1: Bueno... yo si, porque la maestra maria luisa estaba 'tras mio

L1: Bueno... este de... **¿cuales fueron sus actividades favoritas?... ¿Escribir en Braille?**

PM1: Esa no

L1: Usar el brailin, jugar el Simon dice...

PF1: El simon dice

PM1: El simon dice

L1: Ah ok...

PM1:el brailin no tanto porque... Bueno... este tambien... Ese igual porque cuando le pulsaba asi era muy satisfactorio

L1: Ah... ok. Eso me estaba comentando Francisco. Sentian satisfacción al utilizar el Brailin..

PF1: yo no...

L1: Ah ok... **¿Qué opinaban sus papás al respecto a las clases de inglés?**

PM1: Nada... No sé...

PF1: Mmm... que le echara ganas

L1. Ah ok... **¿entonces si hubo una motivación por parte de sus papás?**

PF1: De mi papá nada más... porque mi mamá no va a ver nada

PM1: Mi...mi...mi abuela solo me decia: con la ayuda de diosito vas a poder... yo creo en dios pero... ya ... tanto...

L1: Ah no... no se preocupen y bueno **¿Qué sugerencias darian ustedes chicos para unas mejores clases?**

PM1: que sean con usted

L1: Jajaja... ok **¿y tu Rosa?**

PF1: Igual

L1: Ok... por ejemplo, esa es otra pregunta que tengo **¿Qué materiales se les facilitaría más para seguir aprendiendo el inglés?**... No se, regleta, maquina Perkins,

PF1: La maquina

L1: ¿La maquina Perkins?

PM1: La maquina... Ojala existiera una maquina Perkins que escribiera en inglés

L1: De hecho hay una Maquina ...

PM1: Osea... que pusiera las letras en español y despues en inglés.

L1: De hecho hay una... Que se llama Smart Brailier... Esas maquinas son electrónicas. Las venden pero son muy caras... Pero si existen lo que tu dices Francisco.

PM1: Abueno, y ¿Cuánto cuesta?

L1: Mmm... como unos 100 mil pesos

PM1: Ay no maestro... con eso... me compro un carro

L1: Sí

PM1: Pero si le pido a Carlos Hasta se va a ir para atrás... Porque es que el siempre Nos quiere hacer cumplir con nosotros. Es que osea... si... pero... Tanto así... que a veces yo le doy. Una sugerencia... de algo que yo quiero Pero... pues no se puede... y ya Es que dice: yo te lo consigo y si,si,si, si Pero yo le digo no,no,no,no,no Y el empieza a trabajar día y noche Y tras día (x5) Hasta que me los da...

PF1: Es buen papá

PM1: Ese si es... pero bueno. A veces... a veces

L1: Bueno... **¿Cómo describirían la relación entre ustedes?**

PM1: Bien

L1: **¿Bien tranquilos?**

PF1: Sí

L1: Ok...

PM1: No piense mal... Como la maestra Miriam...

(Interviene la maestra titular)

L1: Así es... Y bueno **¿Cómo describirían la relación con sus compañeros en su escuela regular?**

PM1: Mala

L1: **¿MALA?**

PF1: Mala

L1: o ¿mas o menos?

PM1: Mmm... bueno mas o menos

L1: Bueno, dependiendo de cada persona Ah... ok... esta bien **¿Cómo describirían la relación entre el maestro de Inglés y ustedes?**

Ambos: Bien

L1: Bueno, **¿Cómo describirían la relación**
Entre su maestro de la escuela regular y ustedes?

PM1: Mmm... buena

PF1: Buena

L1: Buena... esta bien
¿con su maestro de escuela regular?

PF1: Sí...
Incluso me llevo bien con él

L1: Que bueno... Bueno... **¿creen que una mejor comunicación entre ustedes es importante para seguir Aprendiendo el inglés? ¿Sí o no?**

PM1: Creo que sí

PF1: Sí

L1: Ok... bueno. Este de.... **¿Cómo que materiales didácticos les ayudaron a aprender mejor el inglés?** Cuando me refiero a un material didáctico me refiero a Una maquina perkins, a la regleta, el brailin.

PM1: La maquina

L1: **¿Te acuerdas Rosa que en algún momento Nos pusimos a colorear?**

PF1: Sí

L1: Bueno cuando colorearon tambien

PF1: Yo sigo cargando el gato

L1: Ok... bueno. **¿Cómo sintieron el ritmo de la clase?**

PF1: Bien

PM1: Bien

L1: **¿Muy apresurado?**

PM1: Muy normal

PF1: Tranquilo

L1: Ah okay... tranquilo **¿consideran que lo aprendido en clase lo pueden llevar a otros aspectos de su vida?**

PF1: Tal vez

PM1: Tal vez

L1: Bueno, esta bien No se preocupen Bueno... **¿creen que su actitud determina el interes para aprender el idioma inglés?**

Ambos : Sí

L1: Ah ok... **¿Cómo que actitudes?**

PM1: Pues... no sé

L1: osea ser positiva

PM1: La mia medio negativa Porque no me gusta mucho el inglés. Bueno... no sé

L1: No se preocupen. Ya para terminar. **¿creen que su discapacidad visual influye en el aprendizaje del idioma inglés?**

Ambos: No

L1: Perfecto **¿Consideran que su discapacidad visual es una limitante para aprender el idioma inglés?**

Ambos: No

L1: ok... describan en una palabra. Su experiencia al aprender el idioma inglés

PM1: Bonito

L1: ¿Bonito? A que bueno. **¿y tu Rosa?**

PF1: Bonito

L1: Bonito y agradable **¿Les gustaria seguir aprendiendo inglés?**

Ambos: Sí

L1: Ah perfecto

PM1: Bueno, solo con usted

L1: Jajaj no te preocupes.

Second Laboratory Group

Entrevista

Objetivo: Rescatar las percepciones de los participantes de la respectiva intervención previa del uso de la Programación Neurolingüística como una alternativa para la

enseñanza del sistema Braille Inglés Unificado (UEB) en clases de inglés enfocado en niños con condición de ceguera.

Duración de la entrevista: 20 minutos con 28 segundos.

Fecha de realización: Jueves 4 de Julio del 2024

Lugar de la entrevista: Centro de Atención Integral a Ciegos y Débiles Visuales (CAICDV).

Datos generales del entrevistado:

Entrevistador: Est. José Víctor Lopez Madrigal (L1-DI)

Entrevistados: PM4: Axel Matias Cerino Matínez

PF2: Mirari Yamilet Sanchez Almeida

Edad: PM1: 9 años

PF1: 9 años

Condición de discapacidad:

PM4: Discapacidad Visual con condición de ceguera

PF2: Discapacidad Visual con condición de ceguera

Diagnosticos: PM4: Amaurosis congenita de Leber

PF2: Retinopatía del Prematuro Grado V

Entrevista 2

L1: Jueves 4 de Julio del año 2024. Son las 11:04 horas y el día de hoy me encuentro con el grupo de laboratorio del estudio cuasi-experimental número 2, con los participantes PF2 y PM4. Buenos días chicos

Ambos: Buenos días

L1: Bueno...¿**Cuántos años tienen?**

PM4: 9

PF2: 9

L1: Nueve los dos... **¿Dónde viven?**

PF4: Villa Jalupa, Jalpa de Mendez, Tabasco

PM2: Limar, Chiapas, municipio

L1: Ah... ok y **¿con quienes viven?**

PM4: Mi mamá, mi papá, mis abuelitos, unos tios y mi perro.

L1: Ah... que bueno **¿y usted?**

PF2: Con mi mamá, con mi papá, mi hermano, mi abuelita, los perros, los pollos y yo.

L1: Ah... que bueno. Este de.... **¿a que se dedican sus papás chicos?**

PM4: Mi mamá es maestra y mi papá... petrolero... ingeniero

L1: Ok... Y **¿el tuyo Mirari?**

PF2: Mi mamá... Se dedica nada mas a criar pollos y a venderlos... y a vender bolis...Y este... Y mi papá se dedica a... Parrillero.

L1: Ah... que bueno. Muy bien. **¿tienen hermanos?**

PM4: No

L1: **¿Y tu mirari?**

PF2: Sí... uno

L1: **¿Cuántos años tiene?**

PF2: 15

L1: Ah bueno... Un adolescente... Y por ejemplo... **¿quién los cuida más en su casa?**

PM4: Bueno... Seria... mi abuelita, porque mi mamá y mi papá tienen que trabajar

L1: Ah... ok **¿y tu Mirari? ¿Quién te cuida más?**

PF2: Mi mamá

L1: ¿Tu mamá? Ah... ok y por ejemplo: Cuando les dejan tarea en la escuela **¿quién les ayuda a hacerlas?**

PM4: Me ayuda mi abuelita, cuando son investigaciones y todo eso pues...y cuando esta libre mi mamá me ayuda

L1: Ah... ok **¿y tu Mirari?**

PF2: Me ayuda mi mamá

L1: Ah... ok

Con sus mamás

Que bueno... y por ejemplo

¿Quién les ayuda a acesarse?

PM4: Mmm... yo solo

L1: ¿Y tu Mirari?

PF2: Yo sola

L1: ¿Solos?

Muy bien...

¿su familia les motiva a salir adelante?

Ambos: Sí

L1: Osea... Aprender más cosas... Conocer nuevas cosas

PM4: Sí

L1: Bueno... ok **¿Cómo les trata su familia?**

PM4: Bien

PF2: Bien

L1: **¿Bien? ¿asi tranquilo?**

PM4: Sí

L1: Bueno... bien. Su escuela verdad **¿es pública o privada?**

Ambos: Pública

L1: Perfecto... Como... ahí en su escuela regular. **¿Cómo son sus clases?**

PM4: Mmm...

L1: **¿Cómo las describirían?**

PM4: Normales

L1: **¿Normales? ¿tu Mirari?**

PF2: Mmm... son este bonitas. A veces nos ponen a dibujar ...Tambien... mmm... este... A usar calculadora... Nos ponen actividades.

L1: Ah ok... entonces **¿tu usas una computadora en tu escuela?**

PF2: Sí

L1: Ah... ok Y **¿esa computadora es tuya o es de la escuela?**

PF2: Es del maestro... Es que no las trae para que hagamos. Unas actividades...

L1: Ah ok... de hecho ahí viene la siguiente pregunta. En el salon de clases **¿Qué les pone a hacer el maestro?**

PM4: A veces... Nos pone a hacer... estos ultimos dias de clase. Nos pone a hacer dictado y asi de repaso... Pero a veces tenemos que hacer proyectos. Algunos experimentos... y si tenemos que leer alguna lectura. Elaborar trabajos...

L1: Ah ok... y en esos trabajos **¿estabas en una computadora o todo en Braille?**

PM4: Yo, en braille

L1: Ah ok... este de... **¿y en tu caso Mirari?**

PF2: Es que usamos computadora. La usa el maestro y ahí me pone las actividades

L1: Ah.. ok, pero **¿tu participas en clase?**

PF2: Sí. A veces nos ponen a dibujar, nos ponen a escribir cuentos, nos ponen a ponerle titulos a los cuentos a poner los acentos, A este.. elaborar trabajos en equipo... Y asi en cosas...

L1: Ah... ok. De hecho, eso les iba a preguntar **¿sus maestros tienen conocimiento del Braille?**

PF2: Mi maestro mas o menos

PM4: Mi maestro no tenia conocimientos... Pero mi abuela lo apoya un poco con una carpetita. Ahí del abecedario...

L1: Ah... ok. Entonces tu familia apoya al maestro para que te ayude en cierta parte.

PM4: Sí. Y tambien, para cuando entrego mis tareas, mi mamá... lo que yo lo escribo... Ella lo hace en tinta... transcribe en tinta.

L1: Ah ok... **¿y en tu caso Mirari?**

PF2: Igual, mi maestro casi no sabe Braille...

Pero... es que pasan a cada uno de mis compañeros a dictarme las cosas.

L1: Ah ok... de hecho ahí viene otra pregunta **¿Cómo les trata sus compañeros?**

PF2: A mi bien...

PM4: Bien...

L1: Osea si, pero **¿les ayudan?** Cuando les dejan tarea y eso... **¿en que sentido les apoyan a ustedes?**

PM4: A veces me ayudan dictandome. Porque la maestra no puede...

L1: Pero... **¿todo el tiempo? ¿o en ocasiones?**

PM4: En ocasiones cuando la maestra no puede

L1: Ah.. ok, Entonces si la maestra no puede, Tus compañeros te ayudan

PM4: Sí

L1: Ah... ok **¿y en tu caso Mirari?**

PF2: Si me ayudan mucho... Mis compañeros a llevarme al baño, O a veces cuando vamos a salir a la cancha, Me ayudan,

L1: Ah... ok, te guian. Bueno, muy bien

PF2: Porque en mi escuela hay muchas escaleras

L1: ¿Apoco? Orale... Bueno, de igual forma les queria preguntar. El maestro **¿Cómo que tipo de materiales didácticos utiliza en clase?** Osea, si usan regleta, punzón, hojas, o incluso figuras geometricas, o relieves.

PM4: Figuras geometricas o relieves casi no...

L1: Casi no... ok **¿y en tu caso Mirari?**

PF2: Bueno pues nosotros... Yo... solo uso mi regleta, mi punzón, Mi libreta, mis libros en Braille,

L1: Andale, los libros de Braille tambien

PF2: Y nada mas.

L1: ah ok... esta bien. Y por ejemplo... **¿les deja tarea?**

Ambos: Sí

PF2: Bastante... Aunque a mi...

PM4: A veces si bastante, sino un montón...

L1: Ah...ok **¿qué decias Mirari?**

PF2: Aunque a veces nosotros usamos un juego de geometria

L1: Ah... ok

PM4: A veces yo si uso

L1: **¿Juegos de geometria si utilizan?**

Ambos: si

L1: Y cuando les dejan tarea **¿Cómo les hacen? ¿Quién les ayuda? ¿Cómo la hacen? ¿Cómo la presentan?**

PM4: Escritas

L1: Aja...escrita.... En tu caso dijiste...este de... Que tu mamá te ayuda a transcribirlo en tinta

PM4: Sí

PF2: Igual mi mamá me ayuda a transcribirlo en tinta. Lo traduce. Lo que yo escribo lo traduce para que el maestro le entienda.

L1: Les iba a preguntar...este de... **¿no tienen maestros de educación especial en sus escuelas?**

PM4: Sí

L1: **¿Y cómo es esa relación con sus maestros de educación especial?**

PF2: No tengo

L1: Ah ok... ese es tu caso Mirari Y **¿tu Axel?**

PM4: Bueno... Bien pues...

L1: Osea... **¿es maestra o maestro?**

PM4: Maestro.

L1: Maestro... **¿y como te apoya en educación especial?**

PM4: A veces me pone a leer cosas, A escribir cosas... Cuentos y asi...

L1: Bueno... Y como... bueno cuando ustedes comenzaron a escribir Braille **¿Cómo fue esa experiencia chicos? ¿les gusto? ¿no les gusto? ¿se les hizo muy difícil?**

PM4: Se me hacia muy difícil... Y casi no me gustaba para nada... Porque luego se sentia una sensación rara en el estomago.

L1: ¿Apoco?

PM4: Sí...

L1: Y como...bueno... es que dijiste que antes ni te gustaba **¿y ahorita te gusta?**

PM4: Normal

L1: Normal... buenoo... promedio

PM4: Excepto cuando es en Maquina Perkins

L1: Osea... sino que si les gusta el Braille.. Simplemente que les gusta escribirlo en maquinas perkins Y no en regleta **¿verdad?**

PM4: La regleta y el punzón causan callos y duele.

L1: Ok... bueno Y la ultima pregunta es.. **¿le gusta ir a su escuela regular?**

PF2: A mí sí.

PM4: Mmm.. sí... normal.

L1: Normal... **¿Por qué? ¿mas o menos?** Podemos decirlo así...

PF2: Bueno... es que yo me siento bien porque. Por mis amigos, porque a veces platicamos, Juegan conmigo...

PM4: A veces compro cosas en la coopertiva...

L1: **¿Tienen amigos en sus escuelas?**

Ambos: Sí

L1: Y... **¿los tratan bien? ¿los tratan mal?**

Ambos: bien.

L1: **¿Nadie les molesta?**

PF2: No... Bueno es que hubo una vez... Una niña de quinto grado me empezó a decir. Me empezó a molestar realmente... Ella no era de mi grupo... Una de otro salon...

L1: Mmm.. una situación que tengan así similar... **¿Axel?**

PM4: No...

L1: Bueno... este de... **¿Tu Axel me comentas que antes no habias llevado clases de inglés anteriormente verdad?**

PM4: No

L1: Ok... **¿tu Mirari?** Me dijiste que llevaste clases de inglés anteriormente

PF2: Sí

L1: Pero **¿en tu escuela regular? ¿o de manera particular?**

PF2: Escuela

L1: Escuela... ah y **¿cómo eran esas clases?** Cuéntame.

PF2: Pues aprendí los pronombres, el abecedario

L1: Ah... ok

PF2: Pues empezabamos en el principio los números y el abecedario.

L1: Ah ok... y el maestro **¿Cómo trabajaba contigo?**

PF2: Pues... me ponía a mis compañeros a lado, Y me iban diciendo que yo iba a hacer.

L1: Ah... ok Y por ejemplo ahorita en estas clases en el centro **¿Qué hacían con el maestro?**

PF2: ¿Cómo?

L1: Osea aquí, en las clases de inglés **¿Qué hacían?** Ya aquí en el centro

PF2: Ay... ya me perdí

PM4: Jugando Simon dice. Que quiero jugar pero no puedo.

L1: Aja pero,

PM4: Con el Brailin, leer los libros de inglés

L1: Aja... **¿que más?**

PM4: Escribimos palabras en inglés.

L1: Ah bueno... **¿y que les parecieron estas clases?**

PF2: Muy bien, me gusto pero...

PM4: Bien, me gusto

PF2: Pero más cuando nos ponían en equipo

L1: Ah ok.

PM4: Mas en el de Simón dice

L1: **¿Les gustaba las actividades cuando eran en equipo?**

PM4: Sí

PF2: Igual a mi me encanta que me pongan en equipo.

L1: Ah... ok. Entonces ustedes creen que para facilitarlos más. A que aprendan el inglés, sino que sea en equipo, no individual.

PF2: Sí, en equipo

L1: Ah... ok. Precisamente eso que dices es Mirari. Porque te acuerdas cuando te ponía a trabajar con Dylan

PF2: Sí

L1: **¿Te gusta? ¿mejor la dinamica verdad?**

PF2: Sí, es mejor porque así nos hacemos mejor más amigos. Y es más, Dylan y yo somos amigos. Desde el preescolar, desde que entramos.

L1: Ah... entonces se puede decir que trabajando en equipo. Como que mas fortalecian su amistad

PF2: Sí

L1: Ah ok... **¿tu Axel? ¿Cómo sentías al trabajar en equipo?** Con los chicos

PM4: Me gustaba porque platicabamos. Haciamos las actividades...

L1: Ah... lo sentian más fácil...

PM4: Y todo eso...

L1: Ah...ok. Y **¿Qué sintieron cuando empezaron a escribir el Braille en inglés?**

PM4: Bien...

L1: **¿Bien?**

PF2: Yo un poquito difcil porque como no sabia mucho como se escribia las letras

L1: Eso les iba a comentar. Que bueno que sacas el tema, porque igual eso les queria preguntar. Cuenten **¿de que manera se les complicó escribir el Braille en Inglés?**

PM4: A mi casi no se me complico, pues nada mas que a veces. Se me olvidaba... el como se escribe las... pues las letras.

L1: Ah... ok... precisamente... aja....

PF2: Es que ah... A mi lo que se me dificulta es que no se como se pronuncie sino que me confundia con otras letras. Y pues se me dificulta leer, como tienen otras letras... No le entiendo pues...

L1: Ah ok... **¿tu Axel? Esa parte ¿la compartes?** Lo que decia Mirari.

PM4: ¿Qué cosa?

(Risas)

L1: **¿Lo puedes volver a repetir?**

PF2: Que se me dificulta escribirlo a veces porque como tienen otras letras y como no se escribe igual no se como se pronuncian. Este... eso ya es muy difícil aprender

L1: Ah...ok y por ejemplo. **¿Qué es más fácil: escribir el braille en español o en inglés?**

Ambos: en español

L1: A ver **¿Por qué?** Cuéntenme

PM4: Porque a veces el inglés... a veces... a veces casi no me acuerdo de como se escribe con que letra.

L1: Ah... ok

PF2: Yo igual. Es que ese se me dificulta porque... Nose... pero como que no se como se pronuncia.

L1: Ah ok... Eso les iba a preguntar **¿Qué diferencias sienten al escribir el Braille tanto en español como en inglés?**

PF2: Yo en español... más fácil.

L1: Más fácil...

L1: Ok... ustedes me comentan más que nada de que... no es lo mismo como se escribe a como se pronuncia **¿Verdad?**

PM4: Sí

L1: En inglés... Ustedes dirían que esa es la mayor diferencia

Ambos: Sí

L1: Ah ok... Bueno, y por ejemplo, **¿ustedes creen que necesitarían más tiempo para seguir aprendiendo a escribir el Braille en inglés?**

Ambos: Sí

L1: **¿Cómo cuanto tiempo más o menos?**

PM4: No sé... Como una hora...

L1: **¿Una hora?** O un mes, dos semanas...

PF2: Un año entero...

L1: Ok... bueno no se preocupen..

PF2: Pero es que el tiempo podría ser unos días... para seguir aprendiendo... diría mi mamá, no saben sabiendo

L1: Exacto, las personas no nacen sabiendo... Y por ejemplo... este de... **¿Cómo sintieron las actividades que hicieron en clase?**

PF2: Yo muy bien, más las de equipo

L1: Muy bien, las de equipo fueron sus favoritas **¿esas fueron sus favoritas?**

Ambos: sí

L1: Ah ok... y por ejemplo: **¿Cómo que cosas no les gustaron de las clases de inglés?**

PF2: Ay... es que no me gusto... Bueno le voy a ser sincera

L1: Sí, no te preocupes

PF2: Lo que no me gusto es que a veces mmm.... A veces...

L1: No te preocupes, dilo...

PF2: Nada...

L1: Ash, no... De verdad, no te preocupes mirari. Precisamente para eso es la entrevista, para que podamos retroalimentarnos y mejorar nuestras clases de inglés **¿ok?**

PF2: Lo que no me gusto es que a veces mmm... escribia mal las letras.

L1: Ah ok... si no mas bien cuando te equivocabas

PF2: Sí

L1: Ah..ok **¿tu tienes una situación similar Axel?**

PM4: A veces

L1: A veces... igual **¿Cómo que otras cosas no les gusto?**

PF2: A mi no me gusto cuando no le entendia a las palabras que decia...

L1: Ah... ok

PM4: Igual... No entendia su significado

L1: Ah ok... **¿y como les hacia sentir eso? ¿les desesperaba?**

PF2: Sí, a mi si me desesperaba

PM4: Un poquito...

L1: **¿Les frustraba? ¿se ponian tristes? ¿cómo lo sentian esa parte?**

PF2: Pues... yo si me ponía triste

PM4: Normal...

L1: ¿Normal?

PM4: Yo me desesperaba... pero un poquitito.

L1: Bueno... ¿te desesperabas entonces?

PM4: Un poquito
Como si fuera una gota.

L1: Ah... ok Si... **¿y que opinaban sus papás al respecto de las clases de inglés?**

PF2: Que estaba bien

PM4: Les gusta.

L1: Bien, listo... ah ok. Muy bien,

PF2: Les gustaba que yo aprendiera otros idiomas

L1: Ah... ok. Este de... **¿qué sugerencias darian chicos para tener mejor clases de inglés?**

PF2: Yo... Es que...

PM4: Actividades distintas con las que podamos entender bien las cosas y mejor.

L1: Ah... ok. Que les faciliten más... comprender

PM4: Sí... actividades como Simon dice o... así pues

L1: Ah... ok **¿tu que dirias Mirari?**

PF2: juegos

L1: **¿Juegos?**

PM4: Andale. ¡juegos! ¡juegos! Andale...

L1: Ah... muy bien Este de... **¿cómo que materiales se les facilitaria más para futuras clases?**

PM4: Mmm... no sé

PF2: Pues a mi me gustaria que sean ...

L1: **¿Ustedes creen que las texturas influyen mucho al aprender ... para aprender mejor el inglés?**

PF2: Sí

PM4: Mmm...

L1: **¿Cómo que tipo de texturas? ¿cómo que les gustaría?**

PF2: Pues a mi me gustaría... Es que a mi lo que me gusta son los rompezabezas.

L1: Ah... ok

PM4: Rompecabezas tipo como que fueran así en inglés para que...

PF2: Que tengan el braille escrito como los que traen algunos de multiplicaciones que ahí tienen.

L1: Ah... ok... ya Muy bien... que buena idea me dieron.... Gracias, ah ok...

PM4: Rompecabezas de esos que hablan pero, en inglés y que tiene que ir resolviendo todo y...

L1: Orale, que buena idea me estan dando...

PF2: A mi me gustaría eso

L1: Ok... y por ejemplo **¿Cómo describirian la relación entre ustedes chicos?**

Cuando estaban trabajando en sus clases de inglés... Su relación era buena, mala, les gustaba, no les gustaba, les gustaba trabajar en equipo...

PM4: Normal...

PF2: A mí me encantaba trabajar en equipo

L1: Ay te encantaba... **¿por qué?**

PF2: Porque sí... porque así hacíamos más amistades, platicábamos, nos ayudábamos...

PM4: Jugábamos

L1: Ah... ok.... Muy bien... **¿Cómo describirían la relación con sus compañeros en su escuela regular?**

PM4: Normal

L1: **¿Igual o hay mejor relación con sus compañeros aquí en el centro, que de su escuela regular?**

PM4: Mejor aquí en el Centro...

PF2: Yo diría...

PM4: Es mejor aquí en el centro que allá.

L1: Ah... ok ¿y tu Mirari?

PF2: Igual

L1: Bueno... **¿Cómo describirían la relación entre el profesor y ustedes?**

PM4: Normal

L1: **¿Normal?** Abueno... Ah ok... **¿Cómo describirían la relación de su maestro de su escuela regular y ustedes?**

PM4: Normal

L1: **¿normal?**

PM4: Normal

PF2: Bien...

L1: **¿bien?**

PF2: Bien...

L1: Bueno... **¿creen que una mejor comunicación entre ustedes es importante para aprender un nuevo idioma?**

PM4: Sí

L1: **¿Qué se comuniquen entre ustedes? ¿Porque creen eso?**

PM4: Porque si

L1: **¿se les facilita?**

PF2: Sí

L1: Bueno... **¿consideran que los materiales didácticos les ayudaron a aprender el idioma?**

PM4: Sí...

L1: Bueno ¿consideran... este de... **¿Cómo sintieron el ritmo de las clases chicos?**

PM4: Normal

PF2: Muy bonito, como si fuera bailando

L1: **¿Cómo si fuera que?**

PF2: Bailando

L1: Bailando...

PM4: Normal...

L1: Normal... **¿lo sintieron muy apresurado...muy lento?**

PM4: Muy normal...

L1: Normal... excelente... **¿consideran que lo aprendido en clase ...lo aprendido lo pueden aplicar en otros aspectos?**

PF2: Sí

L1: **¿en otras materias? O ¿en sus gustos personales?**

Ambos: Mmm... si

PF2: Ya me canse de tantas preguntas

L1: Perdon... ya casi acabamos ya casi acabamos... **¿creen que su actitud determina para aprender el inglés?**

PM4: Sí

PF2: Sí

L1: Bueno... **¿creen que la discapacidad visual influye en el aprendizaje del idioma inglés?**

PM4: Mmm... normal

L1: Normal... **¿tu mirari?**

PF2: Sí...

L1: Hmm.. **¿a que se refieren más o menos en esa parte de normal?**

PM4: Normal bien pues...

L1: **¿Osea en un sentido positivo o negativo?**

PM4: Lo normal

L1: Pero por eso... les pregunto... osea **¿Positivo o negativo?...osea ¿creen que su discapacidad visual influye positiva o negativamente al aprender el inglés?**

PM4: Pues... positivo... Normal... ¡Mal pues!

L1: Bueno...ya casi acabamos **¿consideran que su discapacidad visual es un limitante para aprender el idioma inglés?**

Ambos: No

L1: Ok... **¿Cómo describirian la clase de inglés... ya casi terminamos... ¿Cómo describirian las clases de inglés en una sola palabra?**

PM4: Normal

PF2: Normal

L1: Perfecto... **¿Les gustaria seguir aprendiendo inglés?**

PF2: Si

PM4: Sí

L1: muy bien, hasta aquí llegamos.

Third Laboratory Group

Entrevista

Objetivo: Rescatar las percepciones de los participantes de la respectiva intervención previa del uso de la Programación Neurolingüística como una alternativa para la enseñanza del sistema Braille Inglés Unificado (UEB) en clases de inglés enfocado en niños con condición de ceguera.

Duración de la entrevista: 14 minutos con 30 segundos.

Fecha de realización: Viernes 5 de Julio del 2024

Lugar de la entrevista: Centro de Atención Integral a Ciegos y Débiles Visuales (CAICDV).

Datos generales del entrevistado:

Entrevistador: Est. José Víctor Lopez Madrigal (L1-DI)

Entrevistados: PF3: Ana Milagros Orozco Madrigal

Edad: PF3: 10 años

Condición de discapacidad:

PF3: Discapacidad Visual con condición de ceguera

Diagnostico: PF3: Retinopatía del Prematuro Grado V

Entrevista 3

L1: Viernes 5 de julio del año 2024, son las 9:13 horas y el día de hoy nos encontramos con la participante PF3, del grupo de laboratorio cuasi-experimental número 3. Buenos días.

PF3: Buenos días

L1: Bueno, la primera pregunta es... La primera categoría se llama datos sociodemográficos **¿Cuántos años tienes?**

PF3: Pues... yo tengo 10 años

L1: Ah... y **¿Dónde vives?**

PF3: Yo vivo en el municipio de Tenosique...

L1: **¿Puedes hablar un poquito más fuerte?**

PF3: Sí, sí, sí...

L1: Ándale... y **¿con quienes vives?**

PF3: Con mi ama y mi hermano.

L1: Ah... ok... **¿a qué se dedica tu mamá?**

PF3: Mi mamá se dedica a la especialidad de odontología

L1: Ah... que bueno **¿Me comentas que tienes un hermano?**

PF3: Sí

L1: **¿Cuántos años tiene?**

PF3: 14

L1: Ah... ok. Categoría 2: Apoyo familiar. **¿Quién te cuida más?**

PF3: Mi mamá y mi nana

L1: Ah... y **¿Quién te ayuda a hacer tu tarea?**

PF3: Mi mamá

L1: Y **¿Quién te ayuda a asearte?**

PF3: Nadie

L1: Ok... **¿tu familia te motiva a salir adelante?** Ósea te motiva a aprender, a esas cosas...

PF3: Sí... todos me motivan la verdad, la que me motiva más es mi abuelita.

L1: Que bueno... **¿Quién más?**

PF3: Mmm.... Pues mi familia

L1: Ah... ok, de hecho, a eso va la siguiente pregunta: **¿Cómo te trata tu familia?**

PF3: Bien

L1: **¿Bien? ¿No te tratan mal?** O algo por el estilo

PF3: No, para nada

L1: Ah...bueno. Categoría 3: experiencia en el aula escolar en escuelas regulares **¿tu escuela regular es pública o privada?**

PF3: La mía es pública

L1: Ah... ok... y **¿Cómo son tus clases?**

PF3: Muy buenas

L1: **¿Buenas?** Pero... **¿en que sentido? ¿Qué les pone a hacer tu maestro? ¿Cómo que te pone a hacer?**

PF3: Mi maestra nos pone a leer, a ver lo de (fachones). A repasar, y a cantar, a bailar...

L1: Ah... ok. Mencionas tu la parte de lectura y escritura **¿Qué materiales didácticos utilizas en tu clase? ¿libros en braille?**

PF3: Libros en Braille no, utilizamos cuadernos geoplanos, (tangranes)... este de... pañuelos, pinceles, pincelines, mandiles, playeras viejitas...

L1: Ah... ok... y **¿utilizas tus libros en Braille en tu escuela?**

PF3: No.

L1: Ah ok... **¿y cómo te trata tu maestra?**

PF3: Mas o menos

L1: ¿Por qué?

PF3: Porque casi no me ayuda en las actividades

L1: Eso te iba a preguntar **¿tu maestra tiene conocimientos del Braille?**

PF3: Mmm... casi no

L1: Y en esa parte **¿quién te apoya?**

PF3: La maestra de educación especial

L1: Ok... **¿y qué tal la relación? ¿cómo te trata?**

PF3: Muy bien

L1: **¿Bien? ¿te ayuda? ¿de qué forma?**

PF3: Me ayuda con las tareas

L1: **¿ella si tiene conocimientos del sistema Braille?**

PF3: Sí

L1: Ah... ok... perfecto **¿y que materiales utilizas con ella?**

PF3: Nada más la maquina Perkins.

L1: Ah... ok... **¿las hojas las llevas tu?**

PF3: Allá me las dan

L1: **¿Cómo te tratan tus compañeritos?**

PF3: Bien

L1: **¿Bien? ¿tienes amigos?**

PM3: Sí

L1: **¿Te tratan bien? ¿No se burlan de ti?**

PM3: Algunos me dejan sola comiendo en la cocina

L1: Ah...ok **¿y te dejan tarea?**

PM3: Ay si... pero... no me dan ganas de hacerla. Pero no diga nada...

L1: No te preocupes, esto es confidencial y, por ejemplo, cuando tienes tarea **¿Cómo le haces? ¿Quién te ayuda? ¿Cómo la realizas?**

PM3: Mi mamá, pero es que luego a la maestra se le olvida

L1: Ah... entonces **¿la maestra te deja tarea, pero no la revisa?**

PM3: Este de... a veces

L1: A veces... en ocasiones. Me mencionabas que tu maestra no tiene conocimientos del Braille

PM3: Casi no...

L1: sin embargo, en esta parte te iba a comentar **¿Cómo le hace la maestra para calificarte las tareas?** las veces que te califica la tarea

PM3: A veces, me las dicta, y a veces se la manda a mi mamá

L1: ok... **¿tu mamá los transcribe?**

PM3: Yo se lo escribo en Braille y ella me lo escribe en tinta.

L1: Ah... ok. ¿y te gusta ir a tu escuela regular?

PM3: Sí

L1: Ah...ok **¿Cómo ha sido tu experiencia respecto a aprender el Braille? ¿fue fácil? ¿difícil? ¿Cómo fue esa experiencia?**

PM3: Pues... algo fácil

L1: **¿Por qué?**

PM3: Pues me pareció fácil de aprender la regleta, y más la maquina Perkins

L1: **¿Te gusta mucho la Maquina Perkins?**

PM3: Sí

L1: **¿Por qué?**

PM3: Por el sonido

L1: **¿el sonido?** Que más

PM3: Las teclas

L1: Las teclas... es más prácticos

PM3: Si... y que escribes rápido

L1: Ah... escribes rápido. Es por la velocidad **¿verdad?**

PM3: Sí

L1: Perfecto, muy bien, este... de... me comentas que has llevado clases de inglés en tu escuela regular

PM3: Sí

L1: Ah...ok y **¿de manera particular?** Ósea con un maestro de inglés aparte **¿en una escuela de inglés?**

PM3: Yo no estudio en escuela de inglés, solamente en mi escuela

L1: Ah...ok... perfecto **¿y cómo son esas clases?** Esa maestra **¿Qué les pone a hacer?**

PM3: Le digo que aveces nos pone a leer. A escribir, a cantar, y a bailar

L1: Ah que bien...y Pero en la parte de lectura y escritura **¿lo haces en Braille?**

PM3: Es que... la maestra casi no sabe Braille. Me lo dicta.

L1: Ah te lo dicta, de hecho, eso te lo iba a preguntar **¿Quiénes te apoyan como tal cuando estas en clases de inglés?**

PM3: Como tal, casi nadie...

L1: Nadie, ok... Y por ejemplo en esta semana de ortografía, cuando se escriben las palabras **¿nadie te apoya?**

PM3: Pues la maestra cuando... Ahí si el compañero que me cuida... si

L1: Ah...ok, esta bien y en estas clases, **¿Cómo era la dinámica aquí del maestro?**

PM3: Cuando nosotros queríamos hablar o decir algo. El decía que pusiéramos la mano en la mesa, y el primero que tocara. Su mano era el que iba a hablar....

L1: Ah...ok, ¿para que participaran verdad? Para que hubiera participaciones justas...ok **¿y que más hacían con el maestro de inglés?**

PM3: Pues me gustaba que jugáramos, que cantábamos, que escribíamos, con el maestro y aprender aquí con mis amigos, fue genial. Y convivir con todos.

L1: Ah...ok, de hecho, ahí va la pregunta **¿Qué te parecieron estas clases de inglés?**

PM3: Me parecieron super extraordinarias, creo que muchísimo me han dado la mano, las clases de inglés, de aprender a leer, a escribirlo, y pues con todas las faltas de ortografía que tenía porque me equivocaba, me los corrige apropiadamente.

L1: Si claro, eso es parte de aprender. Este de...**¿te gustaron?**

PM3: Sí

L1: Que. Bueno... este de... Bueno ya mencionaste que hacíamos en estas clases. Y por ejemplo **¿Cómo te hacía sentir cuando escribías el Braille en inglés? ¿Bien? ¿mal?**

PM3: Bien

L1: **¿Te gusto?**

PF3: Sí

L1: **¿Por qué?**

PF3: Porque era un idioma muy nuevo

L1: Un idioma nuevo, **¿Qué se te facilitó? ¿Qué se te dificultó?** Cuando escribías Braille en Inglés

PF3: Que las palabras nuevas no me las sabía

L1: ¿A qué crees que se deba eso? Por ejemplo, muchos me dicen que para ellos no es lo mismo escuchar la palabra y otros me dicen escribirla. **¿estás de acuerdo?**

PF3: Mmm... si

L1: Esta bien... muchos me decían que cuando escribían el inglés era como una lengua muy marciana, que no era lo mismo que escucharlo **¿verdad?**

PF3: Aja

L1: Ah...ok **¿y como de que otra manera se te facilitó?**

PF3: Ehm... cuando el maestro no los decía letra por letra

L1: Ah... ok, el deletro **¿te gusto esa técnica?**

PF3: Sí

L1: Perfecto, de hecho ahí va otra pregunta **¿Qué es más fácil para ti: escribir el Braille en español o en inglés?**

PM3: En español

L1: **¿Por qué?**

PF3: Porque a ese idioma es al que más estoy acostumbrada. Y porque son palabras diferentes

L1: Ah...ok **¿por ejemplo?**

PF3: Este de... Hi!...

L1: Hi?... oh hi!... **¿Qué significa?**

PF3: Hola

L1: Andale... hola... hola. Bueno... este de... **¿tú crees que necesitarías más tiempo para seguir aprendiendo el Braille en Inglés?**

PF3: Sí

L1: **¿Cómo cuánto tiempo más o menos?**

PF3: Como... 10 minutos

L1: **¿10 minutos?** Asu... Yo decía que un día, una semana, es para que te adaptes

PF3: Ah... una semana

L1: Ok... Este de... **¿Cómo sentiste las actividades en clase?**

PF3: Muy buenas

L1: Muy buenas... **¿te gustaron?**

PF3: Sí

L1: Ah...ok... y por ejemplo **¿Cuáles fueron tus favoritas?**

PF3: El juego de simon dice, la actividad donde hablamos acerca de nosotros

L1: Ah... ok si perfecto, y por ejemplo **¿Cuáles no te gustaron?**

PF3: Mmm... esa si no tengo respuesta

L1: Ah... ok, **¿todas te gustaron?**

PF3: Sí

L1: Ah... ok y por ejemplo. **¿Qué opinaba tu mamá de las clases de inglés?**

PF3: Que eran muy buenos para mi, que era un muy buen idioma para aprender, que le echara ganas... hasta incluso me ayudaba en las tareas.

L1: Ah, ok, muy bien y por ejemplo **¿Qué sugerencias darias tu para tener mejores clases de inglés?**

PF3: Pues yo diria que... pues... que se siga practicando el idioma... que siempre se siga para adelante. La sugerencia es que sigamos practicando el idioma

L1: Ah... ok esta bien. Y por ejemplo, durante las clases de inglés **¿Qué materiales se te facilitaron más?**

PF3: La maquina perkins

L1: La maquina perkins, sin lugar a dudas **¿verdad?**. Para escribir... bueno y por ejemplo **¿Qué materiales te gustaria usar para futuras clases?**

PF3: Mmm...

L1: **¿Algun tipo de textuta? ¿o materiales?**

PM3: Pues a mi juegos didácticos

L1: Juegos didácticos **¿Cómo por ejemplo?**

PF3: Esto que esta aca...

(Saca una MacBook de su maleta)

L1: Oh... **¿recursos tecnológicos?**

PF3: ¡Sí!

L1: Ah... ok. Que bueno que me dices eso. Bueno... **¿Cómo describirias la relación entre tú y tu compañera?**

PF3: Buena

L1: **¿Buena?** Ok... **¿Cómo describirias la relación con tus compañeros en tu escuela regular?**

PF3: Mmm.... Mala

L1: Mala... comprendo. Ok... **¿cómo describirías la relación con tu maestro de inglés de aquí y tú?**

PM3: Buena

L1: **¿Cómo describirías la relación...**

PF3: Con mi maestra de inglés en mi escuela . Regular, mala.

L1: Ok... **¿crees que una mejor comunicación con tu maestro de inglés o con tus compañeros es importante para aprender el inglés?**

PF3: Sí... mucho

L1: ¿Mucho? Ok... **¿Cómo de que manera crees que influye?**

PF3: Mmm...

L1: **¿tu disposición para trabajar en clase?**

PF3: Sí, eso, eso

L1: Ah... ok... bueno. **¿Consideras que los recursos didácticos son muy importantes como para aprender el idioma?**

PF2: Sí

L1: Ah...ok... claro no... Y por ejemplo **¿Cómo sentiste el ritmo de la clase? ¿Muy rápido? ¿muy lento?**

PF3: Muy bien

L1: Osea... **¿normal?**

PF3: Sí... normal

L1: Por ejemplo **¿consideras que lo aprendido aquí en clase lo puedes llevar a otros aspectos de tu vida?**

PF3: Sí

L1: **¿Cómo por ejemplo en dónde?** En tu escuela regular, con tu familia...

PF3: Ah sí, con mi familia

L1: Ah...ok con tu familia. Por ejemplo **¿crees que tu actitud determina tu interés para aprender el idioma inglés?**

PF3: Sí

L1: Ah... ok **¿actitud positiva o negativa?**

PF3: Positiva

L1: Ah... ok... **¿crees que tu discapacidad visual influye en el aprendizaje del idioma inglés?**

PF3: Sí

L1: **¿De que manera?**

PF3: Mmm... porque es diferente a comparación de uno que si ve...

L1: Ah... ok, **¿crees que tu discapacidad influye para que las clases de inglés sean diferentes a la de una persona normovente?**

PF3: Sí

L1: Ah...ok. **¿son diferentes verdad? ¿Por qué aspecto podrias decir tu?**

PF3: Por... eh... el sistema Braille

L1: Ok...**¿consideras que tu discapacidad visual es una limitante para aprender el idioma inglés?**

PM3: Sí

L1: **¿Es una limitante? ¿Osea que es algo malo?**

PM3: En parte, porque hay muchos maestros que no saben trabajar en personas como yo...

L1: Ah ok... **¿Cómo describirias en una palabra tu experiencia en aprender el idioma inglés?**

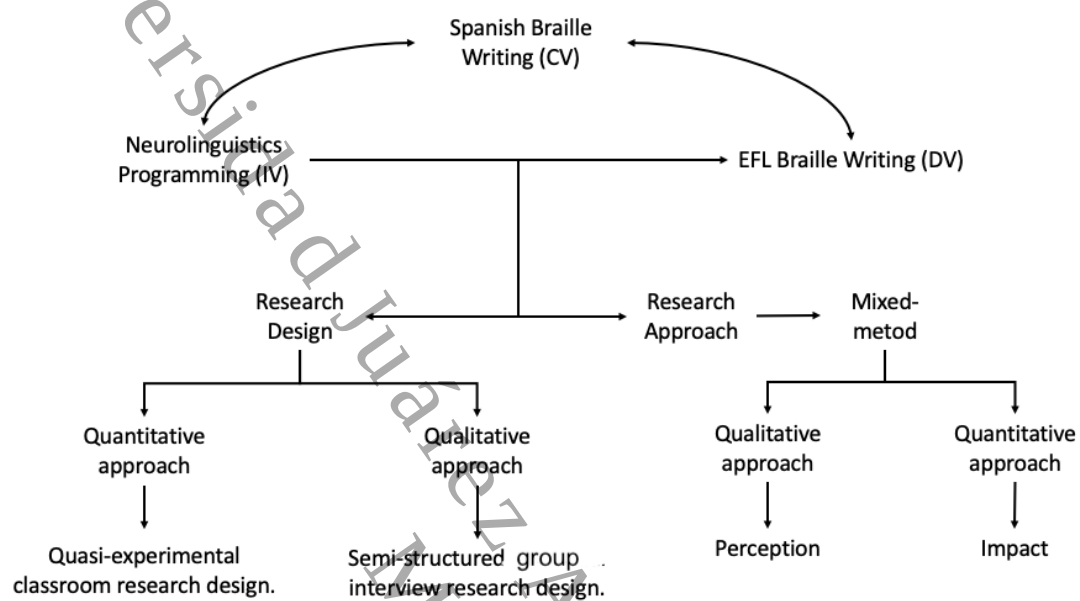
PM3: Buena

L1: **¿Buena?**, bueno y la última pregunta **¿te gustaria seguir aprendiendo el idioma inglés?**

PM3: Sí

L1: Ah... que bueno, muchisimas gracias.

Appendix K.- Research project brainstorm



Appendix L: Certificates





UNIVERSIDAD JUÁREZ
AUTÓNOMA DE TABASCO
"ESTUDIANDO EN LA JUZGA, ACCIÓN EN LA FE"

El Sistema DIF Tabasco a través de la Dirección de
Atención a Personas con Discapacidad

OTORGA LA PRESENTE

Constancia

A: José Víctor López Madrigal
Silvia Patricia Aquino Zúñiga y
Manuel Jesús Izquierdo Sandoval

Por su participación como Ponente en el "Ier. Congreso Nacional de Discapacidad e Inclusión DIF Tabasco 2024", con el tema "La Programación Neurolingüística (PNL) como Alternativa Pedagógica en la Escritura UEB (Unified English Braille) en Clases de Inglés como Lengua Extranjera (EFL) en Niños Ciegos", efectuado los días 11 y 12 de diciembre de 2024, en el Centro Internacional de Vinculación y Enseñanza (CIVE) de la UJAT.

Villahermosa, Tabasco; 12 de diciembre de 2024

Aurora Salas de la Cruz
Presidenta honoraria del
Sistema DIF Tabasco

Guillermo Narváez Osorio
Rector de la Universidad
Juárez Autónoma de Tabasco

Víctor de Dios Gómez
Coordinador General del
Sistema DIF Tabasco

Universidad Juárez Autónoma de Tabasco



CONSTANCIA DE PARTICIPACIÓN

otorgada a:

**JOSÉ VÍCTOR LÓPEZ
MADRIGAL**

Por su participación en el conversatorio:

***PNL como alternativa para el desarrollo de la escritura UEB en
clases de inglés para niños ciegos***

llevado a cabo el mes de Junio del 2024 con el apoyo de la
comunidad educativa de Fundación Kichihua A.C



Mtro. Eduardo Ayala Fragoza

PRESIDENTE DE
FUNDACIÓN KICHIHUA A.C

Appendix M.- Treatment data

Cronograma de Actividades

Actividades	Meses (Semanas)												Observaciones
	Marzo			Abril				Mayo				Junio	
	11-15	18-22	25-29	1-5	8-12	15-19	22-26	29-3	6-10	20-24	27-31	3-7	
Pre-task													Pre-test
Vacaciones													Receso escolar
Sesión 1													
Sesión 2													
Sesión 3													
Sesión 4													
Sesión 5													
Sesión 6													
Sesión 7													
Post-task													Post-test

Alumnos considerados para el estudio

Nombre del Alumno	Edad	Grupo	Sexo	Horario
Sánchez Carballo Mariana Sofía	8	2	F	Viernes: 8:00-9:00 am en Braille.
Sánchez Almeida Mirari Yamilet	9	3	F	Jueves: 9:00-10:00 am en Braille.
Reyes de la Cruz Dylan	9	3	M	Jueves: 9:00-10:00 am en Braille.
Reyes de la Cruz Zaid	9	3	M	Jueves: 10:30-11:30 am en Braille.
Pérez Gómez Karely Guadalupe	10	4	F	Viernes: 9:00- 9:30 am en Primaria.
Orozco Madrigal Ana Milagros	10	4	F	Viernes: 9:00- 9:30 am en Primaria.
de la Cruz Bautista Rosa Isela	13	4	F	Miércoles: 12:30-13:30 pm en Primaria (1:30-2:30 pm c/15 días).
Cabrera Ovando Jesús Francisco.	11	4	M	Miércoles: 12:30-13:30 pm en Primaria 1:30-2:30 pm c/15 días).
García Potenciano Yeyezy Jocabed.	10	4	F	Lunes: 8:00-9:00 am en Preescolar.

Horario de actividades Inglés I

Hora	Lunes	Martes	Miércoles	Jueves	Viernes
8:00-9:00	Preescolar				Braille
9:00-10:00				Braille	Primaria
10:30-11:30				Braille	
11:30-12:30					

12:30-13:30			Primaria		
13:30-14:30			Cada 15 días		

Syllabus

Sessions	1, 2, 3	Name of the Unit	At school
Unit	1	Aim of the Unit	Introduce students to the language by relating pronunciation to their respective writing according to the Unified English Braille Grade 1.
Vocabulary	• The alphabet • The numbers • Classroom objects • Days of the week • Months of the year • Seasons of the year • Dates		
Grammar	• A-an articles • Present simple tense (affirmative form) • Singular and plural nouns		

Sessions	4 and 5	Name of the Unit	Classroom
Unit	2	Aim of the Unit	Learn greetings and farewells. Write personal information (name, surname, age, etc.) according to Unified English Braille Grade 1.
Vocabulary	• Greetings and Farewells • Personal Information • Countries and Nationalities • Hobbies		
Grammar	• Present simple tense (Negative form) • Verb to be		

Sessions	6 and 7	Name of the Unit	At home
Unit	3	Aim of the Unit	Identify professions and trades. Write personal information related to family members according to Unified English Braille Grade 1.
Vocabulary	• Family members • Professions and Trades • Bedroom objects		
Grammar	• Present simple tense (Negative and interrogative form) • Verb to be (do and does)		

Appendix N.- Administrative procedures of the intervention

 UNIVERSIDAD JUÁREZ AUTÓNOMA DE TABASCO "ESTUDIO EN LA DUDA. ACCIÓN EN LA FE"	SECRETARÍA DE INVESTIGACIÓN, POSGRADO Y VINCULACIÓN	DIRECCIÓN DE INVESTIGACIÓN	 2023 Francisco VILLA
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José Víctor López Madrigal
Av. Universidad s/n, Magisterial
Villahermosa, Tabasco
211J25037@alumno.ujat.mx
993 348 5339

Miércoles 18 de Octubre del 2023

DIF Tabasco
Dirección de discapacidad
Calle Manuel Antonio Romero #203
Villahermosa, Tabasco.

Estimado/a responsable de la dirección de discapacidad:

Mi nombre es José Víctor López Madrigal, soy estudiante del sexto semestre de la licenciatura en idiomas en la Universidad Juárez Autónoma de Tabasco. Me comunico ante usted para expresar mi interés en realizar mi servicio social en el Centro de Atención Integral a Ciegos y Débiles Visuales (CAICDV).

El motivo por el cual solicito llevar a cabo mi servicio social en aquel centro, se debe a que estoy llevando a cabo un proyecto de investigación denominado **"La Neurolingüística como alternativa para el desarrollo de estrategias pedagógicas en la enseñanza del idioma Inglés como Lengua Extranjera (EFL) en niños ciegos"**. En los últimos años, la Neurolingüística ha tenido avances significativos en la investigación de Adquisición de Segundas Lenguas (SLA). Sin embargo, gran parte de las estrategias aplicadas en el aula requieren el sentido visual para poder ejecutarlas, de modo que los alumnos con discapacidad visual son los más perjudicados. A pesar de que el docente aplique adaptaciones dentro del aula, no cuenta el mismo rendimiento académico a comparación del alumno regular.

En el área de enseñanza de idiomas, este sector es el más vulnerable, debido a la escases de recursos didácticos del idioma Inglés adaptados en sistema Braille, de igual manera, las pocas estrategias que adaptan las aulas a los alumnos con discapacidad visual se enfocan en habla (speaking) y en el escucha (listening), sin embargo no los enseñan a leer (reading) y escribir (writing). Por consecuencia, el alumno no desarrolla todas las habilidades requeridas para el manejo de un segundo idioma, de modo que en este estudio propone una pedagogía enfocada en el alumno ciego, del cual pueda desarrollar estas cuatro habilidades que favorezcan al rendimiento académico en el aprendizaje del idioma Inglés dentro del aula.

Por consiguiente, el abajo firmante, deseo **realizar el servicio social en el Centro de Atención Integral a Ciegos y Débiles Visuales (CAICDV)** a partir del día Jueves 1º de Febrero del 2024 hasta el Miércoles 31 de Julio del 2024 de 8am a 11am, cumpliendo las 480 horas establecidos en la ley.





UNIVERSIDAD JUÁREZ
AUTÓNOMA DE TABASCO

"ESTUDIO EN LA DUDA. ACCIÓN EN LA FE"

SECRETARÍA
DE INVESTIGACIÓN,
POSGRADO Y
VINCULACIÓN

DIRECCIÓN
DE INVESTIGACIÓN



2023
Francisco
VILLA

El protocolo establecido en la investigación, los días 1º y 2º de Febrero del 2024 serán de observación a los 32 alumnos contemplados en el estudio, de modo que entre los días 6, 7, 8 y 9 de Febrero del 2024 se realizarán evaluaciones diagnósticas a los estudiantes, con el objetivo de analizar los conocimientos previos que cuentan, de modo que se adaptaran los contenidos en las progresiones de acuerdo a los resultados. Se realizarán evaluaciones cada mes para registrar los avances demostrados por los alumnos. Los registros de clases serán conservados mediante un diario de campo.

La investigación en curso está bajo supervisión de la Dra. Silvia Patricia Aquino Zúñiga (Profesora-investigadora de la Universidad Juárez Autónoma de Tabasco y coordinadora de tesis) y el profesor-investigador Manuel Jesús Izquierdo Sandoval (Subdirector de tesis).

Agradezco su atención prestada, quedo a su disposición para ampliar cualquier información adicional y proporcionar la documentación y trámites necesarios para el proceso de vinculación para respaldar mi petición.

Le agradezco de antemano su rápida respuesta y me despido atentamente.

José Víctor López Madrigal
Estudiante de la Lic. En Idiomas
Responsable del servicio social

Dra. Silvia Patricia Aquino Zúñiga
Directora de tesis

Dr. Manuel Jesús Izquierdo Sandoval
Sub-director de tesis



UNIVERSIDAD JUÁREZ
AUTÓNOMA DE TABASCO
"ESTUDIO EN LA OBRA. ACCIÓN EN LA FE"

SECRETARÍA
DE INVESTIGACIÓN,
POSGRADO Y
VINCULACIÓN

DIRECCIÓN
DE INVESTIGACIÓN



2023
Francisco
VILLA

José Víctor López Madrigal
Av. Universidad s/n, Magisterial
Villahermosa, Tabasco
211J25037@alumno.ujat.mx
993 348 5339

Miércoles 25 de Octubre del 2023

DIF Tabasco
Departamento de Desarrollo Humano y Profesionalización.
Calle Manuel Antonio Romero #203
Villahermosa, Tabasco.

Estimada Lic. Delicia C. Domínguez Velázquez:

Mi nombre es José Víctor López Madrigal, soy estudiante del sexto semestre de la Licenciatura en Idiomas en la Universidad Juárez Autónoma de Tabasco. Me comunico ante usted para expresar mi interés en realizar mi servicio social en el Centro de Atención Integral a Ciegos y Débiles Visuales (CAICDV).

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Por consiguiente, el abajo firmante, deseo **realizar el servicio social en el Centro de Atención Integral a Ciegos y Débiles Visuales (CAICDV)** a partir del día Jueves 1º de Febrero del 2024 hasta el Miércoles 31 de Julio del 2024 de 8am a 11am, cumpliendo las 480 horas establecidos en la ley.



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Agradezco su atención prestada, quedo a su disposición para apilar cualquier información adicional y proporcionar la documentación y trámites necesarios para el proceso de vinculación para respaldar mi petición.

Le agradezco de antemano su rápida respuesta y me despido atentamente.

José Víctor López Madrigal
Estudiante de la Lic. En Idiomas
Responsable del Servicio Social

Dra. Silvia Patricia Aquino Zúñiga
Directora de tesis

Dr. Manuel Jesús Izquierdo Sandoval
Sub-director de tesis



**Asunto: CARTA DE ACEPTACIÓN
DE SERVICIO SOCIAL.**

Villahermosa, Tabasco a 24 de enero de 2024

MTRO. JOSÉ MIGUEL ALEJANDRO GÓMEZ HERNÁNDEZ
JEFE DEL DEPARTAMENTO DE SERVICIO SOCIAL Y PRÁCTICA PROFESIONAL
SECRETARÍA DE SERVICIOS ACADÉMICOS
UNIVERSIDAD JUÁREZ AUTÓNOMA DE TABASCO
PRESENTE

La que suscribe, Jefe del Departamento de Desarrollo Humano y Profesionalización, hace constar que el alumno (a) **JOSÉ VÍCTOR LÓPEZ MADRIGAL**, con número de Matrícula **211J25037** de la Licenciatura en Idiomas, de esta institución educativa, ha sido aceptado (a) satisfactoriamente para su **Servicio Social** en el periodo del **01 de febrero de 2024 al 31 de julio del 2024**. En el Centro: **Dirección de Atención a personas con Discapacidad**, Ubicado en Tabasco.

Sin otro particular y, a nombre de esta noble Institución agradezco el esfuerzo en la construcción de un mejor futuro para las y los jóvenes del Estado.

ATENTAMENTE

Lic. Delicia C. Domínguez Velázquez

Jefa del Departamento de Desarrollo Humano y Profesionalización del Sistema DIF Tabasco.



c. c. p. C. Elena Manzanilla Fojaco.- Directora de Atención a Personas con Discapacidad.
c. c. p. Interesado
c. c. p. Archivo

**"2024, Año de Felipe Carrillo Puerto,
Benemérito del proletariado, revolucionario y defensor del Mayab."**

DIRECCIÓN DE PROGRAMAS ESTUDIANTILES
DEPARTAMENTO DE SERVICIO SOCIAL Y PRÁCTICA PROFESIONAL

16 de enero de 2024
Oficio No.03/DSSYPP/24
Asunto: Oficio de Presentación

LIC. DELICIA C. DOMINGUEZ VELÁZQUEZ
JEFA DEL DEPARTAMENTO DE DESARROLLO HUMANO
Y PROFESIONALIZACIÓN DEL SISTEMA DIF TABASCO
P R E S E N T E

Por este medio me permito presentar al alumno **José Víctor López Madrigal**, de la Lic. **en Idiomas**, perteneciente a la **División Académica de Educación y Artes**, con matrícula **211J25037**, a quien se comisiona para realizar el **Servicio Social** en las instalaciones del **Centro de Atención Integral a Ciegos y Débiles Visuales**, durante el periodo que comprende del **01 de febrero al 31 de julio del 2024**.

Sin otro particular, me despido enviándole un cordial saludo.



ATENTAMENTE

Departamento de Servicio Social
y Práctica Profesional

MTRO. JOSE MIGUEL ALEJANDRO GÓMEZ HERNÁNDEZ
JEFE DEL DEPARTAMENTO DE SERVICIO SOCIAL
Y PRÁCTICA PROFESIONAL



C.c.p. Archivo

Copia p/Alumno

Av. Universidad s/n, Zona de la Cultura, Col. Magisterial,
Villahermosa, Centro, Tabasco, Mex. C.P. 86040.
Tel (993) 358 15 00 e-Mail: direccion.dpe@ujat.mx

www.ujat.mx



Universidad Juárez Autónoma de Tabasco

Servicio Social

Reporte Mensual

FEBRERO

Fecha de Captura: 01 de Marzo de 2024 a la(s) 01:26 PM

Datos del Alumno

Nombre 211J25037 - LÓPEZ MADRIGAL JOSÉ VÍCTOR
División Académica DIVISIÓN ACADÉMICA DE EDUCACIÓN Y ARTES
Carrera LICENCIADO EN IDIOMAS

Datos de la Unidad Receptora y Programa

Unidad Receptora DEPARTAMENTO DE SERVICIO SOCIAL Y PRÁCTICA PROFESIONAL
Nombre del Programa ATENCIÓN A LOS ADULTOS MAYORES (CENTRO GERONTOLÓGICO) //
WHATSAPP:
9931345546

Descripción de las Actividades

Descripción de las Actividades Realizadas - Educativas

- APOYO PEDAGÓGICO EN EL ÁREA DE EDUCACIÓN PRIMARIA.
- APOYO PEDAGÓGICO EN EL ÁREA DE MUSICA.
- APOYO EN REDACCIÓN DE BITÁCORAS A DIVERSOS DOCENTES.
- APOYO EN DESPLAZAMIENTO DE AULAS A LOS BENEFICIARIOS.
- APLICACIÓN DE EVALUACIONES DIAGNÓSTICAS EN COMPRENSIÓN LECTORA EN BRAILLE.
- APLICACIÓN DE EVALUACIONES DIAGNÓSTICAS EN EXPRESIÓN ESCRITA EN BRAILLE.



Departamento de Servicio Social
Práctica Profesional programa
Firma de la Unidad Receptora

Firma del alumno
LÓPEZ MADRIGAL JOSÉ VÍCTOR

La División Académica validará el presente reporte mensual mediante la aprobación en el sistema de servicio social



Universidad Juárez Autónoma de Tabasco

Servicio Social
Reporte Mensual

MARZO

Fecha de Captura: 08 de Abril de 2024 a la(s) 03:05 PM

Datos del Alumno

Nombre 211J25037 - LÓPEZ MADRIGAL JOSÉ VÍCTOR
División Académica DIVISIÓN ACADÉMICA DE EDUCACIÓN Y ARTES
Carrera LICENCIADO EN IDIOMAS

Datos de la Unidad Receptora y Programa

Unidad Receptora DEPARTAMENTO DE SERVICIO SOCIAL Y PRÁCTICA PROFESIONAL
Nombre del Programa ATENCIÓN A LOS ADULTOS MAYORES (CENTRO GERONTOLÓGICO) //
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Descripción de las Actividades

Descripción de las Actividades Realizadas - **Educativas**

APOYO PEDAGÓGICO EN EL ÁREA DE EDUCACIÓN PRIMARIA.
APOYO PEDAGÓGICO EN EL ÁREA DE BRAILLE.

Descripción de las Actividades Realizadas - **Asesoría profesional**

APOYO EN REDACCIÓN DE BITÁCORAS A DIVERSOS DOCENTES.

Descripción de las Actividades Realizadas - **Recreativas y culturales**

APLICACIÓN DE EVALUACIONES DIAGNOSTICAS EN ESCRITURA BRAILLE DEL IDIOMA INGLÉS.

Descripción de las Actividades Realizadas - **Otras**

MOVILIDAD DE LOS BENEFICIARIOS A SUS RESPECTIVAS ÁREAS.



Departamento de Servicio Social
y Práctica Profesional

Firma del alumno
LÓPEZ MADRIGAL JOSÉ VÍCTOR

La División Académica validará el presente reporte mensual mediante la aprobación en el sistema de servicio social



UNIVERSIDAD JUÁREZ
AUTÓNOMA DE TABASCO
"ESTUDIO EN LA FE. ACCIÓN EN LA FE"

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DIRECCIÓN
DE INVESTIGACIÓN



Villahermosa, Tabasco, a 7 de Octubre del 2024

Comité organizador del Foro el Edén de la Ciencia

PRESENTE

Por medio de la presente me permito autorizar y presentar la cápsula demostrativa de vídeo en el marco del Cuarto Foro el Edén de la Ciencia, el uso del tema de investigación: **La Programación Neurolingüística (PNL) como alternativa para el desarrollo del Braille Inglés Unificado (UEB) en el aprendizaje del Inglés como Lengua Extranjera (EFL) en niños ciegos**, en el área de conocimiento de **Ciencias de la Conducta y la Educación**.

No omito manifestar que la o el estudiante **José Víctor López Madrigal** de la **Licenciatura en Idiomas** de la **Universidad Juárez Autónoma de Tabasco** participa en esta investigación.

Agradeciendo la gestión de autorización me despido de ustedes con un respetuoso saludo.

ATENTAMENTE

Dra. Silvia Patricia Aquino Zúñiga

Universidad Juárez Autónoma de Tabasco

Miembro del Sistema Nacional y Estatal de Investigadores (SNI, SEI).

C.c.p. Archivo.



"Secretaría de Investigación, Posgrado y Vinculación, Sistema de Gestión de Calidad, certificado por American Trust Registrar, S.C.", Alcance de Certificación (Véase en el Manual de Calidad), Número de certificación: ATR 0742 en base a (norma de referencia NMX-CC-9001-IM-NC-2015), Vigencia de Certificación (11 de Julio de 2026)

Av. 27 de febrero 626, Col. Centro, C.P. 86000
Villahermosa, Tabasco, México
(993) 358.15.00 Ext. 5009
direccion.investigacion@ujat.mx
www.ujat.mx

Clave: E-DI-67

Rev: 01

ANEXO 7

Alojamiento de la Tesis en el Repositorio Institucional	
Título de Tesis:	"Neurolinguistics Programming (NLP) as a Pedagogical Alternative using Unified English Braille (UEB) Code in EFL Classes for Elementary Blind Children"
Autor de la Tesis:	José Víctor López Madrigal
ORCID:	0009-0000-6818-3665
Resumen de la Tesis:	En los últimos años, la enseñanza del inglés como lengua extranjera (EFL) ha cobrado una importancia creciente dentro del ámbito educativo. Entre los enfoques innovadores que han surgido, la Programación Neurolingüística (PNL) se ha propuesto como una alternativa pedagógica eficaz en el aprendizaje de segundas lenguas, al punto de promover el desarrollo de competencias educativas mediante sus técnicas en contextos de L2. No obstante, la población con discapacidad visual (DV) ha sido históricamente excluida de estos avances, en gran parte debido a los estigmas que la rodean. Estudios recientes en neurolingüística han demostrado que las personas con DV poseen la capacidad cognitiva para adquirir un segundo idioma. Parte del problema radica en la falta de estrategias didácticas adaptadas que potencien todas las habilidades lingüísticas en niños con ceguera. Por ello, este estudio de enfoque mixto propone la implementación de la PNL como herramienta didáctica para la enseñanza del inglés en infantes ciegos, con énfasis en el desarrollo de la escritura en Braille Inglés Unificado (UEB) en contextos de L2. Desde la perspectiva cuantitativa, se buscó medir el impacto de la PNL mediante pruebas estandarizadas y encuestas; mientras que el enfoque cualitativo se centró en analizar las percepciones de los participantes durante el proceso. Debido a las limitaciones de acceso a esta población en el suroeste mexicano, solo 10 niños participaron en la intervención. Al inicio se aplicó un pre-test, y al finalizar las sesiones educativas se administró un post-test, además de encuestas y una entrevista semiestructurada. Los datos fueron procesados e interpretados mediante distintos programas, lo que permitió formular una hipótesis alternativa. Aunque todos los participantes mostraron mejoras notables en la escritura en L2, se observaron marcadas diferencias entre los distintos grupos experimentales. El análisis cualitativo reveló que factores externos como el respaldo familiar, el entorno escolar y la situación económica influyeron significativamente en la adquisición del segundo idioma.
Palabras claves de la Tesis:	Programación Neurolingüística (PNL), Discapacidad Visual (DV), Braille Inglés Unificado (UEB), Inglés como Lengua Extranjera (EFL), Niños con condición de ceguera.

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