

Breaking barriers: teaching English through sign language

Johanna Marcela Hoyos Padilla

Paola Andrea Ramos Hernández

Advisor

Juan Camilo Pérez Hernández

Universidad Nacional Abierta y a Distancia

Escuela Ciencias de la Educación

Licenciatura en Lenguas Extranjeras con énfasis en inglés

2025

Acknowledgments

First and foremost, I would like to express my sincere gratitude to my beloved parents for their unwavering support and love, regardless of the circumstances. The hard work and sacrifices they made for their children have deeply moved me, recognizing the essential importance of education and the right to demand a more inclusive world. Their nature has inspired me every day, propelling me toward a future where we all have the same opportunities to be happy. A special thanks to my husband, who has been my constant support throughout my academic journey. His encouragement motivated me to pursue my dreams and make this project a reality. To my children, who are my driving force and inspiration in life, for whom I fight daily. To us and our conviction for a world with inclusive education, I dedicate this writing with all my love.

Johanna Marcela Hoyos Padilla

For my part, I thank God, first and foremost, because it is He who has given me the strength to keep going and get this far. I thank my mother, who has always been my unconditional support throughout my academic preparation. To my cat Katuska, who always helps me overcome difficult moments of confusion and exhaustion, because her love allows me to keep going. I'm grateful to those who are no longer with me but remain in my heart, like my father and my grandfather. I'm grateful to my partner for being patient and to my other loved ones who have always supported me. I'm grateful to myself for being brave and not giving up in the face of adversity and illness that may arise.

Paola Andrea Ramos Hernández

Resumen

La monografía "Rompiendo Barreras: Enseñando Inglés a través de la Lengua de Señas" aborda un importante desafío global en las aulas, destacando la necesidad de capacitar al profesorado en el uso de la lengua de señas en la enseñanza del inglés.

Este método no solo busca ayudar a los estudiantes con discapacidad auditiva a aprender un idioma, sino que también fomenta un entorno inclusivo de diversidad y equidad en el aprendizaje en el aula. El artículo inicia la discusión examinando el estado actual de la educación inclusiva, enfatizando la importancia de adaptar los métodos de enseñanza a las necesidades de todo el alumnado. Además, señala que aprender un idioma como el inglés puede ser difícil para el alumnado sordo debido a las diversas barreras comunicativas que dificultan el acceso adecuado a la educación. En este sentido, la incorporación de la lengua de señas se presenta como una forma eficaz de abordar estos desafíos.

La monografía propone una revisión de modelos pedagógicos que integran la lengua de señas en la enseñanza del inglés, ofreciendo al profesorado estrategias para su aprendizaje, incluso estrategias que pueden implementarse en el aula. El análisis propuesto también examina diferentes bases de datos que permiten observar cómo los autores gestionan la dinámica de la comunicación y el aprendizaje inclusivos con las variaciones presentes en los contextos culturales y sociales. Por lo tanto, el estudio aborda las estrategias didácticas implementadas mediante la lengua de señas en relación con la adquisición del inglés en el aula. Cabe mencionar que este estudio se realizó en consonancia con el Objetivo de Desarrollo Sostenible 4, ya que los argumentos generados se sitúan entre 2017 y 2025. Finalmente, esta monografía busca enfatizar la necesidad de sensibilizar a la comunidad educativa sobre la necesidad de eliminar las barreras comunicativas que surgen al enseñar inglés a estudiantes con discapacidad auditiva,

fortaleciendo así el proceso de inclusión en el aula y brindando la oportunidad de un entorno educativo accesible y justo.

Palabras clave: Educación Inclusiva, Lengua de Señas Colombiana (LSC), Enseñanza del Inglés (ELT), Formación Docente, Estudiantes Sordos

Abstract

The monograph "Breaking Barriers: Teaching English through Sign Language" addresses a major global challenge encountered in classrooms, highlighting the need to train teachers to use sign language in English language teaching.

This method not only seeks to help students with hearing impairments learn a language but also fosters an inclusive environment of diversity and equity in classroom learning. The article begins the discussion by examining the current state of inclusive education, emphasizing the importance of adapting teaching methods to the needs of all students. Additionally, it points out that learning a language like English can be difficult for deaf students due to the various communication barriers that hinder proper access to education. In this sense, the incorporation of sign language is presented as an effective way to address these challenges.

The monograph proposes a review of pedagogical models that integrate sign language into English language teaching, offering teachers strategies for learning English. Inclusive strategies that can be implemented in classrooms. The proposed analysis also examines different databases that allow us to observe how the authors handle the dynamics of inclusive communication and learning with the variations presented in cultural and social contexts.

Therefore, the study addresses the teaching strategies implemented through sign language in relation to English language acquisition in the classroom. It is worth mentioning that this study was conducted in conjunction with Sustainable Development Goal 4, as the years of the arguments generated fall between 2017 and 2025. Finally, this monograph seeks to emphasize the need to raise awareness in the educational community about the need to eliminate communication barriers that arise when teaching English to students with hearing disabilities,

thus strengthening the inclusion process in the classroom and providing an opportunity for an accessible and fair educational environment.

Keywords: Inclusive Education, Colombian Sign Language (CSL)
English Language Teaching (ELT), Teacher Training, Deaf Students

Specialized Analytical Summary

Title	Breaking Barriers: Teaching English through Sign Language
Author(s)	Johanna Marcela Hoyos Padilla Paola Andrea Ramos Hernández
Editorial	Universidad Nacional Abierta y a Distancia
Date	Oral Defense Date (Month, Day, Year)
Keywords	Inclusive Education Colombian Sign Language (CSL) English Language Teaching (ELT) Teacher Training Deaf Students
Description	Monograph
Contents	<p>The monograph "Breaking Barriers: Teaching English through Sign Language" explores the need to strengthen teacher training in the use of sign language as a pedagogical tool for teaching English. This approach not only facilitates language learning for students with hearing impairments but also fosters inclusive environments that value diversity and equity in the classroom.</p> <p>The document begins with an analysis of the current context of inclusive education, emphasizing the importance of adapting teaching methods to meet the needs of all students. It highlights that acquiring a second language, such as English, represents a significant challenge for deaf students, who often face communication barriers that limit their access to knowledge. In this sense, sign language is presented as an effective strategy for overcoming these obstacles.</p>

	<p>A pedagogical model is proposed that integrates sign language into English teaching, providing teachers with practical strategies and resources for its application in the classroom. This includes designing curricula that prepare educators to use sign language, adopting teaching methodologies that encourage active participation, and using visual and playful materials that stimulate communication and collaborative learning.</p> <p>The benefits of this methodology extend beyond deaf students: their hearing peers also can develop empathy, intercultural awareness, and respect for linguistic diversity. Therefore, teacher training is identified as a key factor for success, as educators must be trained to adapt their practices and create accessible learning environments.</p> <p>The study concludes by underscoring the importance of raising awareness among the educational community about the need to break down communication barriers and promote inclusive practices. It urges educational institutions to implement ongoing training programs in sign language and inclusive methodologies, ensuring that all students, regardless of their hearing status, have access to equitable and meaningful educational experiences.</p>
Research Line	Quality, innovation, and digital transformation for inclusive education
Conclusions	<p>This monograph demonstrated that teaching English through Colombian Sign Language (CSL) is an effective and necessary pedagogical strategy for ensuring the inclusion of deaf students in educational settings. The findings demonstrate that the use of sign language not only facilitates the acquisition of a foreign language but also contributes to the strengthening and understanding of the culture, self-esteem, and active participation of learners.</p>

Advisor	Juan Camilo Pérez Hernández
---------	-----------------------------

Table of Content

Introduction.....	15
Problem Statement.....	16
Research Question.....	17
Justification.....	18
Objectives.....	20
General Objectives.....	20
Specific Objectives.....	20
Research Background	21
International Background.....	21
National Background.....	30
The Legal and Political Framework.....	34
Regulations in Colombia.....	34
Contextualization with Colombian Regulations.....	35
Connection with International Regulations.....	36
Literature Review.....	39
The Origin of Sign Language.....	39
Origin of Sign Languages in Latin America.....	40

Venezuelan Sign Language (VSL).....	40
Chilean Sign Language (LSCh).....	40
Cuban Sign Language (CSL).....	41
Brazilian Sign Language (Libras).....	41
Communication Before the Emergence of Sign Language.....	42
Implementation of Sign Language.....	42
Formation of Sign Language.....	43
Recognition as an Independent Language.....	44
The Sociocultural Adaptation of Sign Language in Colombia.....	45
Approaches to Teaching Sign Language in English-Speaking Contexts.....	46
Reflection about Sign Language in relation with others literary sources.....	49
The Contribution of Sign Language in Learning English as a Third Foreign Language.....	49
Authors Related to Sign Language and English Teaching.....	51
The Importance of Inclusive Education.....	54
Methodology.....	55
Inclusion and Exclusion Criteria.....	56
Information Sources.....	57
Search Strategy.....	58
Examples of Boolean Search String Uses.....	58
Results and Discussion.....	60
Representative of Results.....	60

Studies, changes in political and educational contexts.....68

Discussion.....71

Conclusion.....74

Recommendations.....76

References.....77

List of Tables

Table 1 <i>Theoretical Contributions on CSL in ELT</i>	60
Table 2 <i>Pedagogical processes and initiatives in teacher training</i>	62
Table 3 <i>Accredited Experiences and Impact in Colombia</i>	65

List of Figures

Figure 1 <i>Network of Studies and Challenges</i>	69
Figure 2 <i>Tripartite Network of Studies and Challenges</i>	70

Introduction

Language teaching has evolved significantly in recent decades, seeking inclusive and accessible methods for all students, regardless of their abilities. In this context, the integration of sign language into English teaching is presented as an innovative and necessary strategy to serve the deaf population, who often face communication barriers in conventional educational settings. This approach not only facilitates language learning but also promotes an inclusive environment.

The analysis aims to highlight the importance and necessity of training teachers in educational settings, as these environments foster equity and a love of learning that transcends culture and society. From this perspective, diverse identities are recognized and respected, thus improving the learning experience for all students (Betancourt, Norambuena, & Valladares, 2022).

The research "Breaking Barriers: Teaching English through Sign Language" makes special mention of the different pedagogical models that can be part of the inclusive educational study that can be generated. The central idea emphasizes that preparing teachers in CSL is key to strengthening English instruction for deaf students; and enrich the learning experience for all students. This initiative is presented through the analysis of databases and the PRISMA methodology as part of a review of articles studied that demonstrate interest in using sign language as a teaching tool for English.

According to the National Association of the Deaf (NAD), English-language education recognizes the close relationship between cognitive language and socioemotional development, making it more adaptable to the roles and knowledge expected in the classroom, aligned with the need for teachers to acquire competencies in bilingualism and inclusive education.

Problem Statement

In Colombia, educational regulations have required that various educational programs include a foreign language. Law 1651/2013 mentions higher education, while Decree 1421/2017 requires schools to offer bilingual and bicultural education for deaf students. Despite these decisions, there is no consolidated body of knowledge on teaching English to deaf or hard-of-hearing students using Colombian Sign Language (CSL).

Therefore, the absence of documented pedagogical models, various teacher training guidelines, and pedagogical practices highlights the teaching orientation of educators, which runs the risk of excluding deaf students from the benefits that bilingualism brings to their lives. Addressing this gap is essential to align English language teaching with inclusive education policies. From this problem statement and the proposed objectives, the following general research question arises.

Research Question

How has the integration of sign language, particularly Colombian Sign Language (CSL), into English teaching been defined and implemented to promote inclusive education for deaf and hard-of-hearing students in Colombia, reporting pedagogical models, teacher training processes, and documented experiences since 2017?

This question can be broken down into the following sub-questions, which are aligned with the proposed specific objectives:

Theoretical Contributions

What theoretical and empirical perspectives have different authors contributed on the teaching of English as a foreign language (EFL) through CSL in the inclusive educational context since 2017?

Educational Processes

What pedagogical processes and teacher training initiatives have been interrelated for educators who teach English to deaf students using CSL?

Accredited Experiences

What strategies, achievements, challenges, and impacts have been reported in Colombian educational programs that incorporate LSC in English teaching? These questions reflect the incorporation of general and specific objectives based on the PRISMA methodology.

Justification

This study is of great relevance to inclusive education, as it addresses a pressing challenge: the lack of teacher training in teaching English to deaf students through Colombian Sign Language (CSL). In a society that daily emphasizes diversity and educational equity, it is essential to ensure that all students, regardless of their sensory and learning needs, have access to quality education adapted to their communicative realities.

The rationale for this research study lies primarily in the need to strengthen the competencies of future English teachers by integrating strategies that combine sign language pedagogy with the linguistic effectiveness of the language. Therefore, exploring this topic not only links teaching with different contributions to the understanding of the ethical responsibility driven by sociocultural interaction itself. In Colombia, inclusive approaches to English language teaching have advanced, but certain dilemmas persist regarding the recognition of teaching methods that diversify interaction with learning in real-life experiences.

Foreign language teacher training in Colombia has already been the subject of considerable reflection. Scholars such as De Mejía (2006) argue that teacher training cannot be limited solely to language teaching but must encompass cultural and linguistic interaction that reflects the country's diversity. A bilingual and intercultural educational model would foster empathy, inclusion, and respect for the multiplicity of languages and cultures present in the national context. In line with this perspective, this study seeks to highlight the need to develop inclusive pedagogical approaches that make English learning accessible for students with hearing impairments. This process highlights the importance of advancing toward an educational model that truly reflects the principles of equity and accessibility.

Thus, this paper explores the practical implications of incorporating sign language into English teaching, offering valuable theoretical perspectives on how LSC can support foreign language learning. By systematizing experiences, identifying success indicators, and developing effective methodologies, this study aims to contribute to the design of more inclusive and assertive educational policies.

This monograph is structured as a research project that situates the teaching of English to deaf students within the historical and linguistic framework of sign languages, generating a dual perspective that highlights both the evolution of sign language and its role as a crucial tool for pedagogical inclusion. In short, the research provides relevant knowledge to guide educators, teacher trainers, and policymakers in designing learning environments that are accessible, equitable, and responsive to the communicative diversity of all students.

Objectives

General Objective

Analyze the integration of sign language, particularly Colombian Sign Language (LSC), and English language teaching as a means of promoting inclusive education for deaf and hard-of-hearing students.

Specific Objectives

Analyze the theoretical and scientific contributions of authors who have researched the teaching of English as a foreign language through Colombian Sign Language (CSL) in inclusive education contexts in Colombia in recent years.

Identify the pedagogical processes involved in the training for teachers who teach English to deaf students in Colombia, with particular attention to the integration of Colombian Sign Language (CSL) as a teaching tool.

Describe documented experiences, implementation strategies, and best practices in Colombian educational programs that incorporate CSL in English teaching, highlighting challenges, achievements, and their impact on the learning of students with hearing impairments.

Research Background

International Background

Over the past forty years, research has consistently shown that combining sign language with spoken language offers several benefits. Bilingual education for students with hearing impairments has grown and transformed significantly internationally, reflecting a wide range of approaches and outcomes. This integration not only strengthens academic learning but also promotes cognitive development and social interaction, helping students feel more included and empowered in their communities (Svartholm, 1984). What is evident through these studies is that bilingual education goes beyond teaching two languages. It represents an opportunity to bridge different forms of communication, value cultural and linguistic diversity, and create more equitable educational environments where students with hearing impairments can thrive.

Despite these advances, the educational achievement of deaf students remains limited in many contexts, revealing obstacles between political aspirations and the everyday reality of the classroom. For example, in countries such as the United States, studies have shown that the reading levels of deaf students are often below the average expected for their age. This disadvantage does not simply reflect students' abilities, but rather systemic barriers, such as late detection of hearing loss, insufficient early exposure to language, limited availability of bilingual education programs, and a lack of specialized teacher training (Svartholm, 1984). These challenges reflect that, while bilingual education has demonstrated clear benefits, access to quality education for deaf students remains unequal, highlighting the urgent need for inclusive strategies, equitable resources, and educational environments that genuinely respond to their linguistic and cultural realities.

Similar research was found in Sweden during the 1960s and 1970s. Although technological advances allowed for the introduction of hearing aids in classrooms as early as the 1950s, the reading levels of hearing-impaired students remained significantly below expectations (Lissi, Svartholm, & González, 2012). As these authors explain, the dominant educational approach at the time placed a strong emphasis on oral language development, also to the detriment of sign language. This complex approach not only limited students' access to a full linguistic repertoire but also generated frustration and comprehension difficulties, creating barriers that hindered effective learning and overall academic progress.

However, beginning in the 1970s, a profound pedagogical shift occurred with the introduction of the concept of total communication. This approach moved away from a rigid emphasis on oral communication and instead promoted the simultaneous use of multiple channels—signs, gestures, speech, and visual resources—to support learning. By creating diverse modes of expression, total communication enabled deaf students to overcome their exclusive reliance on oral language, which had long limited their participation and comprehension. As Svartholm (1984) points out, this methodology not only improved access to academic content but also recognized the diverse communicative needs of students, laying the groundwork for more inclusive and flexible educational practices.

The research by Nicole González Reyes, Pamela Ibáñez-Acevedo, and María-Jesús Inostroza A. (2021) is framed within Decree 83 of the Chilean Ministry of Education (2015), which requires curriculum adaptation to include students with special educational needs. The authors point out the lack of information on how to teach English as a foreign language to deaf or hard-of-hearing students. To address this shortcoming, they designed a qualitative Exploratory Action Research (IRA) study with five students from a public school in Chile, aiming to evaluate

how visual aids can improve the teaching of written English vocabulary. They conducted two multitask tests before and after the intervention and a semi-structured interview to gather students' opinions on the visual aids and their English learning experience. While the test results were inconclusive, students shared positive feedback about the use of visual materials, underscoring the importance of these resources, along with sign language, in fostering inclusive practices in English classrooms.

The article, “Deaf Adult Learners and Their Teachers: Knowledge Construction and Meaning-Making through the Lens of Translanguaging and Semiotic Repertoires,” delves into an initial investigation of how three groups of deaf adult learners, who communicate in British Sign Language (BSL), interact with their teachers in an adult education setting. This study adopts a translanguaging approach, which views language not merely as a set of rules but as a dynamic process, aiming to uncover how diverse communication tools combine to create meaning. The analysis focuses on the interaction between BSL and English, while also considering the role of manually coded English systems, such as Signed Supported English (SSE) and Signed English (SE), alongside other forms of communication such as gestures, pointing, and body language. To collect data, the researchers used video recordings of lectures, reflective notes, and lesson plans, analyzing everything with the help of the ELAN tool and a written corpus. The results highlighted that classroom communication transcends individual languages, creating a rich network of semiotic resources that enhances knowledge construction and meaning making.

The study by Nicole González-Reyes, Pamela Ibáñez-Acevedo, María-Jesús Inostroza-Araos, and Brandee Strickland (2021) was conducted in Chile within the context of Decree 83 of the Education Law, enacted by the Ministry of Education in 2015. This decree requires schools to adapt their curricula to ensure the inclusion of students with special educational needs. Until

recently, the teaching of English to deaf or hard-of-hearing students had been largely ignored in the academic literature, making this study innovative and necessary. To address this issue, the researchers conducted a qualitative Exploratory Action Research project with five students from a municipal school, focusing on whether the use of visual aids could improve the teaching of written English vocabulary. Data collection consisted of two multitask tests (pre- and post-intervention), as well as a semi-structured interview designed to capture students' perceptions of learning English through visual aids. Although the results of the assessment tests did not provide sufficient evidence to establish a clear relationship between the intervention and vocabulary acquisition, students' opinions revealed something equally valuable: they expressed a positive attitude toward the use of visual aids, especially when combined with sign language. For them, these aids not only supported language learning but also contributed to developing more inclusive English language practices in the classroom.

A study conducted by Edison Higuera Aguirre, Sandra Ordóñez Guaman, and Luis Ordóñez Guaman (2023) addresses the perception of Ecuadorian teachers regarding the inclusion of deaf students in regular classrooms. This process is part of a framework where national policies promote access to both special education and regular education. The authors point out that this inclusion entails various conceptual, methodological, and evaluative challenges that directly influence pedagogical practices. The study adopted an exploratory, cross-sectional, and non-experimental quantitative design. Data were collected through a five-question online survey, distributed via Google Forms, to a non-probability sample of 556 teachers from different educational levels (excluding higher education), selected using the snowball sampling method. The findings reveal a paradox: while 65.8% of interested teachers expressed support for the inclusion of deaf students in mainstream schools, a surprising 75.5% acknowledged feeling

inadequately prepared to address their specific learning needs. This tension highlights the gap between inclusive education policies and the training and resources available to teachers. The study concludes that while the inclusion of deaf students in mainstream classrooms is progressing in Ecuador, relying solely on policies is not enough. There is a pressing need for ongoing teacher training, the development of inclusive pedagogical strategies, and greater institutional support to ensure that inclusion moves from a political mandate to a meaningful educational reality.

Pontecorvo, Higgins, Mora, Lieberman, Pyers, and Caselli (2023) conducted a study examining the relationship between the American Sign Language (ASL) acquisition process and the development of spoken English vocabulary in deaf and hard-of-hearing bilingual children. The study included a sample of 56 children, all with hearing parents, ranging in age from 8 to 60 months. To assess their language development, parental checklists were used to evaluate both their ASL and English vocabulary.

The findings revealed a clear positive relationship: children with richer ASL vocabulary also demonstrated stronger spoken English vocabulary. In fact, their vocabulary levels were consistent with those observed in monolingual hearing children of the same age. This evidence directly challenges the long-held misconception that learning sign language hinders spoken language acquisition. On the contrary, the study highlights that early exposure to ASL provides a solid foundation for general language development in deaf children, supporting not only communication but also cognitive and social growth.

The author, Mejía Cajamarca (2025), Sign Language Translator, does not address the use of sign language when analyzing English teaching methods to deaf students in the context of English as a Foreign Language (EFL) classroom. Based on this premise, the author proposes a

didactic approach based on Task-Based Language Teaching (TBLT). This methodology seeks to facilitate a comprehensive and sequential understanding of grammar and its application for deaf students, engaging them in multiple meaningful tasks that connect with their prior knowledge.

Furthermore, the proposal emphasizes the value of visual aids such as images, videos, and other multimedia resources as key tools for reinforcing the interrelationship between sign language and written English. These resources not only improve comprehension but also encourage active participation, allowing deaf students to progressively develop their English knowledge and improve their reading and writing skills.

According to the article “Unveiling the Multilingual Repertoire of Chinese Deaf and Hard of Hearing Students in Specialized Schools” by Zhang and Wang (2025), deaf and hard of hearing (DHL) students in China draw on a rich multilingual repertoire in the process of learning English as a foreign language (EFL). The study reveals that these students do not rely exclusively on English but also integrate knowledge and resources from sign languages, spoken languages, and other language systems. This combination of repertoires creates a unique linguistic context, especially valuable in educational settings where conventional methods often fail to address their specific needs.

The authors argue that recognizing and leveraging these diverse linguistic resources is crucial for developing effective and inclusive pedagogies. By valuing students' full communicative repertoire, teachers can design approaches that go beyond traditional language teaching, emphasizing real-life language use and fostering meaningful English learning experiences for SHA students.

The qualitative study by Abata Checa and Proaño León (2024) examines the experiences of teachers working with a deaf university student in Ecuador in the context of English language

teaching. Their findings highlight the persistence of communication barriers; while teachers implemented appropriate strategies such as written and visual materials, interpreters, and methodological adaptations, these efforts were limited by their lack of sign language proficiency. This lack of training in both sign language and specialized English language teaching limited the effectiveness of their teaching practices.

The study highlights that moving toward truly inclusive education requires more than isolated adjustments. It requires a significant investment in sign language teacher training, the development of recognized curricular adaptations that address linguistic diversity, and greater attention to the specific needs of students with hearing impairments. Only through these measures can higher education ensure equitable access to learning opportunities for deaf students.

According to Baquedano-López (1995), the acquisition of a second language, such as English, involves social, individual, and pedagogical dimensions that shape the bilingual experience. The text highlights the distinction between additive bilingualism, which enriches the learner's linguistic repertoire, and cultural assimilation, which can diminish the value of the first language. These concepts are analyzed in relation to various models of bilingual education that contribute to linguistic revitalization. The study offers a review of Baker's influential work on bilingual education, particularly in countries such as Canada and New Zealand, where bilingualism has provided a solid and practical foundation for teacher training. In these contexts, bilingual education is not only an academic tool but also a framework for supporting cultural and linguistic diversity while equipping future educators with essential competencies.

One of the most current topics in inclusive education is the potential of artificial intelligence (AI) as a futuristic teaching tool in the classroom. In their article, Coy, Mohammed,

and Skerrit (2024) reflect on the needs of deaf students, particularly those who still rely on analog adaptations and human interpreters due to the absence of fully developed technological systems that enable fluid communication. While there is notable enthusiasm within the deaf community regarding the possibilities of AI, the study also highlights important concerns. Among these is the development of realistic avatars designed to facilitate sign language teaching. While these innovations can improve bilingual instruction in English and sign language, the authors caution that the pedagogical and intercultural roles of teachers remain irreplaceable. Ultimately, the study suggests that AI should not be considered a substitute, but rather a complementary resource that can expand opportunities for inclusion in diverse educational contexts.

The study by Almos, Lintangari, and Hidayat (2025) provides an overview of the role of sign language in the education of deaf and hard of hearing students through a bibliometric analysis covering the period from 1972 to 2023. The authors trace global trends in bilingualism and technology integration, which have contributed to greater accessibility and improved educational quality for this population. Sign language emerges in their findings not only as a fundamental tool for communication, but also as a key resource for fostering inclusion, guiding pedagogical practices, and shaping public policies that support equitable education. In this sense, the study demonstrates how historical developments, and inclusive approaches have progressively merged with technological innovations, creating more effective frameworks for teaching English and improving learning opportunities in diverse educational contexts.

Karpińska-Szaj and Lewandowska (2025) examine the learning of English as a foreign language among deaf students in specialized schools in Poland and France, highlighting how different educational models influence learning outcomes. Their analysis reveals that bilingual

environments where sign language assumes a central role and is combined with methodological adaptations are particularly effective in fostering multilingualism and cognitive development. In contrast, oralist or limited-progress models tend to restrict opportunities for meaningful interaction and comprehension. The study highlights that the incorporation of sign language into an active curriculum, alongside specialized teacher training, enhances the potential for comprehensive and inclusive foreign language learning among deaf students.

Dostal, Beal, and Easterbrooks (2023) highlight the crucial importance of providing high-quality literacy instruction to deaf and hard-of-hearing (DHH) students, given that many of these students do not grow up in environments that guarantee full access to language. The authors argue that systematically collecting and organizing literacy-related information is essential, as it provides both educators and families with the tools necessary to support students' language development and recognition skills. These resources also allow for better identification of students' specific needs, thus facilitating more effective pathways for language acquisition.

In contrast, Wolbers et al. (2023) emphasize that some deaf students face disadvantages stemming from early language deprivation, which significantly impacts the development of advanced writing skills. Teachers, in turn, report that lack of time, limited resources, and a lack of specialized training are among the greatest challenges they face. Therefore, the study underscores the need to recognize these barriers and provide differentiated support in teacher training, particularly in inclusive classrooms where English and sign languages are taught simultaneously.

In summary, the reviewed studies collectively point to a growing trend toward the consolidation of bilingual educational models. These approaches highlight the dual importance

of strengthening teacher training and incorporating technology as central pillars for promoting inclusive and equitable education for deaf students.

Authors such as Almos et al. (2025) and Karpińska-Szaj and Lewandowska (2025) demonstrate how educational policies, and bilingual models directly influence the development of multilingualism and facilitate access to foreign languages. In parallel, Dostal, Beal, and Easterbrooks (2023), together with Wolbers, Dostal, and Holcomb (2023), highlight the urgency of strengthening literacy and writing practices through evidence-based methodologies that address the specific needs of deaf people. These perspectives are complemented by the innovative proposals of Coy et al. (2024), who explore the potential of artificial intelligence to foster inclusion by integrating didactic and transformative mechanisms into teacher training and promoting equitable and high-quality learning.

National Background

In the Colombian context, it is crucial to highlight the importance of teaching Colombian Sign Language (CSL) as the natural language of deaf students. Mastery of CSL not only strengthens the linguistic and cultural identity of this population but also represents an essential opportunity for accessing the learning of a second language, such as English. Recognizing CSL as a language of instruction facilitates the construction of a bilingual-bicultural approach that respects linguistic diversity and promotes genuine inclusion in the classroom (INSOR, 2020).

In Colombia, the urgency of promoting bilingual-bicultural education for students with hearing impairments has generated research aimed at incorporating CSL into the teaching of foreign languages such as English. These studies consistently conclude that CSL is not only a fundamental tool for communication but also provides crucial support for second language acquisition, reinforcing inclusive and equitable educational practices.

One of the most significant studies in this field was conducted by Kerguelen Soto, Cantero Osorio, Cogollo Morales, and Díaz (2024), who proposed a diversified teaching model that integrates English learning with Colombian Sign Language (CSL) in public schools in Montería, Córdoba. Applied to primary education, their study experimented with the use of CSL in teaching English vocabulary, obtaining substantial results in student motivation and participation. The integration of materials in English, Spanish, and CSL not only facilitated vocabulary acquisition but also fostered empathy and respect for linguistic and cultural diversity.

This background reinforces the importance of incorporating LSC as a teaching resource in the English language teaching process in Colombia. This strategy not only helps break down communication barriers in the classroom but also upholds the right of deaf individuals to receive equitable and high-quality education in bilingual and bicultural contexts.

Jama Zambrano and Mendoza Saltos (2023) proposed a methodological course that incorporated the use of English sign language for pedagogical purposes, aimed primarily at students with hearing impairments. Their approach focused on adapting classroom content and dynamics to the specific needs of these students, thus ensuring a more inclusive educational experience. The results showed that the use of sign language not only favored the understanding of basic English structures but also strengthened vocabulary acquisition and the retention of new knowledge.

In 2020, Martha Catalina Molina Ramírez presented a study that highlighted a crucial problem in Colombian schools: while recognition of students' native language is essential, foreign languages such as English, Italian, or French are often encouraged as second languages. However, for deaf students, this scenario becomes much more complex. Their native language is Colombian Sign Language (CSL), while Spanish functions as their second language,

complicating the acquisition of a third language such as English. Molina highlights the significant challenges this linguistic sequence poses for deaf students. Her research, framed in the form of a doctoral dissertation, draws on national and international educational experiences in teaching English to deaf people. Approached from a qualitative perspective with a specific case design, the study seeks to refine literacy strategies in English courses designed specifically for deaf students.

Jesús Fernando Kerguelen Soto, Fernando Manuel Cantero Osorio, Julio David Cogollo Morales, and Alex Mauricio Díaz (2024) conducted research to present a varied pedagogical strategy with the purpose of improving the proficiency of English and Colombian Sign Language (CSL) in children from rural areas of the department. Subsequently, it was affirmed that the interdisciplinary inclusion of CSL fosters innovative English learning and raises students' awareness of diversity and inclusion issues. The results demonstrate that working with CSL in teaching English vocabulary entuses students about learning the second language. At the same time, the generation of material with such a varied beginning of English and Spanish (CSL) contributes both to the acquisition of knowledge and to the development of sensitivity and respect for human beings.

Suárez Rodríguez's (2021) study highlights the importance of adapting the mother tongue as a fundamental right in Colombia, with special emphasis on the role of the Ministry of National Education (MEN) and UNESCO in supporting the Colombian deaf community. To develop this analysis, the author applies Critical Discourse Analysis (CDA) methodologies, complemented by the functional linguistic system, which serves to validate the linguistic rights of this population. Within this framework, Colombian Sign Language (CSL) is recognized not only as an essential element of the deaf community's identity but also as a legitimate language that facilitates the

integration of knowledge. The study concludes that recognizing CSL as a central axis of inclusion generates opportunities to strengthen the teaching of English in diverse educational contexts, while guaranteeing equity and linguistic justice.

In conclusion, the different perspectives analyzed converge on the idea that bilingual and inclusive education for deaf students requires much more than simply incorporating a second language. It involves recognizing sign language as the foundation of their identity, guaranteeing equal access to knowledge, and promoting teaching models that combine innovation, technology, and methodological flexibility. Both national and international experiences demonstrate that when communication barriers are reduced, motivation increases and participation becomes more active, creating learning environments that foster autonomy, cultural diversity, and social justice. Ultimately, building inclusive classrooms depends on a commitment to valuing linguistic diversity and designing strategies that make teaching English a true opportunity for integration and educational equity.

The Legal and Political Framework

Colombia has been making progress in creating a legal framework that seeks to protect the right to inclusive education for people with hearing impairments. Below are some milestones in this protection.

Regulations in Colombia

Law 324 of 1996 Recognizes Colombian Sign Language as one of the mother tongues that must be implemented and practiced in the classroom, if necessary, as its recognition is considered significant in the context of bilingualism in Colombian education.

Law 1618 of 2013 Focuses on guaranteeing the rights of people with disabilities. It emphasizes the importance of adapting to accessibility and supporting students with any type of disability in inclusion.

Law 1651/2013 and its subsequent decrees mandate that educational institutions incorporate a foreign language into their curriculum. Although this legislation does not specifically address disabilities, it clarifies the necessity for deaf students to learn English. It's crucial to note that this obligation should come with reasonable accommodation.

Decree 1421 of 2017 Regulates educational services for students and establishes the need for reasonable adjustments in classroom instruction. An example of this is having simultaneous interpreters who teach topics in Colombian sign language.

Therefore, these standards are part of the inclusive education policy, which has been adapted and supported since 2018 due to its focus on fostering bilingual-bicultural development

and recognition through the integration of students with teachers within the Colombian educational community.

Contextualization with Colombian Regulations:

INSOR (2020) Guidelines for teaching foreign languages to deaf students in Colombia This guidance represents the official policy from Colombia's National Institute for the Deaf. It outlines the legal responsibilities under Laws 1618 and 1651, highlights the importance of bilingual-bicultural education, and provides strategies for foreign language courses, including language selection, a focus on reading and writing, the use of visual resources, and teacher training.

INSOR (2022) Guidelines for the educational care of the deaf population in higher education: It offers current strategies for teaching foreign languages to deaf students, noting that for deaf Colombians, foreign languages essentially serve as a third language. The guidance advocates for visual-based teaching methods and encourages collaboration between interpreters and language instructors.

David & Brown (2022)—Disability, inclusion, and language-in-education policy in the Global South: the Colombian context: It points out the disconnect between English language instruction and inclusive education in Colombia, urging the development of locally relevant policies that are informed by Global South perspectives.

Hernández Arboleda, J. (2023). Removing the “foreign” from English: Adaptability and inclusion in English teaching processes in rural areas. This case study illustrates how adapting English teaching in rural Colombian contexts by incorporating inclusive strategies like sign language enhances student participation and learning.

Yánez García, R., et al. (2023). Implementation of Colombian Sign Language (LSC) to enhance inclusion opportunities at Hogar Infantil El Portalito (B. Cartagena). This thesis documents an innovative inclusion program where LSC was introduced to hearing children and their families in a kindergarten setting in Cartagena, fostering coexistence and community integration

Connection with International Regulations

ECML (2019) Teacher Competences for Sign Languages in Education. It refers to the mastery of sign language skills with ICT, metalinguistic skills, and ongoing teacher training in inclusive teaching for deaf and hard-of-hearing students.

Velásquez, J., & Díaz, M. (2020). Bilingual literacy among deaf and hard-of-hearing students: A literature review in the USA, Canada, and Colombia. This review examines studies on bilingual literacy for deaf and hard-of-hearing students, comparing experiences from North America and Colombia while highlighting the challenges and contributions of bilingual education.

UNESCO (2021) Resource pack for supporting inclusion and equity in education: It stresses that inclusive education is vital for achieving Sustainable Development Goal 4 (SDG 4) and insists that education systems need to adapt their curricula and teaching methods to embrace diversity.

Silveira, A. (2021). Bilingual education for the deaf: Challenges and possibilities for school inclusion in Brazil. This work dives into how bilingual-bicultural education for the deaf is being put into practice in Brazil, shedding light on both the structural hurdles and the chances to enhance school inclusion.

Yáñez García, R., et al. (2023). English as a second language for students with hearing disabilities. This research explores how sign language facilitates English learning for deaf students in Ecuador, providing insights for inclusive language teaching across Latin America.

Betancourt, C., Norambuena, M., & Valladares, F. (2022). Inclusive language and the promotion of inclusive education with social justice. This reflection discusses inclusive language—sign languages included—as a tool for equity and social justice in educational processes.

The theme "Breaking Barriers Teaching English through Sign Language" stems from the need to promote inclusive education that guarantees the teaching and learning of foreign languages, specifically English, with the support of Colombian Sign Language. This approach aims to enhance understanding and accessibility of the foreign language for students with hearing impairments. In the educational context, many traditional methods of teaching English have been found to inadequately address the linguistic and communicative nuances related to socio-academic development.

Equity and inclusion are important for pre-service teachers, as it is essential to be able to explore and propose pedagogical strategies that incorporate Colombian Sign Language (CSL) as a teaching resource in English teaching. This integration not only responds to an educational need but also represents an ethical commitment to diversity, accessibility, and the recognition of multiple forms of communication.

Furthermore, teaching English through Sign Language helps dismantle barriers that have historically impeded students' academic progress. This situation highlights that the lack of teacher training in the Colombian education system does not fully support bilingual

development, as the context breeds fears, insecurities, and communication hurdles in the classroom. The primary objective is to teach one language based on another, fostering a sense of connection and understanding in the evolution of bilingual education.

Deaf students are leading the way toward a bilingual-bicultural education that enhances their identity, autonomy, and future opportunities. Therefore, this topic aims to provide knowledge, reflections, and tools that ignite teachers' interest in learning sign language alongside English. In this manner, we strive to improve the quality of life and access to knowledge for both teachers and students.

It is important to note that the selection of this topic arises from the fact that Colombia has established a significant foundation for defending the rights of people with disabilities. This includes individuals who require support from the LSC, which must be reinforced in the classroom through teachers and new learning opportunities, such as the instruction of English. Education now aims to improve inclusion in the educational setting, promoting quality bilingual education recognized in the teacher training process, which closely engages students with the English language.

Literature Review

This chapter presents the comprehensive collection of information obtained throughout the research project, which focused on inclusive education and the use of sign language in general education contexts. The information contained here provides a detailed analysis using a methodological approach to data collection called PRISMA 2020. The collection of information includes historical processes, authors, challenges, and achievements, reflected in the quality of inclusive education.

The Origin of Sign Language

The recognition of sign language as a natural language has been an essential step toward the social and linguistic inclusion of the deaf community. It not only enables effective communication but also preserves their cultural identity and linguistic rights. Despite these advances, greater dissemination, institutional support, and public policies are still needed to guarantee its access in education, the media, and public services. Sign language dates back thousands of years and has developed naturally within deaf communities. Although there are historical records of its use dating back to ancient times, it was not until the 18th century that it began to be recognized as a formal tool for communication and education.

Abbé Charles-Michel de l'Épée, in France, founded a school for the deaf and promoted the use of a structured sign language, thus laying the foundation for its subsequent study and standardization. Later, in 1960, linguist William Stokoe scientifically demonstrated that American Sign Language (ASL) had its own grammar, promoting its recognition as a legitimate language (Reyes & Mejía, 2006).

Origin of Sign Languages in Latin America

Sign languages in Latin America are visual linguistic systems that have emerged within deaf communities in response to their communicative needs. Their evolution has been marked by the historical and social context of each country.

As Torres et al. (2021) state, these languages "emerge naturally in communities of deaf people, not as simple mimics of oral speech, but as complex systems with their own grammars" (p. 4). This linguistic richness, however, has been slow to be recognized by states. It is essential to understand their origins to value their role in the social and cultural inclusion of deaf people.

Venezuelan Sign Language (VSL)

In Venezuela, Venezuelan Sign Language (VSL) developed naturally within the deaf community, despite the lack of institutional recognition for years. According to Anzola (1996), LSV "constitutes the mother tongue of the deaf" and is essential for their cognitive and social development (p. 3). However, many deaf children do not have early access to it and grow up in hearing homes. This makes school the first space for real exposure to the language. Anzola argues that incorporating LSV as a subject in the school curriculum is vital to guarantee educational equity.

Chilean Sign Language (LSCh)

Chilean Sign Language (LSCh) has a history linked to linguistic exclusion, as for decades oral language was prioritized in deaf education. Molina (2006) explains that "LSCh was marginalized for much of the 20th century, although it was actively used by students outside the classroom" (p. 47). Its legal recognition in Law 20,422 in 2010 was an important step toward inclusion. This language incorporates influences from French Sign Language but maintains unique structures that reflect Chilean culture (Molina, 2006). Today, it is considered the

country's intangible cultural heritage.

Cuban Sign Language (CSL)

In Cuba, Cuban Sign Language (CSL) is recognized as the natural language of the deaf community and as the basis for bilingual education. According to Hernández and Cañizares (2021), “CSL allows deaf children to construct logical thinking, which later facilitates the learning of written Spanish” (p. 2). This perspective supports the bilingual-bicultural approach to special education. The official implementation of CSL in Cuban classrooms has improved deaf students' reading comprehension and expression levels (Hernández & Cañizares, 2021), strengthening their linguistic identity.

Brazilian Sign Language (Libras)

Brazilian Sign Language (Libras) has undergone significant evolution since its legal recognition in 2002. As Silveira (2021) points out, “Libras represents not only a language but also an element of cultural identity and resistance” (p. 10).

This language was consolidated after the founding of the National Institute for the Education of the Deaf (INES), influenced by French Sign Language. Currently, its inclusion in educational contexts has been key to equal access for deaf students. Furthermore, the training of interpreters and teachers in Libras has improved the quality of education at all levels.

Sign languages in Latin America have developed in contexts marked by exclusion, but also by the resilience of deaf communities. As Torres et al. (2021) summarize, “each sign language reflects the history, culture, and struggles of its community” (p. 6). The implementation of bilingual education models and legal recognition have been essential steps toward a more equitable society. However, challenges remain, particularly in teacher training, accessibility, and public awareness. Promoting these languages is essential to guaranteeing the human and

linguistic rights of deaf people.

Communication Before the Emergence of Sign Language

According to González (2006), before the formal development of sign language, deaf people used a variety of methods to communicate, adapting to the limitations imposed by the absence of a structured system of visual communication. These methods included the use of natural gestures, facial expressions, writing, and, in some cases, lip-reading.

Pérez (2008) mentions that natural gestures and facial expressions were essential tools, as they allowed basic ideas and emotions to be conveyed. However, this form of communication was limited and depended largely on context and familiarity between interlocutors. Writing served as a means of communication between deaf people and literate hearing people, although not all had access to the education necessary to use it effectively. Lip-reading, on the other hand, required considerable skill and was not always accurate, especially in environments with multiple speakers or poor visibility.

Rodríguez (2010) highlights that the lack of a standardized communication system often resulted in the social isolation of deaf people, limiting their full participation in society. This isolation underlines the importance of the development and recognition of sign languages as legitimate means of communication that promote inclusion and equal opportunities.

Implementation of Sign Language

The implementation of sign language has been an evolutionary process that has sought to integrate deaf people into various areas of society. One of the prominent approaches in this process is the creation of laboratories specialized in the teaching of Venezuelan Sign Language (LSV).

According to González and Pérez (2014), the creation of a Venezuelan Sign Language

(LSV) Laboratory seeks to remedy the lack of adequate physical spaces for the teaching and learning activities of LSV, providing an environment conducive to the linguistic training of deaf people. In addition, the development of specific study programs has been fundamental in the implementation of sign language in educational environments.

González and Rodríguez (2008) point out that the creation of LSV study programs for deaf students in the first stage of basic education is essential to guarantee inclusive and quality education. The integration of sign language into technological platforms has also been a significant advance. For example, Helen Cloud is a cloud service that allows any digital content to be converted into sign language, thus facilitating access to information for deaf people (Ogiera of Latin America, 2023). In conclusion, the implementation of sign language has involved the creation of specialized spaces, the development of specific educational programs, and the integration of adapted technologies, all to promote inclusion and equitable access to information for the deaf community.

Formation of Sign Language

According to Pérez and González (2015), sign language was not invented by a single person; rather, it developed naturally within deaf communities over time. These languages emerged from the interaction between deaf individuals who created gestural systems to communicate, which evolved into fully structured languages with their own grammar and syntax.

A significant milestone in the history of deaf education was the founding of the first free public school for the deaf in Paris by Charles-Michel de l'Épée in the 18th century. According to Rodríguez (2010), De l'Épée observed that deaf people in Paris were already using a system of signs to communicate and decided to incorporate it into education, developing what became known as French Sign Language (LSF). This educational approach spread and served as the

basis for the development of other sign languages in different countries.

In the case of Venezuelan Sign Language (VSL), its origin dates to the 1930s with the creation of the first school for deaf children in Caracas.

González and Pérez (2018) explain that students contributed to their homemade signs, which, combined with the influence of educators familiar with Spanish Sign Language, gave rise to VSL. Likewise, Rodríguez (2012) mentions that José Arquero Urbano, an immigrant and leader of the deaf community in Madrid, also contributed significantly to the development and dissemination of VSL in Venezuela.

Recognition as an Independent Language

The recognition of sign languages as independent languages has been a gradual process influenced by various social, educational, and legal factors. Initially, sign languages were seen as simple systems of gestures without a complex linguistic structure. However, linguistic research has shown that sign languages have their grammar, syntax, and lexicon, comparable to those of oral languages. In the educational field, the implementation of sign language teaching programs has been crucial for their formal recognition. For example: the creation of laboratories specialized in the teaching of Venezuelan Sign Language (LSV) has provided adequate spaces for the training and dissemination of this language, strengthening its status as an independent language (González & Rodríguez, 2014).

Furthermore, the inclusion of sign language in professional environments, such as the medical field, has highlighted its importance as an effective means of communication for people with hearing disabilities. This integration has contributed to its legitimation and recognition in various sectors of society (González & Rodríguez, 2025).

The Sociocultural Adaptation of Sign Language in Colombia

According to Alzahrani et al. (2020), some reports indicate that some sign languages tend to feature initializations, depending on the deaf community's acceptance of finger-written manual alphabets, such as the one created by Juan Pablo Bonet in 1620. In other words, initialization is based on language contact between sign language and spoken language, which contributes to the sociolinguistic development of the deaf community.

It is necessary to describe the processes of language contact within LSC, particularly how initialized signs are produced and the types of phonetic variation of this phenomenon that can be found in spontaneous use.

According to Barreto (2015), signs created through the initialization process in Colombia have been linked to social controversies surrounding language planning and debates about the appropriate way to modernize the LSC lexicon. For example, attempts have been made to replace initialized signs with other uninitialized forms.

Before addressing the adaptation of sign language in Colombia in detail, it is necessary to understand the role of ethnographic analysis and the study of linguistic corpora, as these allow for the identification of patterns of use, variation, and change in CSL within specific social contexts (Lucas & Valli, 2003).

This language learning technique contributes to the observation, exploration, and interpretation that occur in the application of language samples, systematically organized as if they were an ethnographic object/subject. Furthermore, ethnography is highlighted as part of the initialization found in the perceptions addressed in the process of alphabetic sign language recognition (Barreto, 2023).

Colombian Sign Language has existed for less than 90 years (Oviedo, 2001).

Furthermore, CSL can be considered a young language that is still in the process of structuring, as part of the technical vocabulary is still developing. According to Cooper (1997), this recognition process occurs through the interrelationship between languages and social contexts, since each language is a constitutive element of its society; it represents a value and a means of communication that does not easily admit reasons for its replacement (p. 194). In other words, language performs inclusive work from the perspective of linguistic equality, since it is not fully accepted in society due to the effort required for its proper learning and socialization in the cultural context of a language adapted to the needs of the deaf community.

Language management or policy (Shohamy, 2006). Since language is a social and cultural product—in fact, the main product of culture—attempting to change implies attempting to change society, and, to achieve the latter, it is necessary to resort to various forms of legitimation and governance, which are embodied in policies.

Therefore, the adaptation of sign language is a sociocultural process that requires a certain degree of legitimization and political support for its interdisciplinary development in various social relations and recognition within basic teaching environments, such as the family, school, and the media.

Approaches to Teaching Sign Language in English-Speaking Contexts

Sign languages in English-speaking countries have generated considerable debate, as they are not universal and often undergo change. On the other hand, it is important to note that they are usually taught from childhood. Pontecorvo et al. (2022), American Sign Language (ASL) influences the development of spoken language in children who require the protection of their human rights. Learning sign language can benefit spoken language acquisition. It allows for the development of specific reasoning paths that contribute to independence and the linguistic

processes that comprise the language.

Similarly, Pontecorvo et al. (2022) propose the learning hypothesis that if sign language impairs the acquisition of spoken English, these ASL skills in children should have a negative correlation with spoken English skills; conversely, if sign language has a positive effect on spoken English skills, these two skills should have a positive correlation. While these correlations would not constitute evidence supporting a causal relationship (i.e., that ASL either enhances or hinders spoken English skills); a significant correlation in one direction would suggest that a causal relationship in the other is unlikely. Some studies address this impact through the link between oral expression, which directly correlates with the language process.

According to Fitzpatrick et al. (2016), it is important to mention that the measures expand general exposure to sign language or generate descriptions of children's educational environments that capture their sign language experience. Additionally, the vocabulary acquisition process was designed step-by-step. As the inclusion of sign language (ASL) becomes normalized, unlike the measures used in previous studies—which were often designed and standardized for spoken language but administered in sign language—the process is shaped by diversity and guides the stages of inclusive understanding.

Jama & Mendoza (2023). Human interaction begins at birth. The senses help us discover smells, textures, tastes, colors, and sounds. The absence of any of these implies a limitation in discovering the outside world. According to Cole and Flexer (2016), around 90% of deaf children are born to hearing parents, which poses new challenges in the language learning process. This allows us to consider that hearing loss and its early detection must be accompanied by early inclusion in an educational system where sign language (SL) is taught and contact with fluent speakers is made; that is, ensuring that the deaf child has access to sign language from an

early age. However, the process of teaching English to students with hearing impairments requires commitment and dedication from both the teacher and the student: the teacher, for their part, must make the appropriate adaptations to the content, objectives, methodology, strategies, resources, and assessments that allow the student to integrate and learn English as a foreign language under the same conditions as the rest of the class; however, completing certain activities individually, separately from the group, could probably facilitate their learning (Andrade et al., 2022).

That is, like the learning of other languages, sign language must be adapted for English teaching through curricula and teacher training in language teaching and inclusive educational settings.

According to Cruz Estupiñan (2019), visual media and sign languages (L1) are vital elements that significantly improve the skills of deaf students. One advantage of these students is that, being more visual, they have a better memory, so they memorize the written form of the word and the lexical and grammatical elements of the language more quickly.

Sánchez Rivas (2008), In his work, he raised the question of whether students were interested in acquiring knowledge in English and how they would like class presentations to be. The authors found a preference for the use of images in their academic tasks.

Similarly, Jiménez (2019) indicates that visual aids, especially those based on the use of ICT, are decisive for learning basic English vocabulary, contributing to increased levels of "intrinsic motivation," one of the essential elements for language learning.

Reflection about Sign Language in Relation with others Literary Sources

The Contribution of Sign Language in Learning English as a Third Foreign Language

Effective communication between speakers of different languages has become essential for the social and cultural development of humanity.

This need is essential in a globalized world, where people from all over the planet, with their multiple cultures and idiosyncrasies, share physical and virtual spaces (Vergara Jaén, 2017). Furthermore, adequate communication has developed with certain social and cultural characteristics that reflect the importance of linking language with international recognition. These characteristics have contributed to the process of communication in common spaces, both physical and virtual, and are part of the adaptive demands of life in today's globalized society (Smith et al., 2013).

The phenomenon of the implementation of English as an international language is enhanced and reshaped by the catalytic effect of global communication and the high technology applied to it, as well as by a dual causal action: the need for a common language and the ease of its dissemination. English has been described as a "universal language" by several authors, highlighting its dominant role in global communication.

According to Celce-Murcia and Olstain (2010), English is the official language of more than 50 countries around the world, spoken as a first language by nearly 400 million people. Sign language is a language identified as the mother tongue of deaf people.

García, Saltos et al. (2023) state that sign language is the mother tongue of deaf people. Therefore, students with hearing impairments do not use the spoken form of the language of the country in which they live but rather its written form and sign language, which they learn at an early age. However, there are exceptions in which, if a child with a hearing impairment is not

diagnosed in time, their learning is postponed. It should be noted that sign language interpretation is done in Spanish, as it is the language most students speak, and English classes can only focus on reading and writing skills (Zavala, 2013).

According to García, Saltos et al. (2023), English skills are taught through a Spanish class, meaning that students with hearing impairments do not interact directly with English, as their hearing peers do, when receiving instruction in the target language. A foreign language class has added value, as it creates the opportunity to verify, expand, and strengthen the student's vocabulary in their first language, their second language, and the foreign language, making the most of the three languages used simultaneously. In research, deaf people who successfully learn a third language contribute to the literacy process expected through language inclusion.

Teaching English as a third language is a very interesting challenge for deaf people, where effectiveness lies in an artistic strategy intended to enhance the learning content and leverage the visual skills that deaf students develop during the acquisition of their native language (Colombian Sign Language). It is important to mention that, internationally, there are numerous projects focused on English as a third language for the deaf population. However, there are cases in which it is taught as part of the second language (Molina, M.C., 2020).

Domagala (2012) states that the best way to work with deaf students is always to consider previous experiences in this field and revisit the activities carried out based on continuing to teach English. In this study, we find that the use of ICTs strengthens participation in a foreign language course, which helps to raise their self-esteem, an important factor for educational and professional success (Rodríguez Q. P., 2010). Therefore, participation in a foreign language contributes to the development of global experiences that students can acquire; thus, the process is guided, and knowledge of the language is provided.

Authors Related to Sign Language and English Teaching

Zambrano & Mendoza (2023) point out that a strategy adapted to each context is to educate in diversity, promoting the development of people committed to inclusion. In this sense, the use of sign language to teach English vocabulary fosters interest in learning a second or third language, such as Spanish or English, more closely, which positively impacts learning and human sensitivity. Furthermore, the study conducted on the development of needs in a globalized world, where people seek ways to communicate across languages, is highlighted.

This analysis highlights the interest in sign language as a teaching method that inspires motivation in children.

Patiño-Giraldo (2011) emphasizes that learning sign language allows children to transform their understanding of the world, learn about it, and communicate values. The second method, called Signed English, consists of an approach that uses English and its respective sign language for each vocabulary studied. Finally, a third category, called Social Fabric, is presented, which highlights children's awareness of people with disabilities.

Kerguelen et al. (2024) believe that this type of work guarantees social inclusion, following Vega, Jiménez, Y., and Matorel Ramos, V. (2017). These initiatives have sparked the interest of children, teachers, principals, and parents in the importance of people with hearing impairments, which facilitates understanding of a respectful and inclusive society. Similarly, efforts have been made to ensure that sign language generates interest and motivation in learning among children who have previously expressed dislike for English but who, with this new experience, feel that their comprehension has improved and that interacting with this knowledge has become more enjoyable.

According to Marschark (1997), difficulties in oral language acquisition associated with

deafness significantly impact the process of acquiring written language. Therefore, deaf children have greater difficulties than hearing children in learning to read and write. Studies in English have shown that students with hearing impairments develop reading skills more accurately than hearing students, who have greater accuracy in reading comprehension. This has allowed for increased observation and effort among deaf students in their learning process.

Prinz & Strong (1998) observed that deaf children with a high level of proficiency in American Sign Language (ASL) also demonstrated a high level of development in reading and writing. In this analysis, a correlation was observed between the two skills in the various linguistic dimensions studied, considering the measurement of ASL proficiency in production and comprehension. Literacy was also reviewed, assessing vocabulary, sentence and paragraph comprehension, as well as vocabulary production, syntactical skills, and the quality of written narratives.

In contrast, authors such as Chamberlain & Mayberry (2000) argue that the correlation between ASL and reading ability, described in the studies by Strong & Prinz (2000), provides evidence of linguistic interdependence. The authors argue that while there is no direct causal relationship between ASL knowledge and reading ability, a facilitating effect could exist; ASL proficiency would influence greater language comprehension and translate into improved reading performance.

In summary, highlight the importance of teaching reading to deaf children, who may base much of their literacy understanding of English on it. Therefore, in this regard, some aspects suggest that it should be part of the teaching methodology.

One of them is the development of morphological knowledge by Gaustad (2020), and the other is the development of orthographic recognition by Stanovich (2000). These seem like

viable strategies for teaching reading and the in-depth exploration of new teaching alternatives that can be applied in the classroom with deaf English-speaking populations.

An author who disagrees with this proposal is Gemmer, who believes it is necessary to recognize a trilingual and multicultural program that considers their L1, L2, and L3 based on performance and development. This would address the unmet needs of these students, which are due to the lack of educational opportunities in some countries. Hence, the importance of training teachers in multicultural and bilingual pedagogy of English as a Second Language (ESL). In other words, teachers must prepare for this kind of blended learning experience for deaf students and immigrants who need to learn ASL (American Sign Language).

Also noteworthy is the background presented by Ávila (2010), who, using teaching resources in the context of EFL (English as a Foreign Language), proposes a blended resource designed for deaf university students. A study conducted at the National Pedagogical University of Bogotá revealed that 53 deaf students aspired to learn English. However, curricular limitations hindered this process, creating a sense of disadvantage compared to hearing students. In that community, fewer than three levels of the language were offered. Even so, the interests and needs of these students were evident, which motivated the creation of a special course for them, where literacy became an essential component for their development, thus achieving an inclusive balance (Di Bella et al., 2016).

Finally, according to Di Bella et al. (2016), it is necessary to note that international experiences demonstrate that the teaching and learning of English for deaf students is a matter that concerns modern language graduates, special education graduates, researchers, educational institutions, families, and the students themselves.

Consequently, each must have specific responsibilities and roles to play. It is necessary to

create a network of efforts that involves all actors involved in the education of these students, thus increasing the awareness that is developing in the educational context, especially in higher education, with deaf students who wish to learn English.

The Importance of Inclusive Education: Sign Language as a Tool for Diversity and Participation in the Classroom

The review of the above literature reveals a diverse and complex landscape around educational inclusion and the use of sign language in the classroom. Several studies have documented the importance of creating inclusive learning environments that recognize and value students' linguistic and cultural diversity. For example,

Ainscow and Miles (2008) argue that inclusion is not only about integrating students with disabilities into the classroom but also about transforming educational practices so that all students, regardless of their abilities, can fully participate in the learning process. Furthermore, recent research has highlighted the need to train teachers in the use of sign language as an essential tool to facilitate communication and learning for deaf students (García & Martínez, 2021).

This approach not only improves accessibility but also fosters a sense of belonging and respect for diversity in the classroom. In this context, it is essential to consider the barriers that persist in the implementation of inclusive strategies, as well as the opportunities that arise to improve teacher training and curriculum development. The literature reviewed provides a theoretical framework that supports the need for a change in educational practices, emphasizing the importance of collaboration between educators, families, and communities to achieve a truly inclusive education.

Methodology

To build a highly credible methodological process for research, this review has been exhaustive in that the analytical design has combined recognized protocols and analytical techniques that strengthen the results.

This study followed a systematic review design, guided by the PRISMA 2020 protocol and complemented by a thematic synthesis approach (Thomas and Harden, 2008). The combination of these methods ensured both thoroughness in identifying relevant studies and depth in interpreting their findings.

A comprehensive search was conducted in five academic databases: Scopus, Web of Science, Google Scholar, Redalyc, and SciELO, covering the period 2017–2025 to align with the Sustainable Development Goals (SDGs). The used a combination of Boolean and natural language queries in English and Spanish, focusing on the intersection of Colombian Sign Language (CSL), English Language Teaching (ELT/EFL), inclusive education, and teacher training. Reference lists of relevant studies were manually reviewed.

The inclusion criteria were peer-reviewed articles, theses, and institutional reports addressing the use of sign language (with an emphasis on LSE) in teaching English to deaf or hard-of-hearing students, teacher training programs, and even pedagogical models. These studies had to be in English or Spanish and published after 2017.

Also considered were exclusion criteria, which included medical or audiological articles, opinion pieces, conference abstracts without full text, and works unrelated to education. Studies published before 2017 were excluded unless they provided essential historical context.

For data extraction, all selected studies were organized into an extraction matrix with the following fields: author, year, country, educational level, population, pedagogical strategy,

teacher training component, outcomes, and policy alignment (e.g., SDG 4, Colombian laws such as Law 324/1996, Law 1618/2013, and Decree 1421/2017) to ensure comparability across studies. In the thematic synthesis, line-by-line coding was used to obtain a descriptive review, where the findings were inductively coded to capture recurring ideas such as teacher preparation, student motivation, curricular adaptation, and the gap between policies and practices.

Descriptive themes were also reviewed, and codes were grouped into broader categories aligned with the study objectives. These included theoretical and empirical contributions to inclusive English teaching through LCC, pedagogical and teacher training processes that integrate LCC, and documented Colombian experiences highlighting achievements, challenges, and good practices.

Finally, the analytical themes were analyzed through the descriptive categories to generate higher-level insights. For example, while many studies highlight the motivational benefits of LCC in English language teaching (ELT), they also reveal persistent gaps in institutional support and systematic teacher training. The findings were synthesized in comparative tables and discussed narratively. Each theme was explicitly linked to the research objectives and framed in relation to SDG 4 (Quality Education) and Colombia's inclusive education policy framework. This dual international and national perspective allowed the review to position CSL-based English language teaching as a pedagogical innovation and a policy priority.

Inclusion and exclusion criteria

This research focused on deaf pedagogy, which addresses the use of sign languages, particularly Colombian Sign Language (CSL), and its integration into instruction and/or the teaching of English, as well as teaching strategies for deaf or hard-of-hearing students. Eligible studies were

reviewed in the databases. This research is ideal for educational settings in primary and secondary schools and universities where teacher training or professional development programs require this literary, social, and participatory contextualization of teachers' participation in motivating the profession.

Likewise, peer-reviewed publications or academic works, including essays, articles, and theses, among others, that meet the search codes for a systematic review are considered. One of the considerations to consider is language; for the study, English or Spanish is used. Furthermore, studies must incorporate the adoption of the Sustainable Development Goals (SDGs) in their publication to align with current inclusive education practices and policies.

Therefore, the review excludes research not limited to the educational setting, such as medical or audiological studies unrelated to English language teaching or inclusion. Opinion pieces, blogs, editorials, abstracts, or conference papers in languages other than Spanish or English, as well as studies from before the SDGs were interpreted, are also excluded, unless they have a substantial historical focus. This approach ensures that the research is relevant to current methodology, policies, and practices and is offered on a solid, empirical basis.

Information Sources

This review used a combination of regional and international databases to identify relevant studies. The following sources were consulted in this analysis: Scopus, Web of Science Core Collection (WoS), Google Scholar, Redalyc, and SciELO. These databases were selected to compile international, peer-reviewed research information, including Latin American academic papers. This ensured comprehensive coverage of the various studies based on inclusive English teaching through sign language. Additionally, reference lists of the included studies were manually reviewed to identify other records suitable for the research.

Likewise, searches were conducted in each database. From the publication of the SDG (e.g., January 2017) to the date of the last search... That is, the previous search was conducted on (e.g., March 15, 2025), using bilingual (English and Spanish) Boolean search strategies. Filters are identified by publication year (2017-2025) and language (English, Spanish). Complete search strings for each database are provided below, including Boolean operators, keywords, and filters.

Search Strategy

A comprehensive search strategy was developed to compile all relevant studies on the use of Colombian Sign Language (CSL) in teaching English to deaf and hard-of-hearing students. This search combined Boolean queries, and, for Scopus, natural language queries using Scopus AI to expand coverage and identify additional relevant records. Searches were conducted in Scopus, Web of Science Core Collection (WOS), Google Scholar, Redalyc, and SciELO, with filters applied to identify publications from the ODS (e.g., January 2017) to March 2025, in both English and Spanish records.

Examples of Boolean search string uses

Scopus (TITLE-ABS-KEY)

("sign language" OR "lengua de señas" OR LSC OR ASL OR Libras)
 AND ("English language teaching" OR "enseñanza de inglés" OR EFL OR "English as a foreign language")
 AND (deaf OR sordo* OR "hard of hearing" OR hipoacusia)
 AND ("teacher training" OR "formación docente" OR teacher*)
 AND ("inclusive education" OR inclusión)
 AND PUBYEAR > 2016 AND PUBYEAR < 2026

AND (LIMIT-TO(LANGUAGE, "English") OR LIMIT-TO(LANGUAGE, "Spanish"))

Google Scholar

("sign language" OR "lengua de señas" OR LSC)

("English teaching" OR "enseñanza de inglés" OR EFL)

(deaf OR sordo*)

("inclusive education" OR inclusión)

Custom range: 2017–2025

Redalyc

("lengua de señas" OR LSC) AND ("enseñanza de inglés")

AND (inclusión OR Sordo*)

Year: 2017–2025; Area: Education/Linguistics; Language: Spanish or English

SciELO

("lengua de señas" OR LSC) AND ("enseñanza de inglés" OR "English language teaching")

AND (inclusión OR sordo*) Filters *)

Filters: 2017–2025; Languages: Spanish/English; Subject area: Education

In short words, the inclusion and exclusion criteria, along with the Boolean search strategy applied to the different databases, ensure that the review is objective, rigorous, and specific. The use of operators such as AND, OR, and TITLE-ABS-KEY allows for the retrieval of studies related to the intersection of sign language and English language teaching from an inclusive education perspective, which considers appropriate teaching methods that ignore communication barriers. This research methodology reinforces the validity criteria of the findings and reflects current debates in the field of deaf education pedagogy related to English language learning.

Results and Discussion

This section presents the results obtained from the systematic review, followed by a discussion and an interpreted analysis of the findings in relation to the research objectives. This structure not only identifies key patterns and themes from the studies conducted but also demonstrates a critical analysis of the implications of inclusive education from the different fields, limitations, and theoretical perspectives that generate the integration of sign language in the context of English language teaching.

Representatives of Results

Table 1

Theoretical Contributions on CSL in ELT

Study Reference	Theoretical Focus	Pedagogical Models Discussed	Theoretical Gaps Identified	Contribution to CSL-ELT Theory
Kerguelen et al. (2024)	Motivation and CSL in ELT	Using CSL as a fundamental model for vocabulary retention; integrating gestures and learning in rural classrooms	Lack of theoretical models for rural integration; limited evidence of long-term motivational impact.	Connects motivational and cognitive CSL for vocabulary learning in ELT, highlights the role of multimodality in rural contexts, and calls for the formalization of CSL-based motivational frameworks in ELT theory.
INSOR (2020)	Bilingual-Bicultural Education	Bilingual-bicultural curriculum design integrates sign language into national education policy and provides	It emphasizes policies but lacks empirical data on classrooms; teacher training programs are insufficient and there is a lack of monitoring of	It provides a policy-based foundation for the integration of CSL and conceptualizes CSL as a linguistic

		guidelines for teacher training in sign language.	policy implementation.	entitlement within English as a Foreign Language (ELT) teaching and connects national education policy with classroom practice, although its translation into practice remains underdeveloped.
González-Reyes et al. (2021)	Visual aids and CSL integration	Using flashcards, pictograms, and digital visual tools in conjunction with CSL for vocabulary acquisition	Lack of studies on visual aids as teaching tools and limited research on their effectiveness in mixed classrooms for deaf and hearing learners.	It positions visual aids as a complementary theoretical pillar in CSL-ELT, strengthens dual coding theory by linking visual input with CSL, and emphasizes the need for multisensory input models for deaf and hearing learners alike.
Pontecorvo et al. (2023)	CSL and spoken language acquisition	Sign language as a model for transition to spoken language provides parallel instruction through oral and sign methods, opting for a family-engagement pedagogy.	Minimal exploration of cognitive development through sign language with poorly researched links between sign language proficiency and oral fluency with limited evidence of bilingual transfer	It rejects deficient perspectives on CSL, presenting it as a facilitator, not a hindrance, to oral language learning and promoting the concept of bimodal bilingualism in ELT, highlighting the cognitive and affective benefits of CSL in English language acquisition.

Betancourt et al. (2022)	Inclusive language and equity	Collaborative learning is part of inclusive classroom practices applying Universal Design for Learning (UDL) through collaborative learning and its strategies.	Lack of connection between policies and actual classroom practices, insufficient teacher preparation for inclusive use of CSL, and a lack of culturally responsive frameworks	Modify CSL as an educational equity tool by introducing pedagogical models that link CSL with English as a Foreign Language (ELT) teaching through mediation for a paradigm shift towards equity-driven ELT practices for deaf and hearing students in shared classrooms.
--------------------------	-------------------------------	---	---	---

Table 2

Pedagogical processes and initiatives in teacher training.

Study reference	Pedagogical model	Teacher training models	Teacher training gaps	Key pedagogical findings	Policy relevance
Jama & Mendoza (2023)	CSL-based English teaching as an exercise in inclusion.	Teacher Training with CSL inclusion: This refers to teacher training programs in which Colombian Sign Language (CSL) is integrated as part of the teaching curriculum, and strategies are generated for teaching English based on the communicative skills developed	Insufficient training resources for the use of CSL: This refers to the scarcity of teaching materials and tools for teacher training in Colombian Sign Language (CSL).	The integration of Colombian Sign Language (CSL) into English teaching contributes to improved student retention, facilitating communication and minimizing learning barriers. This provides greater access to content that can be learned in an inclusive	It is related to Colombian Law 324/1996 on linguistic inclusion.

		through sign language.		classroom environment	
INSOR (2020)	Bilingual education in Colombia uses CSL	<p>Training guidelines for CSL teachers: It is characterized as a set of official guidelines and directives that guide teacher training in CSL. These guidelines are known by specific training entities, for example, those issued by INSOR in Colombia, which standardize knowledge and skills that can be developed with teachers.</p>	<p>Poor Teacher Training in CSL Language and Literature: Teachers often lack sufficient mastery of CSL and the skills necessary for effective English teaching in the classroom. This phenomenon may be due to a lack of training in CSL competencies in university programs, a lack of ongoing training, and a weak relationship between pedagogical theory and practice. As a result, teachers face communication barriers with deaf students, thus affecting the quality of education in</p>	<p>Teacher training plays a fundamental role in the importance and promotion of inclusive education. However, its effectiveness is hampered by the limited quality and uneven frequency of programs offered. Without quality training opportunities on inclusive topics, teachers will struggle to create equitable learning environments.</p>	<p>Corresponds to Law 1618/2013 and Decree 1421/2017.</p>

González-Reyes et al. (2021)	Visual learning + CSL in the identified teaching of educational inclusion.	Training in visual and gestural integration: This training model proposes combining the use of CSL with visual and gestural resources to facilitate understanding. Additionally, it is based on the integration of nonverbal communication (gestures, images, diagrams, etc.), which strengthens multimodal training to address communicative diversity.	inclusive education Standardization of training materials. This refers to the adherence to unified and consistent criteria found in LSC teacher training. These resources may vary depending on the focus, relevance, and quality of teaching, as well as the unequal distribution of institutions and regions where the teacher is enrolled.	The combination of visual resources and Colombian Sign Language (CSL) serves as a strategy to close comprehension gaps, as it reinforces understanding in multiple ways through accessible learning.	Its relevance lies in SDG 4, promoting inclusive education.
Kerguelen et al. (2024)	CSL+ELT in the context of rural schools.	Rural teacher training with CSL in the integration: Its focus is on programs for teachers working in rural areas, where exclusion in educational settings is often much greater due to a lack of financial resources and	Lack of training and materials for teacher training follow-up. Emphasizes the ongoing updating and support process from initial teacher training. In many cases, teachers receive	Provide training in both Colombian Sign Language (CSL) and English Language Teaching (ELT) simultaneously, fostering greater student integration with the communication and meaningful learning that these types of	It contributes to the SDG 4 initiative and reforms to rural education in Colombia.

<p>training to guarantee this educational process. The training aims to prepare teachers to teach English with a focus on integrating CSL, which will foster greater diversity and inclusion in adapting to the region's conditions and interactions.</p>	<p>training, but lack follow-up, which creates greater challenges for teaching and implementing sign language with English in rural areas.</p>	<p>experiences contribute to educational development.</p>
---	--	---

Table 3*Accredited Experiences and Impact in Colombia*

Study Reference	Education al Setting	Strategies Used	Challenges	Achievem ents	Impacts on Student Learning	Policy Alignme nt
Kerguelen et al. (2024)	Rural primary schools in marginalized regions of Colombia	Integrating CSL into the English curriculum through vocabulary building using multimodal strategies (gestures, visual supports, peer tutoring) and adapting	Lack of adapted teaching materials, limited teacher training in CSL, and community resistance to innovation due to traditional teaching methods	Encourage greater student participation and classroom interaction, significant increase in vocabulary retention and promoting bilingual and	Students showed increased motivation to learn English improved memory of vocabulary items, and increased class participation, with CSL contributing to cognitive and affective	Law 324 of 1996 (recognition of Colombian Sign Language), Law 1618 of 2013 (guarantee of the rights of persons with disabilities) that support

		English textbooks with sign language equivalents		bicultural rural learning opportunities.	engagement in ELT.	rural inclusion efforts
Jama & Mendoza (2023)	Urban public schools with mixed hearing and deaf populations	CSL-based vocabulary teaching; classroom activities combining signs with oral practice; use of inclusive group dynamics and bilingual peer-learning	Teachers had limited experience in CSL with a shortage of resources for bilingual education and difficulty adapting curricula to CSL without formal training.	Improved vocabulary retention and recall among deaf and hearing students, with greater awareness of inclusive practices among teachers; development of a collaborative bilingual environment	Students demonstrated improved language acquisition, stronger peer collaboration, and increased ELT confidence, promoting inclusive attitudes toward their deaf peers.	Law 1421 of 2017 (Bilingual Education Policy) contributes to strengthening Colombia's national bilingualism goals through inclusive approaches.
González-Reyes et al. (2021)	Colombian public schools (primary and secondary)	Combining CSL with visual aids (flashcards, pictograms, videos, interactive games) emphasizing dual coding theory to enhance memory	Lack of adequate technological infrastructure, insufficient digital resources in schools due to insufficient funding, and the difficulty in adapting strategies to all grade levels.	Increased student engagement, motivation, and understanding by creating inclusive and dynamic classes, demonstrating the effectiveness	Students benefited from multisensory learning experiences, which enhanced vocabulary acquisition and encouraged active participation, with greater	This approach supports SDG 4 (Quality Education) by advocating for inclusive and equitable educational chances and

				ess of low-cost visual methods.	equity in access to learning for deaf students.	aligns with Law 1346/2009, which ratifies the UNCRPD.
INSOR (2020)	Nationwide scope, policy and institutional recommendations	Guidelines for integrating CSL into bilingual and bicultural education were published, promoting CSL teacher training programs and emphasizing curricular flexibility for inclusion.	Significant implementation challenges in rural areas due to the uneven distribution of CSL-trained educators and the lack of budgetary resources to sustain the programs.	Strengthening bilingual and bicultural teaching frameworks in national curricula by supporting the development of inclusive policies for deaf students and providing institutional legitimacy for the integration of CSL.	Indirectly improve learning outcomes by shaping policies and motivating schools to adopt inclusive pedagogies and adapt teaching to the needs of deaf students.	Law 324 of 1996, Law 1618 of 2013, and Decree 1421 of 2017 contribute to Colombia's obligations under the CRPD and SDG 4.
Pontecorvo et al. (2023)	Global comparative study (with Colombia case references)	Using CSL alongside native language instruction with parallel instruction	Teachers refuse to adopt sign language due to misconceptions that sign language	It is evident that CSL does not interfere with oral or written language	Students developed stronger oral and literacy skills, demonstrating that CSL facilitates,	It contributes to the broader framework of inclusive bilingual

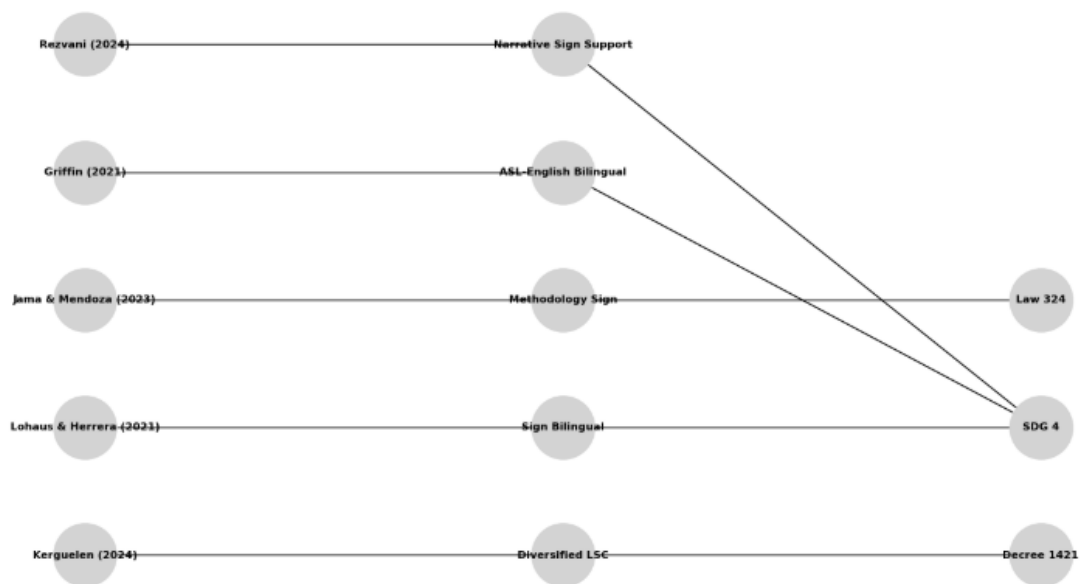
al models that integrate oral and sign methods, promoting family engagement in bilingual education.	limits oral language acquisition and lack of institutional incentives for teachers to integrate bimodal instruction.	learning, and the cognitive and affective benefits of bimodal bilingualism are highlighted.	not hinders, English acquisition by positively supporting learning for deaf students.	education, including Colombian laws on inclusion (Law 1618/2013), and aligns with international bilingual-bicultural models.
---	--	---	---	--

Studies, changes in political and educational contexts

This figure highlights the main obstacles reported by the studies conducted; they are grouped around issues such as deficiencies in teacher training, a shortage of materials, and other resources that limit practices and policies that create communication gaps in English language teaching through CSL. Also, the figure reveals systemic challenges common to multiple studies, highlighting the need to address inclusion efforts and barriers on a structural level rather than on a case-by-case basis.

Figure 1*Network of Studies and Challenges*

Note. This visualization shows how each study employs a pedagogical strategy to broadly connect educational policies. It also illustrates bilingual sign language models, diversified approaches, and different methods aligned with the SDG 4 framework, Law 324, and Decree 1421, highlighting the degree of integration with policies in different contexts.

Figure 2*Tripartite Network of Studies and Challenges*

Note. The figure shows how different authors propose pedagogical models based on sign language and how these relate to Colombian legal norms (Law 324, Decree 1421) within a global framework of inclusion (SDG 4). This reflects the coherence between academic theory and the political commitments generated in a national and international context, the goal of which is to strengthen inclusive English teaching through sign language

Discussion

The findings revealed in this systematic review, organized using the PRISMA protocol and further developed through a thematic synthesis, demonstrate that the integration of Colombian Sign Language (CSL) into the teaching of English as a foreign language has been methodologically recognized as both a pedagogical opportunity and a social duty. From a theoretical perspective, several authors highlight that sign bilingualism offers a linguistic and cultural connection for deaf people, allowing them to access the English language without abandoning their native language. Studies such as those by Kerguelen (2024) and Marschark and Spencer (2019) reinforce that the use of sign language not only improves participation but also strengthens motivation, especially in inclusive classrooms. This suggests that theories make the understanding of bilingual education more solid and stable and that they should be contextualized in Colombia through CSL, ensuring that inclusion is not reduced to the theoretical aspect but rather becomes a lived practice in the classroom.

Regarding the pedagogical aspect, the analysis revealed significant progress but also constant limitations. Studies carried out in Colombia, such as those by González-Reyes (2021) and Martínez and Ramírez (2020), demonstrate the effectiveness of visual aids, ICTs, and multimodal strategies when combined with LSC in teaching English. However, the studies show a lack of standardized teaching materials adapted to the deaf community, particularly in higher education. International experiences, such as those by Napier and Leeson (2021) on interpreter-mediated learning, highlight the potential for increasing support systems, but in Colombia this remains a pending task due to resource limitations. The categorical tables showed that most pedagogical strategies are hopeful but remain at the level of isolated projects, without systemic adoption in schools and universities.

In Colombia, studies such as INSOR (2020, 2022) and Ortiz and Londoño (2019) emphasize that, although national legislation (Law 1618 of 2013 and Decree 1421 of 2017) recognizes the right to inclusive bilingual education, many teachers are still not prepared to integrate LSC into their English teaching practices. This situation reflects findings from Latin America, such as Cárdenas (2021, Chile) and Paredes and Quintero (2022, Ecuador), who also report low preparation and insufficient training resources. International contributions, such as those by Humphries et al. (2020), warn that a lack of teacher confidence can destroy the potential and advancement of bilingual education models. The network graph reinforced this theme: nodes related to “teacher training” and “preparation” emerged as central connectors between multiple studies, indicating that this challenge is systemic rather than isolated.

Another key aspect revealed is the constant gap between policies and practices. While Colombia has developed a solid legal framework for the inclusion of the deaf community (Law 324 of 1996, Law 1618 of 2013, Decree 1421 of 2017), studies show that these frameworks are not fully translated into everyday pedagogical practice. For example, INSOR (2022) recognizes important progress at the regulatory level, but implementation is still insufficient, especially in rural schools, where resources and specialized training are minimal. Comparative tables showed how policies such as SDG 4 are frequently cited in institutional documents, but corresponding concrete actions in classrooms are often lacking. This imbalance between formal commitments and actual implementation conditions generates inequalities, where urban schools may achieve higher levels of inclusion, while rural students remain at a disadvantage.

The analysis also highlights the impact on students' academic outcomes, which is particularly important for its third objective. Evidence from Kerguelen (2024) and Jama and Mendoza (2023) indicates that incorporating LSC into English classes increases students'

motivation, engagement, and vocabulary acquisition. International studies add that sign language is not an obstacle but rather supports the acquisition of other languages (Pontecorvo, 2023), challenging the assumptions that often limit the adoption of inclusive practices. This suggests that, in addition to ensuring access, LSC-based English teaching directly contributes to improved learning outcomes, thus fulfilling the principles of equity and quality that underpin SDG 4. However, the scarcity of large-scale research prevents a full assessment of the long-term impact of these interventions, underscoring a major limitation in current research.

Finally, the summary emphasizes the need for systemic transformation, rather than half-baked initiatives. To move from formal inclusion to practical inclusion, it is important to consider strengthening teacher training so that professionals are competent in both LSC and inclusive pedagogical strategies for teaching English as a foreign language (ELT). It also requires developing and standardizing teaching resources and ICT tools adapted to deaf students. Finally, it requires implementing institutional monitoring systems that guarantee compliance with legal frameworks and evaluate the effectiveness of inclusion programs. These measures would not only align Colombia with its international commitments under SDG 4 but would also ensure that deaf students are recognized as rights holders with equal opportunities to access foreign language education.

Conclusions

This monograph demonstrated that teaching English through Colombian Sign Language (CSL) is an effective and necessary pedagogical strategy for ensuring the inclusion of deaf students in educational settings. The findings demonstrate that the use of sign language not only facilitates the acquisition of a foreign language but also contributes to the strengthening and understanding of the culture, self-esteem, and active participation of learners.

It was also identified that the main barrier lies not in the abilities of deaf students but in the lack of teacher preparation and the absence of established pedagogical models that systematically integrate sign language into English teaching. Likewise, the study highlights the importance of educational institutions and public policies making a real commitment to inclusion, providing teachers with resources, training, and clear guidelines that enable effective classroom instruction. The incorporation of visual materials, technological resources, and participatory methodologies is presented as an essential complement to addressing the needs of deaf and hearing students, thus promoting collaborative and empathetic learning.

Regarding the objectives, the research analyzed the various theoretical and scientific contributions of authors who have addressed both inclusive education and the use of LSE as a tool in teaching English. The pedagogical approaches presented were identified using the PRISMA 2020 methodology, which allowed us to interpret and guide the search for pedagogical processes necessary for teacher training in the subject. This was done with the aim of encouraging programs designed with the Sustainable Development Goals in mind, where education is part of social and cultural development that adapts education to practical contexts and challenges.

Finally, the review of documented experiences revealed achievements as persistent challenges in a growing consolidation of needs generated among deaf or hard-of-hearing students who require SSL for their education. Overall, this analysis affirms the recognition of inclusion through sign language, which is not only a pedagogical teaching option but also a social commitment to equity and educational justice.

Recommendations

Strengthen teacher training programs by incorporating Colombian Sign Language (CSL) and inclusive methodologies into the curriculum for pre-service and in-service English teachers, ensuring that teachers acquire linguistic and pedagogical skills.

Develop standardized teaching resources and ICT tools adapted to deaf students, promoting the creation of accessible digital materials, visual resources, and interactive platforms that encourage participation and vocabulary retention.

Promote institutional and governmental support to ensure the practical implementation of inclusive policies, with an emphasis on rural and marginalized areas, thereby reducing inequalities in access to quality education.

Foster collaborative classroom environments where hearing and deaf students interact through bilingual and bicultural practices that foster empathy, respect, and intercultural communication.

References

- Abata Checa, F. M., & Proaño León, S. V. (2024). Experiences of Teaching English to a Deaf University Student. *Salud, Ciencia y Tecnología – Serie de Conferencias*, 3, 658.
<https://doi.org/10.56294/sctconf2024.658>
- Amcoff, G. (1973). *Reading skills in deaf students: A Swedish study*. Swedish Institute for Special Needs Education.
- Antia, S., & Metz, K. K. (2014). Co-enrollment in the United States. In M. Marschark & H. Knoors (Eds.), *Bilingualism and Bilingual Deaf Education* (pp. 424–442). Oxford University Press. <https://doi.org/10.1093/acprof:oso/9780199371815.003.0017>
- Anzola, M. (1996). Programas de estudio de lengua de señas venezolana para sordos. *Revista Educación*, 21(3), 45–52. <https://www.redalyc.org/pdf/356/35611336005.pdf>
- Baquedano-López, P. (1995). [Review of the book *Foundations of Bilingual Education and Bilingualism*, by C. Baker]. *Issues in Applied Linguistics*, 6(1), 108–111.
<https://escholarship.org/uc/item/04z9b0zc>
- Barreto, A. G. (2023). La inicialización en la lengua de señas colombiana (LSC): Análisis a partir de un corpus espontáneo. *Revista Colombiana de Lingüística*.
http://www.scielo.org.co/scielo.php?script=sci_arttext&pid=S0120-34792023000100001
- Baynton, D. C. (1996). *Forbidden Signs: American Culture and the Campaign Against Sign Language*. University of Chicago Press.
<https://press.uchicago.edu/ucp/books/book/chicago/F/bo3683567.html>
- Betancourt, C., Norambuena, M., & Valladares, F. (2022). El lenguaje inclusivo y la promoción de una educación inclusiva con justicia social. *Revista Educación y Justicia Social*, 14(2), 45–62.

- Betancourt, M., Norambuena, M., & Valladares, M. A. (2021). El lenguaje inclusivo y la promoción de una educación inclusiva con justicia social. *Cuadernos de la Facultad de Humanidades y Ciencias Sociales. Universidad Nacional de Jujuy*, (61), 93–116.
<https://doi.org/10.30972/ct.0196207>
- Betancourt, M., Norambuena, M., & Valladares, M. A. (2022). El lenguaje inclusivo y la promoción de una educación inclusiva con justicia social. *Cuadernos de Literatura*, (19), 23–39. <https://doi.org/10.30972/ct.0196207>
- Cortés, Y., & Barreto, A. (2013). Variación sociolingüística en la lengua de señas colombiana: Observaciones sobre el vocabulario deportivo, en el marco de la planificación lingüística. *Revista Colombiana de Lingüística*.
http://www.scielo.org.co/scielo.php?script=sci_arttext&pid=S0120-338X2013000200007
- Coy, A., Mohammed, P. S., & Skerrit, P. (2024). Inclusive Deaf Education Enabled by Artificial Intelligence: The Path to a Solution. *International Journal of Artificial Intelligence in Education*, 35, 96–134. <https://doi.org/10.1007/s40593-024-00419-9>
- David, R. D., & Brown, K. (2022). Disability, Inclusion and Language-in-Education Policy in the Global South: The Colombian Context. *Center for Educational Policy Studies Journal*, 12(4), 13–33. <https://doi.org/10.26529/cepsj.1441>
- Deaf Culture. (2007). The life and work of Abbot Charles Michel de l'Épée (1712–1789).
<https://cultura-sorda.org/abad-de-lepee/>
- Di Bella, E., Lugo, R., & Luque, D. (2016). Lineamientos didácticos para la enseñanza del inglés como tercera lengua (L3) en jóvenes con discapacidad auditiva. *Dialnet*.
<https://dialnet.unirioja.es/servlet/articulo?codigo=6859587>

Dostal, H. M., Beal, J. S., & Easterbrooks, S. R. (2023). *Literacy Instruction for Students Who Are Deaf or Hard-of-Hearing* (2^a ed.). Oxford University Press.

<https://doi.org/10.1093/oso/9780198879114.001.0001>

Education Service Center Region 13. (n.d.). *Deaf/Hard of Hearing*. <https://esc13.net/special-education/deaf-hard-of-hearing>

European Centre for Modern Languages. (2019). *Teacher competences for sign languages in education*. Council of Europe / ECML. <https://www.ecml.at>

Figuroa, V., & Lissi, M. R. (2005). La lectura en personas sordas: Consideraciones sobre el rol del procesamiento fonológico y la utilización del lenguaje de señas. *Revista de Psicología Educacional*. https://www.scielo.cl/scielo.php?script=sci_arttext&pid=S0718-07052005000200007

González, M. (2006). Knowledge and language in the education of the deaf. *Journal of Pedagogy*, 27(78), 125–138. https://ve.scielo.org/scielo.php?pid=S0798-97092006000200006&script=sci_arttext

González, M., & Pérez, J. (2014). Venezuelan Sign Language Laboratory: A space for teaching and learning. *Journal of Inclusive Education*, 7(2), 45–60.

https://ve.scielo.org/scielo.php?pid=S1010-29142014000300006&script=sci_arttext

González, M., & Rodríguez, L. (2008). Venezuelan Sign Language study programs in basic education. *Journal of Educational Research*, 12(1), 89–105.

https://ve.scielo.org/scielo.php?pid=S1316-49102008000200005&script=sci_arttext

González, M., & Rodríguez, L. (2014). Methodology for the creation of a sign language laboratory. *Journal of Research*, 38(83), 145–162.

<https://ve.scielo.org/pdf/ri/v38n83/art06.pdf>

- González, M., & Rodríguez, L. (2025). Sign language and its importance in the medical field. *Journal of Health Sciences*, 1(1), 20–25. https://ve.scielo.org/scielo.php?pid=S2739-00632025000102025&script=sci_arttext
- González Moraga, M., & Pérez Cuello, A. (2017). Chilean Sign Language: A journey through its development process from a multidimensional perspective. *Espacio Magazine*, (47), 145–162. <https://www.researchgate.net/publication/323779772>
- González Reyes, N., Ibáñez-Acevedo, P., & Inostroza, M.-J. (2021). Exploratory action research: Teaching EFL vocabulary to deaf students using visual aids. *GIST – Education and Learning Research Journal*, (22), 135–159. <https://doi.org/10.14483/22487085.16125>
- Gooding de Palacios, F. (2020). Enfoques para el aprendizaje de una segunda lengua: Expectativa en el dominio del idioma inglés. *Revista Orbis Cognita*. <http://portal.amelica.org/ameli/jatsRepo/213/213972002/index.html>
- Hernández, L., & Cañizares, Y. (2021). La lengua de señas como medio de instrucción en la educación de sordos en Cuba. *Revista Conrado*, 17(81), 146–153. <https://www.redalyc.org/articulo.oa?id=71067651021>
- Hernández Arboleda, J. (2023). Quitándole lo “extranjero” al inglés: Adaptabilidad e inclusión en los procesos de enseñanza del inglés en ámbitos rurales [Tesis de maestría, Universidad Nacional Abierta y a Distancia]. Repositorio UNAD.
- Higuera Aguirre, E. F., Ordóñez Guamán, S. V., & Ordóñez Guamán, L. O. (2023). Ecuadorian teachers' perceptions of the inclusion of deaf students in regular schools. *MLS Inclusion and Society Journal*, 3(1). <https://doi.org/10.56047/mlsisj.v3i1.2152>
- IBE-UNESCO. (2021). *Reaching out to all learners: A resource pack for supporting inclusion and equity in education*. UNESCO / International Bureau of Education.

https://www.ibe.unesco.org/sites/default/files/medias/fichiers/2023/10/unesco_bie_2021_web_inclusive_education_resrouce_pack.pdf

INSOR. (2020). *Lineamientos para la enseñanza de lenguas extranjeras en estudiantes sordos en Colombia*. Ministerio de Educación Nacional. <https://educativo.insor.gov.co/wp-content/uploads/2023/07/Orientaciones-Educacion-Superior.pdf>

INSOR & Ministerio de Educación Nacional. (2021). *Orientaciones para la implementación de la modalidad bilingüe-bicultural*. INSOR / MEN. https://educativo.insor.gov.co/wp-content/uploads/2020/12/Documento_10-pdf.pdf

Instituto Nacional para Sordos (INSOR). (2020). *Lineamientos para la enseñanza de lenguas extranjeras en estudiantes sordos en Colombia*. Bogotá: INSOR.

Kellett Bidoli, C. J. (2023). Deaf adult learners and their teacher: Knowledge construction and meaning making through the lens of translanguaging and semiotic repertoires. *Revista Brasileira de Linguística Aplicada*, 23, e202359756. <https://doi.org/10.1590/1678-460X202359756>

Kerguelen Soto, J. F., Cantero Osorio, F. M., Cogollo Morales, J. D., & Díaz, A. M. (2024). Enseñanza diversificada del inglés y la lengua de señas colombiana en la básica primaria. *Ciencia Latina: Revista Científica Multidisciplinar*, 8(3), 7985–7996. https://doi.org/10.37811/cl_rcm.v8i3.11991

Molina, M. C. (2020). Lectoescritura en inglés para estudiantes sordos. *Educación y Educadores*, 23(4), 596–610. <https://doi.org/10.5294/edu.2020.23.4.3>

Marzo, A., Rodríguez, X., & Fresquet, M. (2022). La lengua de señas: Su importancia en la educación de sordos. *Varona*. http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S1992-82382022000200005

Mejía Cajamarca, L. A. (2025). Didactic proposal for teaching English grammar as a foreign language to deaf adults through Task-Based Language Teaching (TBLT) [Trabajo de titulación de grado, Universidad Nacional de Educación].

<https://repositorio.unae.edu.ec/handle/56000/3724>

Ministry of Planning. (2010). *Establishes standards on equal opportunities and social inclusion of people with disabilities*. <https://www.bcn.cl/leychile/navegar?idNorma=1010903>

National Association of the Deaf. (n.d.). *Position Statement on ASL and English Bilingual Education*. <https://www.nad.org/about-us/position-statements/position-statement-on-asl-and-english-bilingual-education/>

Nordén, B. (1969). *Educational outcomes in hearing-impaired students*. Uppsala University Press.

Pérez, J. (2008). Comprehensive literacy model for deaf people (MIDAS). *Journal of Research*, 32(66), 145–162. https://ve.scielo.org/scielo.php?pid=S1316-00872008000200008&script=sci_arttext

Pontecorvo, E., Higgins, M., Mora, J., Lieberman, A. M., Pyers, J., & Caselli, N. K. (2023). Learning sign language does not hinder acquisition of a spoken language. *Journal of Speech, Language, and Hearing Research*, 66(4), 1291–1308. https://doi.org/10.1044/2022_JSLHR-22-00505

Reyes, J., & Mejía, E. (2006). La lengua de señas venezolana: Una lengua natural. *Opción*, 22(52), 111–125. https://ve.scielo.org/scielo.php?pid=S1012-15872006000200011&script=sci_arttext

- Rodríguez, L. (2010). Sign language dictionaries: lexicographical issues. *Journal of Philology*, 38(83), 145–162. https://ve.scielo.org/scielo.php?pid=S1010-29142010000200009&script=sci_arttext
- Suárez Rodríguez, D. L. L. (2021). La comunidad sorda colombiana y el discurso de la lengua como derecho humano: problematizando una dicotomía de inclusión-exclusión [Tesis de Maestría, Universidad Distrital Francisco José de Caldas]. <https://hdl.handle.net/11349/27759>
- Svartholm, K. (1984). *Research on sign language and education in Sweden*. National Swedish Board of Education.
- Velásquez, J., & Díaz, M. (2020). Bilingual literacy among deaf and hard-of-hearing students: A literature review in the USA, Canada and Colombia [Documento institucional]. Universidad Distrital Francisco José de Caldas.
- Verster, B. (2023). A paradigm shifts in collaborative learning: Insights from the theory of collaborative advantage for inclusive and engaging pedagogical design. *South African Journal of Higher Education*, 38(6), 230–247. <https://doi.org/10.20853/38-6-6005>
- Varguillas, C., Urquizo, A., & Bravo, P. (2021). Experiencias en el proceso de inclusión educativa en la educación superior iberoamericana. *Chakiñan, Revista de Ciencias Sociales y Humanidades*, (15), 154–169. <https://doi.org/10.37135/chk.002.15.12>
- Yáñez García, B. M., Saltos Dueñas, C. L., Mendoza Saltos, R. E., Loor Caicedo, C. K., & Rojas Zambrano, D. M. (2023). El inglés como segunda lengua en estudiantes con discapacidad auditiva. *Maestro y Sociedad, (Número Especial)*, 211–219. <https://maestroysociedad.uo.edu.cu>

Yáñez García, R., et al. (2023). El inglés como segunda lengua en estudiantes con discapacidad auditiva. *Revista Maestro y Sociedad*, 20(3), 780–795.

<https://maestroysociedad.uo.edu.cu/>

Yáñez García, R., et al. (2023). Implementación de la lengua de señas colombiana (LSC) para ampliar las posibilidades de inclusión en el Hogar Infantil El Portalito (B. Cartagena) [Trabajo de grado]. Universidad de Cartagena.