


**UNIVERSIDAD ESTATAL PENÍNSULA DE SANTA ELENA**

**SCHOOL OF EDUCATION AND LANGUAGES**

**PEDAGOGY OF NATIONAL AND FOREIGN LANGUAGES**

# "VISUAL AND AUDITORY RESOURCES TO ENHANCE VOCABULARY IN CHILDREN WITH AUTISM SPECTRUM DISORDER"

## RESEARCH PROJECT

As a prerequisite to obtain a:

**BACHELOR'S DEGREE IN PEDAGOGY OF NATIONAL AND FOREIGN LANGUAGES**

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## Advisor's Approval

In my role as Advisor of the research paper under the **title Visual and Auditory Resources to Enhance Vocabulary in Children with Autism Spectrum Disorder** prepared **by Estrada Guaman Stefanny Paola and Murillo Rivera Jehily Miquenia**, undergraduate students of the Pedagogy of National and Foreign Languages Major, at School of Educational Sciences and Languages at Universidad Estatal Península de Santa Elena, I declare that after oriented, studied and reviewed the project, I approve in its entirety, because it meets the requirements and is sufficient for its submission to the evaluation of the academic tribunal.

**Sincerely,**

Vera Cruzatti Rossana Narcisa, MSc.

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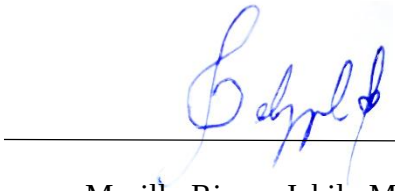
**Statement of Authorship**

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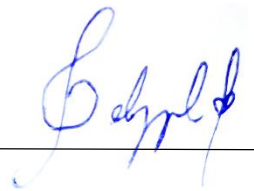
**Declaration**

The information and content in this degree and research work are the responsibility; the intellectual property belongs to Universidad Estatal Peninsula de Santa Elena.



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**Acknowledgement I**

First and foremost, I would like to express my deepest gratitude to God for being my guide and for granting me the wisdom, strength, and perseverance to overcome every challenge and successfully complete this important stage of my life.

I sincerely thank my parents, María Guamán and William Estrada, especially my mother, for her unconditional love, sacrifices, and unwavering encouragement. Her strength and belief in me inspired me to keep moving forward. I am also deeply grateful to my grandmother Paca Peralta, for their love, support, and constant encouragement throughout this journey.

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-Estrada Guamán Stefanny Paola

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-Murillo Rivera Jehily Miquenia

## Dedication I

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- With love, Estrada Guamán Stefanny Paola

## Dedication II

I dedicate this research project in a very special way to my sweet and beloved daughter, Seline. Thank you, my love, for your infinite patience and for the quiet sacrifice you made—at such a young age—to help me achieve this dream.

To my beloved mother, Esther Rivera, the most sacred pillar of my existence: you are my eternal role model, the virtuous woman who shaped my mind and spirit to be strong in the face of life's hardships. I thank heaven that you are the best mom God could have given me; you can't imagine the immense pride that fills my heart when you call me your daughter.

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**Abstract**

Although this study confirms that the use of visual and auditory resources is necessary for successful learning of a new language in inclusive education, their systematic application is flawed due to a lack of curricular priority, limited infrastructure, and insufficient teacher training regarding special educational needs. Therefore, this qualitative and phenomenological study was initiated to examine the perspectives of English as a Foreign Language (EFL) teachers on the importance and effectiveness of using visual and auditory teaching resources, with the specific aim of identifying the benefits and challenges in the process of teaching vocabulary to children with Autism Spectrum Disorder (ASD). The research employed an interview method using an eight-question open-ended questionnaire administered face-to-face with five EFL teachers with experience in inclusive education in the province of Santa Elena. All data obtained from the interviews were recorded and transcribed in detail for analysis of the teachers' perceptions and professional experiences. The results highlighted that English teachers overwhelmingly perceive a positive impact, emphasizing that the combination of visual and auditory stimuli significantly improves the word-object connection, thereby eliminating communication gaps. Among the most effective materials used for teaching vocabulary were picture cards (flashcards), real objects (realia), and the PECS system; visual schedules and short songs were also included, with volume adjusted appropriately due to the auditory hypersensitivity of children with ASD. In conclusion, the findings suggest that properly structured instruction using appropriate teaching resources is essential for reducing frustration and anxiety in students' learning, fostering greater confidence, long-term vocabulary retention, and the integration of language into everyday contexts, while adapting teaching methodologies to local needs and realities.

**Key words:** Visual and auditory resources, Autism Spectrum Disorder (ASD), English vocabulary, educational inclusion, sensory overload.

**Resumen**

Aunque el presente proyecto valida que el uso de los recursos visuales y auditivos es necesario para el aprendizaje exitoso de un nuevo idioma en la educación inclusiva, su aplicación sistemática es deficiente debido a la falta de prioridad en los planes de estudio, a la infraestructura limitada y a la insuficiente capacitación docente en relación con las necesidades educativas especiales. Por lo tanto, este estudio cualitativo y fenomenológico se inició para examinar las perspectivas de los docentes de inglés como lengua extranjera (EFL) sobre la importancia y la efectividad del uso de recursos didácticos visuales y auditivos, con el objetivo preciso de identificar los beneficios y los desafíos en el proceso de enseñanza de vocabulario a niños aprendices con Trastorno del Espectro Autista (TEA). La investigación aplicó el método de la entrevista mediante un cuestionario de ocho preguntas abiertas, realizado de forma presencial con cinco docentes de EFL con experiencia en educación inclusiva en la provincia de Santa Elena. Todos los datos obtenidos en las entrevistas se registraron y transcribieron detalladamente para analizar sus percepciones y experiencias profesionales.

Los resultados resaltaron que los docentes de inglés perciben, de forma abrumadora, un impacto positivo, lo que subraya que el conjunto de estímulos visuales y auditivos mejora considerablemente la conexión palabra-objeto y elimina brechas comunicativas. Entre los materiales más efectivos para la enseñanza del vocabulario se identificaron las tarjetas de imágenes (flashcards), los objetos reales (realia) y el sistema PECS; también se incluyeron las agendas visuales y las canciones cortas, siempre con el cuidado de regular adecuadamente el volumen, debido a la hipersensibilidad auditiva de los niños con TEA. En conclusión, los hallazgos sugieren que una instrucción correctamente estructurada, con recursos didácticos apropiados, es primordial para disminuir la frustración y la ansiedad en el aprendizaje del estudiante, impulsando una mayor confianza, la retención del vocabulario a largo plazo y la incorporación del idioma

en contextos de la vida diaria, adecuando las metodologías de enseñanza a las necesidades y realidades locales.

**Palabras claves:** Recursos visuales y auditivos, Trastorno del Espectro Autista (TEA), vocabulario en inglés, inclusión educativa, sobrecarga sensorial.

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## Introduction

Numerous studies have shown that the use of visual and auditory resources is essential when teaching a new language to students with special educational needs. Despite these findings, inclusive multisensory resources have not been established as a priority in the curriculum, and there are still many teachers who lack the proper training to integrate these teaching materials into the classroom or who lack the institutional resources to adequately support and empower students with Autism Spectrum Disorder (ASD) (Association for Science in Autism Treatment [ASAT], 2026).

This topic has been studied worldwide, and, for example, in international contexts, researchers have determined that children with autism exhibit deficits in auditory processing and, consequently, have difficulties with verbal comprehension. Another study conducted in Latin America highlighted that regular attendance at sessions and consistent practice using visual communication systems are the most important factors for achieving successful communication outcomes. Finally, in Ecuador, research has determined that national inclusive models require educational frameworks to adapt technical and structural resources to strengthen the inclusion of students with neurodevelopmental disorders.

The relevant data obtained during the studies showed that highly structured visual-behavioral interventions are effective strategies for teaching vocabulary; with consistent practice, students can understand specific linguistic structures while improving their sensory processing. Picture cards (flashcards), pictograms, real objects (realia), and visual cues are key materials necessary for strengthening dual coding, clarifying abstract concepts, and improving long-term memory of new vocabulary (Cangá & Benítez, 2025).

This study employed a rigorous data collection methodology to support the results, which were obtained through detailed and thorough analysis and interpretation. Given the qualitative nature of this study, the methodological approach is considered a meaningful design for addressing experiences and meanings, fostering a research process in which participants are treated as subjects rather than objects of study (Castillo López et al., 2023). Therefore, this study employed appropriate data collection techniques (individual interviews) to ensure high-quality responses from each interviewed teacher. A questionnaire consisting of eight open-ended questions, administered face to face, in-person interviews with five English teachers from the province of Santa Elena who have experience working in inclusive classrooms and teaching English vocabulary to students with autism, provided this study with diverse perspectives to understand how beneficial the appropriate integration of visual and auditory resources is and how it should be applied.

# Chapter I

## The Problem

### Research Topic

Educational inclusion in English teaching.

### Title

Visual and Auditory Resources to Enhance Vocabulary in Children with Autism Spectrum Disorder.

### Problem Statement

Today, throughout the world, learning English is a fundamental foundation and a necessary tool for developing academic skills and securing better job opportunities in the future. Proficiency in English facilitates better global communication, helping overcome language barriers that cause frustration and mistrust. In Ecuador's educational context, according to the Ministry of Education (2021), it is important to adapt teaching methods that ensure a high-quality and diverse education for all students, regardless of their location or cognitive needs; therefore, pedagogical standards have been established that emphasize this importance. Consequently, teachers in regions such as the province of Santa Elena must adapt their teaching methods so that students with Special Educational Needs (SEN) can fully engage in learning a foreign language. However, it is difficult to implement these guidelines to build English vocabulary specifically for children with ASD due to a lack of visual and auditory resources in schools and colleges.

Over the past two decades, autism spectrum disorder has increased by about 300%. According to Bergold et al. (2026), children with autism have difficulties with communication and social interaction, which pose challenges in recognizing social situations and rules. It is essential to use the right multisensory resources to help

children connect with English vocabulary in a real-world context. There is a significant educational gap between theory and practice in English language classrooms. Traditional methods rely on activities such as memorization and repetition; however, according to Gordillo et al. (2024), the use of visual technological resources is essential for facilitating communication and improving cognitive abilities in children with ASD.

In the province of Santa Elena, there is insufficient evidence regarding how teachers apply multisensory resources to teach English vocabulary. Without the use of visual aids such as pictograms, flashcards, or auditory resources, children with ASD face limitations and frustration in their learning, hindering proper lexical and cognitive development. To understand whether the use of these resources in relation to associating meanings enables teachers to transform verbal instruction into an effective sensory experience.

To address this issue, this phenomenological study seeks to explore and describe English teachers' experience in the province of Santa Elena regarding the use of visual and auditory resources to improve vocabulary instruction for children with ASD. Additionally, it aims to understand teachers' views on multisensory tools and their integration into the teaching-learning process.

**Problem Question**

What are the perceptions of elementary school English teachers in the province of Santa Elena regarding the use of visual and auditory resources to improve vocabulary in children with ASD?

**Specific Questions**

What are the views of elementary school English teachers regarding the incorporation of multisensory tools for students with ASD?

What visual and auditory resources do teachers use to facilitate vocabulary learning in children with ASD?

What are the most common challenges that elementary school English teachers face daily when applying visual and auditory resources in the classroom in the province of Santa Elena?

**Justification**

This research project focuses on the need to understand the teaching process for improving English vocabulary in children with Autism Spectrum Disorder (ASD) in the province of Santa Elena, drawing on teachers' experiences with visual and auditory resources. In general, following a curriculum is sufficient for teaching in schools; however, it is necessary to immerse oneself in the real-world classroom context to understand the challenges teachers face when teaching students with Special Educational Needs. It is essential to strengthen teacher training in inclusive education and promote active methodologies that ensure teaching processes centered on the participation and accessibility of children with ASD. (Castillo De La Ossa & Novoa Ríos, 2026).

This project is socially relevant because it focuses on raising awareness among elementary school teachers in the province of Santa Elena, who engage in the teaching-learning process daily. By examining the reality of the challenges they face and the ways they use visual aids or auditory stimuli, we can better understand the dynamics of an inclusive classroom. Teaching English to autistic elementary school children involves not only language acquisition but also the development of strategies that promote their educational and social inclusion. (De Dios Pérez & Córdova Palomeque, 2025).

In this way, knowledge is expanded to other educators so they can shift from solely verbal instruction to an approach that incorporates multisensory experiences, thereby reducing anxiety and frustration and effectively developing the vocabulary of children with ASD. This study provides an up-to-date foundation by filling the information gap in the province of Santa Elena regarding how teachers use visual and auditory resources in schools—a critical step toward designing new support guidelines that address the actual needs reported by teachers themselves in their classrooms.

## Objectives

### General Objective

To analyze how visual and auditory resources enhance vocabulary acquisition in children with ASD through interviews with elementary school teachers.

### Specific Objectives

To explore the criteria used by elementary school English teachers regarding the integration of multisensory resources for children with ASD.

To explain the visual and auditory resources that teachers currently use to facilitate vocabulary learning among students with autism.

To identify the challenges teachers face when using multisensory resources in classrooms in the province of Santa Elena.

# Chapter II

## Theoretical Framework

### Background

International Studies Contemporary international research has increasingly focused on the neurocognitive underpinnings of sensory processing in children with Autism Spectrum Disorder (ASD) and its impact on language development (Alsayedhassan et al., 2020). A critical study investigating auditory temporal processing found that children with ASD exhibit significantly higher auditory gap detection thresholds compared to neurotypical peers. This domain-specific deficit in rapid auditory processing is directly correlated with impairments in phonetic awareness and verbal comprehension, establishing a neurobiological link between low-level sensory anomalies and high-level language deficits. Furthermore, researchers have identified that while autistic children may possess enhanced pitch discrimination—a potential phenotypic marker for ASD—they often suffer from auditory hypersensitivity, which leads to cognitive overload in noisy environments (AssistiveWare, 2026).

In Latin America and Ecuador, the widespread use of evidence-based practices, such as the Picture Exchange Communication System (PECS) and Augmentative and Alternative Communication (AAC), in various settings is highlighted. The research underscores that, in resource-limited settings, session frequency and high-fidelity home practice are the most significant predictors of successful communication outcomes for children with ASD. “This suggests a critical need for research tailored to the Ecuadorian context to assess how teachers and families adapt these high- and low-tech resources to meet inclusive education standards (Association for Science in Autism Treatment [ASAT], 2026).”

Research on ASD and multisensory learning: Research consistently shows that children with ASD benefit from highly structured, visual-behavioral interventions that address “auditory-visual misalignment”. Because students with autism often struggle to align their visual attention with the auditory cues provided by caregivers, they are at risk of developing inaccurate phonological and visual representations of words (Bowman, 2026). Multisensory learning resources such as video modeling and digital visual schedules address this issue by leveraging strong visual processing skills to reinforce auditory information, thereby reducing social stress and improving vocabulary acquisition (Association for Science in Autism Treatment [ASAT], 2026).

**Pedagogical Basis**

The way in which teachers teach children with autism spectrum disorder in the classroom is based on the idea that they learn in their own unique way. We must consider what they need to learn. This section explores the ideas and methods that help us use images and sounds to teach new words to children with autism spectrum disorder.

The organization CAST advocates for ensuring that everyone can learn together and for using an approach called “Universal Design for Learning.” This approach to education is based on the idea that everyone should be able to learn. It argues that we must ensure our classrooms are organized in such a way that everyone can learn, regardless of the language they speak or their background. Universal Design for Learning holds that we should offer children different ways to learn so they can choose the one that best suits them. There are tools, such as Choiceworks and VizyPlan, that help us achieve this. They allow us to use images, audio recordings, and reminders to help children do things on their own and feel less anxious. Some video modeling

methods use only images, which helps children who do not speak the language by showing them what to do without the need for words (Field, 2009).

Constructivism (Piaget and Vygotsky) and Meaningful Learning (Ausubel) The study draws on Vygotsky's Social Constructivism, particularly the role of joint attention in language development. In children with ASD, joint attention is often disrupted, necessitating the use of structured supports like PECS to facilitate initiated joint attention (IJA). Furthermore, Ausubel's Meaningful Learning theory is reflected in the use of "transparent" symbols such as photographs of a child's actual environment in AAC systems. These ensure that new vocabulary is anchored to existing, recognizable mental referents rather than abstract, "opaque" clipart (Holtzclaw, 2011).

Multisensory learning is operationalized through behavioral frameworks such as stimulus equivalence training (A=B, B=C, therefore A=C) (Koenig, 2026). This approach teaches receptive vocabulary by matching spoken words to picture symbols and physical objects. By engaging multiple senses, these interventions help autistic children overcome rapid auditory temporal processing deficits and establish clear word-to-object relations (Magnet ABA. , 2025)

Multisensory learning, which engages multiple senses (sight, hearing, touch, movement) simultaneously, is particularly beneficial for children with ASD. This approach leverages their strengths, such as visual processing, to support areas where they may face challenges, such as auditory processing or abstract concept formation. When learning new vocabulary, combining visual cues (e.g., flashcards, pictograms, realia) with auditory input (e.g., spoken words, songs, phonetic drills) can create stronger memory traces and facilitate deeper understanding (Shams & Seitz, 2008).

The communicative approach to language teaching, which emphasizes meaningful interaction and authentic language use, is also highly relevant. For children with ASD, this approach can be adapted to incorporate structured communication opportunities, visual supports for social interactions, and explicit teaching of pragmatic language skills. Integrating visual and auditory resources into a communicative framework helps bridge the gap between abstract linguistic concepts and concrete real-world applications, thereby improving vocabulary retention and recall.

**Theoretical Basis**

The theoretical foundations of this study are essential for understanding how visual and auditory cues influence vocabulary acquisition, memory retention, and information retrieval in individuals with autism spectrum disorder (ASD). This section examines the main theories that explain the cognitive processes of learning, with a particular focus on how information is encoded, stored, and retrieved.

Autism Spectrum Disorder (ASD) ASD is a neurodevelopmental profile characterized by persistent deficits in social communication and the presence of restricted, repetitive patterns of behavior. A core diagnostic component involves sensory processing alterations across modalities. The Enhanced Perceptual Functioning (EPF) theory posits that autistic individuals have a heightened sensitivity to low-level perceptual features, such as exceptional pitch discrimination, but struggle with high-level sensory integration (Magnolia Behavior Therapy, 2026).

English Vocabulary Acquisition Vocabulary is the foundational building block for morphosyntactic development and literacy (Bowman, 2026). For children with ASD, English vocabulary acquisition is often hindered by a lack of "set for variability," or the ability to identify words by matching them to a mental lexicon. Structured visual and

auditory resources are required to establish precise word-to-referent mappings (PRC-Saltillo, 2021).

### Visual and Auditory Resources

**Visual Resources:** These include low-tech tools like PECS Communication Books and high-tech tools like digital visual schedules. Video modeling (VM) is an evidence-based visual resource that demonstrates targeted behaviors for imitation, reducing the eye-contact demands that can cause social stress (Duff, 2023).

Visual aids encompass a wide variety of materials that present information visually, such as images, pictograms, educational flashcards, visual schedules, and videos. For children with ASD, visual aids are often very effective because they are concrete, permanent, and reduce reliance on fleeting auditory information. Visual aids can clarify abstract concepts, provide context, and facilitate understanding, which in turn facilitates the encoding and storage of new vocabulary (Cangá and Benites, 2025). The use of visual aids aligns with the visual learning strengths often observed in individuals with ASD, making them an indispensable tool in their educational toolkit.

**Auditory resources:** These include speech-generating devices (SGDs) and AAC apps such as LAMP Words for Life and Proloquo2Go (Pyramid Educational Consultants, 2026). These resources provide immediate auditory feedback to motor actions, which helps children develop automaticity in language production through coherent motor planning (Vanderbilt Kennedy Center, 2020).

Auditory resources involve the use of sound to convey information, including spoken words, songs, rhymes, phonetic drills, and audio stories. While auditory processing can be a challenge for some children with ASD, carefully designed auditory input can significantly contribute to vocabulary acquisition. Repetition, clear

articulation, and the use of prosodic cues (e.g., intonation, rhythm) can enhance auditory comprehension and memory (Tiche et al., 2025). When combined with visual supports, auditory resources create a multimodal learning experience that can reinforce vocabulary learning by engaging different sensory pathways.

**Memory Processes:** Retention and Recall Retention and recall of vocabulary in children with ASD are significantly influenced by the modality of presentation and the reduction of social demands. Research on video modeling (VM) demonstrates that once a skill is acquired through visual-auditory resources, it is often maintained over time and generalized across different settings (Alsayedhassan et al., 2020). Multisensory strategies, which combine visual images, auditory cues, and interactive elements, have been shown to improve understanding and memory retention by catering to the unique learning styles of autistic individuals. These resources provide the predictability needed to anchor new vocabulary in long-term memory.

**Cognitive and Linguistic Processing in ASD**: Cognitive processing in ASD is often defined by the Weak Central Coherence theory, which posits a preference for local features (details) over global context. This “focus of attention” can lead to difficulties in integrating linguistic information into a meaningful whole (Association for Science in the Treatment of Autism [ASAT], 2025). However, this strength in feature discrimination can be harnessed through structured visual aids that use high-fidelity icons or photographs to establish precise correspondences between words and their referents. Furthermore, it is essential to address deficits in auditory temporal processing, as these children often need more time to process acoustic transitions and relate sounds to their meanings (Duff, 2023).

**Dual Coding Theory (DCT),** originally proposed by Allan Paivio, remains a central theoretical framework for this study. DCT posits that cognition involves the

activity of two separate but interconnected mental systems: a verbal system that processes linguistic information and a non-verbal system that processes non-linguistic information, such as images. Information processed by both systems (e.g., seeing a picture of an apple while hearing/reading the word “apple”) is encoded in both systems, creating redundant representations that enhance memory and recall. For children with ASD, who often demonstrate strong visual processing abilities, the simultaneous presentation of visual and auditory vocabulary stimuli can facilitate dual encoding, leading to more robust learning outcomes (Norrington-Davies, 2024). In this study, Dual coding Theory directly supports the visual and auditory variables by explaining how the presentation of an image (Flashcards) alongside spoken English words enables children with ASD to construct dual mental representations, thereby improving their vocabulary retention and retrieval.

**Other Relevant Theories**

Beyond Dual Coding Theory, other cognitive theories provide valuable insights into vocabulary acquisition in children with ASD:

**Cognitive Load Theory (CLT):** CLT suggests that learning is optimized when instructional materials are designed to minimize extraneous cognitive load and manage intrinsic cognitive load effectively (Sweller, 2020). For children with ASD, this involves presenting visual and auditory materials in a clear and organized manner, avoiding sensory overload, and breaking down complex vocabulary into more manageable parts. This theory is directly related to the management of sensory resources for students with ASD. By carefully selecting visual aids that are not overwhelming and auditory cues with controlled volume, teachers minimize unnecessary congnitive load, allowing students with ASD to focus their limited cognitive processing capacity on mastering new English vocabulary.

**Multimedia Learning Theory (MLT):** MLT is based on the idea that people learn more deeply from words and images than from words alone (Mayer and Logan Fiorella, 2022). It proposes principles for designing effective multimedia instruction, such as the multimedia principle, the contiguity principle, and the coherence principle. These principles are highly applicable to the design of visual and auditory vocabulary resources for children with ASD.

**Psycholinguistic Theories:** Psycholinguistic research offers a deeper understanding of the linguistic processes involved in vocabulary acquisition (Calabrese et al., 2025). Although children with ASD may exhibit atypical phonological processing, the integration of visual cues can compensate for these difficulties, facilitating the association of sounds with meanings.

Multisensory Learning and Teachers' Perceptions The success of multisensory interventions is influenced by teachers' perceptions of their feasibility. Studies on the implementation of PECS and video modeling show high levels of social validity, with educators reporting that these tools are easy to use and lead to significant improvements in student communication. Virtual training and video modeling have been identified as viable, enjoyable methods for educators to learn these procedures (Wildmon et al., 2023)

## Legal Basis

The following section describes the legal framework requested. While the provided sources focus on pedagogical and clinical evidence, they emphasize compliance with inclusive education standards such as UDL and ASHA guidelines. The study is framed within the following Ecuadorian and international legal instruments:

**Constitution of Ecuador:** Guarantees the right to specialized education for people with disabilities and ensures inclusion in the educational system.

**Organic Law on Intercultural Education (LOEI):** establishes that the national education system must provide technical and pedagogical support to students with special educational needs.

**Organic Law on Disabilities:** establishment of the right of people with disabilities to develop their potential through specialized resources.

**Ministry of Education Policies:** These focus on the implementation of inclusive classrooms and the use of adaptive technologies to facilitate learning (e.g., Agreement No. MINEDUC-2025-00028-A) in order to strengthen the inclusion of students with neurodevelopmental disorders (Ministry of Education, 2025).

**UNESCO and CRPD (Convention on the Rights of Persons with Disabilities):** International standards that promote AAC and assistive technologies to ensure the right to freedom of expression and access to information. Article 24 specifically addresses education, recognizing the right to education without discrimination. Complementing the CRPD, the UNESCO Salamanca Statement remains a foundational framework for special needs education, with recent updates emphasizing global inclusion targets for 2030 (UNESCO, 2025).

# Chapter III

# Methodological Framework

The purpose of this research is to obtain the data necessary for interpretations, opinions, or conclusions through studies or observations. This research describes the methods for collecting data, including instruments, techniques, and procedures. Data will be collected to study Visual and Auditory Resources to Enhance Vocabulary in Children with Autism Spectrum Disorder. The qualitative method has been selected as the basis for analyzing and interpreting the results.

## Qualitative

Qualitative research is a perspective on the world around us that has faced many critics throughout history but is gaining support and advocates for its methodological processes. This reflects an intention to move away from positivist rigidity in addressing social issues and to employ a personal interpretive process to understand reality (Guzmán, 2021). The author asserts that qualitative research is an interpretation of the world around us that aims at understanding reality. Therefore, this project aims to help understand and analyze how visual and auditory resources used to teach vocabulary to children with autism are used in elementary schools.

## Type of Research

This project is guided by a phenomenological approach, as it is particularly well suited to qualitative research. The study draws on participants' experiences to assess the effectiveness of visual and auditory resources in teaching vocabulary to children with autism. The phenomenological method is presented as a relevant research design for addressing educational meanings and experiences and promoting a research process in

which participants are involved as subjects rather than objects of study (Castillo López et al., 2023).

## Data Collection Techniques

Data collection in qualitative research offers a detailed, in-depth perspective on the phenomenon under study, in contrast to quantitative methodology, which focuses on measurement and generalization based on numerical data. Thus, the qualitative approach seeks to understand and explain the phenomenology of the subject under study, enabling the collection of sufficient, contextualized data to analyze the complex aspects of the research. (Marín Aboytes and Ledesma Lois, 2024). This study will use interviews with five English teachers; the questionnaire contains open-ended questions that will allow the teachers to share their experiences, ideas, and opinions. Therefore, the interviews will be conducted in person and recorded to enable transcription for further analysis.

## Instruments

A research instrument is a specific tool used to collect and analyze information during the research process. These instruments may include checklists, questionnaires, measurement scales, structured interview sheets, and standardized tests, among others. (Medina et al., 2023)

**Questionnaire.** The questionnaire is defined as an instrument designed within the framework of a research project based on specific objectives, meaning that its data can yield valuable insights, allowing for a comprehensive approach to this diversity of contexts and realities (Rodrigues De Andrade, 2023). This means that the questionnaire is a set of questions used as an indispensable tool for data collection to understand a specific topic.

**Types of Questions.** Hansen and Świderska (2024) demonstrated that open-ended questions can reveal nuances, emotions, and perceptions that do not come to light with closed-ended questions, especially when addressing complex topics that require personal questions, learning processes, or subjective perceptions. Their study showed that open-ended responses provide more concrete, specific information, which facilitates data interpretation and, in turn, contributes to a better understanding of complex experiences, including learning experiences. For this reason, 8 open-ended questions will be used in interviews with 5 English teachers from an elementary school who have prior knowledge of visual and auditory resources for vocabulary development in children with autism. The objective is to gather different perspectives and opinions from these professionals.

## Data Collection Processing and Resources

**Tabla 1**

*Data Collection Processing*

| Questions | Justification |
|---|---|
| What | Interviews |
| Where | At Unidad Educativa Teodoro Wolf, Santa Elena - Santa Elena Province |
| When | June, 2026 |
| How | One-on-one interview (8 Open-ended questions) |
| What for | To learn about Visual and Auditory Resources to Enhance Vocabulary in Children with Autism Spectrum Disorder. |

## Population and Sample

**Population**. In research, the population is defined as the complete set of people, elements, or objects that share one or more characteristics related to the study's topic (Shukla, 2020). The interviews are conducted with five English teachers in the province of Santa Elena who have worked with, or are still working with, visual and auditory resources for vocabulary learning in basic education for children with autism. Participants will be selected based on their experience so that their opinions will be highly useful for this study. Additionally, this will ensure a variety of testimonies and experiences.

**Sample.** A sample is a selected subset of the population that represents its characteristics, opinions, and experiences more accurately, so that the results obtained can be generalized to a broader or total population (Emmanuel et al., 2021). For this study, a non-probabilistic purposive sampling method was used to select five elementary school English as a Foreign Language (EFL) teachers from the province of Santa Elena. Participants were selected based on specific inclusion criteria to ensure rich and relevant data for the phenomenological analysis: holding a professional degree in English Language Teaching, Pedagogy, or Education. Having direct experience using visual and auditory resources (such as flashcards, real objects, PECS, audio buttons, or digital media) with children diagnosed with Autism Spectrum Disorder (ASD) in inclusive classrooms.

# Chapter IV

## Analysis of Findings

This chapter presents the analysis and interpretation of the results obtained from interviews conducted in the province of Santa Elena with five English as a Foreign Language (EFL) teachers who have experience using visual and auditory resources to improve vocabulary in children with autism spectrum disorder. The main objective of this chapter is to understand how the use of teaching resources in English vocabulary instruction influences student learning.

In summary, the interviews allowed the five EFL teachers to share their experiences and perspectives on how they apply visual and auditory resources to improve English vocabulary. Their responses offer distinct insights, benefits, and challenges regarding classroom teaching resources.

### Interpretation of Data from the Individual Interviews

The results of the 8 open-ended questions from the 5 individual interviews are summarized in the following general interpretation.

1. **What is your point of view on the use of visual and auditory teaching resources for teaching vocabulary to children with ASD?**

   All the teachers interviewed agree that visual and auditory resources are essential and necessary for teaching vocabulary to children with autism spectrum disorder. The teachers emphasized that children with ASD process information differently and that visual representations—rather than theoretical learning—are the key to learning for these children. These ideas align with the findings of Alsayedhassan et al. (2020), who noted that children with ASD have a unique way of processing information that directly impacts language development.

Based on the shared perspectives, combining images and auditory stimuli improves word comprehension and processing more quickly and easily.

Similarly, the interviewees emphasized that the use of multisensory materials significantly impacts children's academic performance in the classroom. Students are able to successfully complete their activities, which leads to a considerable improvement in their participation and concentration. Finally, the teachers emphasized that these resources help create a welcoming and safe environment, reducing the stress and anxiety that children experience.

From a neurodivergent perspective, visual resources such as flashcards, pictograms and realia serve as an essential cognitive bridge specifically tailored for children with Autism Spectrum Disorder (ASD). Autistic learners often exhibit strong visual-spatial processing abilities while struggling with abstract verbal instructions. By anchoring new English vocabulary directly to concrete visual representations, teachers reduce verbal processing demands and capitalize on the visual strengths inherent to ASD, promoting better word-meaning association and long-term memory retention.

2. **Could you describe some experiences you have used with visual and auditory resources in teaching English vocabulary to children with ASD?**

According to the experiences shared by the teachers interviewed, it is important to apply and adapt classroom resources to each child's individual needs, emphasizing the need to regulate auditory stimuli due to the sensory hypersensitivity experienced by many children with ASD. According to

AssistiveWare (2026), children with ASD have acute perceptual abilities; consequently, they often suffer from auditory hypersensitivity, which leads to cognitive overload due to loud noises. Therefore, the teachers agreed that the use of auditory resources must be carefully and consistently managed. Other teachers noted that daily songs and videos are well received by some students for memorizing words, while others pointed out that group singing can have a negative effect due to auditory hypersensitivity in children with ASD.

On the other hand, some teachers agreed that the use of these visual tools, along with technology and specific materials, is highly effective for teaching. In addition, the use of real objects with Picture Exchange Communication System (PECS) symbols and individual audio buttons was reported, which enabled a 7-year-old nonverbal student to associate food vocabulary with his real-world environment and, in this way, request objects in a practical manner, thereby reducing his resistance in the English class. Furthermore, one study highlights the use of visual sequences (before-after) on digital tablets combined with short sound effects for learning action verbs, which enabled students to associate English verbs with physical actions, thereby reducing their anxiety during the learning process.

3. **What kind of visual and auditory resources do you use daily to teach English language vocabulary to children with special needs?**

According to the teachers' responses, they use a variety of resources that are adapted daily to prevent fatigue among students with ASD. These tools include:

Technology and projection tools: Teachers note that using projectors in the classroom enables them to share interactive educational videos and

presentations to support vocabulary learning. Similarly, the use of speakers is necessary for better auditory comprehension, and even the use of megaphones during the school day is effective in delivering direct, clear instructions.

Concrete and Structured Visual Resources: Teachers confirm that high-contrast visual tools such as flashcards, posters, puzzles, image-based word games, maps with colorful structures, real objects (realia), and visual schedules or planners firmly hold students' attention and reduce anxiety. Auditory Resources and Voice Modulation: Teachers explain that auditory stimuli tailored to the student's sensory needs are best. This includes the use of soundboards and short, repetitive songs with physical actions, such as those from Super Simple Songs. However, teachers emphasize that there is no better auditory tool than one's own voice. This aligns with the theoretical framework, which states that repetition, clear articulation, and the use of rhythm and intonation promote strong auditory comprehension and vocabulary retention in learning (Tiche et al., 2025). Regarding auditory resources, participants highlighted the necessity of tailoring auditory inputs specifically to the sensory profile of autistic children. Students with ASD frequently experience sensory overload or auditory hypersensitivity. Therefore, auditory aids, such as rhythm-based songs and clear, repeated acoustic prompts, are adapted by maintaining predictable volume levels and simple phonetic patterns. This adaptation accommodates auditory processing differences in ASD learners, turning auditory stimulation into structured, reassuring language cues rather than overwhelming background noise.

4. **Do you consider it necessary to use didactic resources to strengthen English language vocabulary in kids with ASD?**

All teachers agree that the use of teaching resources is fundamental to delivering an effective class in which learning is not merely rote memorization but rather genuine linguistic comprehension. Consequently, the interviewees noted that without concrete visual aids, many students with ASD may feel overwhelmed when learning English vocabulary. These resources serve as a "cognitive anchor," transforming a foreign word into a tangible reality that the child can see and interact with; this undoubtedly improves long-term retention of new vocabulary among students.

Furthermore, teachers emphasized that the use of these visual and auditory resources is essential for expanding different learning pathways and adapting to each student's individual needs. It was also reported that the use of these tools significantly improves children's behavioral and socio-emotional development, as the proper use of these resources boosts students' motivation to learn and enhances their communication skills, enabling them to function and interact effectively with their peers. Finally, one teacher pointed out that it is of the utmost importance to choose teaching resources that are truly beneficial to each student's learning process. Sweller (2020) notes that the learning process improves significantly when materials are designed to reduce extrinsic cognitive load and better manage the student's intrinsic cognitive load. For this reason, it is important to choose resources carefully to avoid overwhelming the child.

5. **What advantages do you see with the use of visual and auditory English language resources inside the class?**

Based on responses from the teachers interviewed, multiple advantages were identified in using visual and auditory English language resources in the classroom, with a consensus that these resources are superior to traditional

verbal explanations. Participants noted that long-term vocabulary retention is more effective when words are presented visually, as this strengthens memory channels. Consequently, students quickly grasp abstract concepts, thereby reducing cognitive overload. The interviewees emphasized that teaching resources increase student attention, engagement, and participation by being eye-catching and helping prevent students from being distracted by external stimuli. As Norrington-Davies (2024) states, children with autism have a great capacity to learn through visual representations and auditory stimuli, which facilitate dual coding and lead to more solid learning outcomes. As a result, classes become more interactive and dynamic, creating meaningful engagement among students. Another identified benefit is the promotion of autonomy and the reduction of anxiety; for example, the use of visual schedules helps students with ASD know what activity comes next, thereby reducing uncertainty and anxiety. As a final benefit, the teachers highlighted a more inclusive classroom environment that adapts to different learning styles, accommodates varying learning paces, and makes the English language accessible to all students in the group.

6. **What disadvantages do you see with the use of visual and auditory English language resources inside the class?**

While some benefits were mentioned, the teachers interviewed also shared several challenges and drawbacks related to the use of visual and auditory resources. Among these are overstimulation and sensory overload, since a resource that is too flashy or loud can cause sensory aversion and anxiety in children with ASD. Another drawback is the limitations on the use of songs in the classroom, as they can cause discomfort or pain for children with auditory

hypersensitivity. Additionally, the risk of becoming overly reliant on these resources was reported; there is concern that children may become attached to visual stimuli and develop a dependence on them for entertainment rather than for educational purposes. On the other hand, teachers mentioned that preparing personalized materials for each student is very time-consuming, and not all resources work equally well for all students. Another disadvantage is the economic divide: not all institutions have the technology and resources necessary for teaching, and for this reason, many teachers must pay for them out of their own pockets. These challenges align with the findings of the Association for Science in Autism Treatment [ASAT] (2026), which highlights the need to investigate how parents and teachers adapt the necessary resources—including both high- and low-tech options—to meet educational standards. Finally, teachers noted that the use of digital resources does not guarantee a class free of technical glitches; consequently, it can lead to interruptions and changes in the school day that create uncertainty for children with ASD.

7. **What are your teaching experiences like using visual and auditory didactic resources to teach English vocabulary to children with ASD?**

According to the interviews conducted, the teachers stated that their experience using teaching resources for English vocabulary instruction has been very satisfactory, though it also requires constant methodological preparation. On the one hand, the educators agreed that learning outcomes for children with ASD have been positive; seeing students communicate in practical ways—for example, by pointing to a visual card to express a need—is an unparalleled achievement. They also emphasized that these resources create a comfortable

and safe learning environment that motivates children to continue learning. However, the interviewees also described their experience as an ongoing process of trial and error, where each passing day demands more patience and understanding. For example, one teacher emphasized that he used to create very eye-catching flashcards, but this only distracted the child, so he shifted to a minimalist approach—an image on a white background accompanied by slow-paced auditory cues—and in this way began to see real pedagogical results. These ideas align with what Wildmon et al. (2023) noted: that ongoing methodological training in visual resource strategies is feasible for teachers to learn and apply specialized approaches in the classroom. Finally, the teachers noted that they make a daily effort to set up and maintain a projector or any other tool necessary for implementing teaching resources, always keeping in mind the need to take care of this equipment, as accidents can occur in the classroom because children are very curious. In synthesis, the data demonstrates that the direct relationship between visual and auditory resources and English vocabulary acquisition is mediated by the unique neurological characteristics of ASD. Visual aids provide predictable structure and replace overwhelming speech, whereas controlled auditory aids reinforce phonetic recognition. When combined, these multi-sensory resources match the cognitive style of autistic students, proving that vocabulary learning in inclusive settings depends directly on modifying sensory stimuli to fit the specific needs of learners with ASD.

8. **Do you think English vocabulary skills in children with ASD could be improved if visual and auditory resources were used in the teaching and learning process?**

The teachers interviewed agree that English vocabulary skills in children with ASD improve considerably through the use of visual and auditory resources. Teachers observed that incorporating tools in the classroom signifies a major shift. Instead of expecting students to adapt to traditional teaching methods, resources are tailored to their needs. This approach lowers communication barriers, boosts the child's confidence, and encourages practical understanding. Participants highlighted that visual and auditory resources are crucial; without them, students cannot effectively expand their vocabulary or incorporate English into their daily learning routines. As Cangá and Benites (2025) argue, visual resources help facilitate the understanding of concepts and improve comprehension, making it easier to encode information and ensuring that students learn new vocabulary. In conclusion, these tools are a great boost to language development, but it is important to keep in mind that consistency and the high quality of the materials used positively influence students' learning outcomes, whereas ineffective or overly grotesque materials will yield no results in terms of students' linguistic development.

**Tabla 2**

*Analysis of the Interviewees' Perceptions (teachers) to the Visual and Auditory Resources to Enhance Vocabulary in Children with Autism Spectrum Disorder.*

| ***Questions*** | ***What is your point of view on the use of visual and auditory didactic resources for teaching vocabulary to children with ASD?*** | ***Could you describe some experiences you have used with visual and auditory resources in teaching English vocabulary to children with ASD?*** | ***What kind of visual and auditory resources do you use daily to teach English language vocabulary to children with special needs?*** . | ***Do you consider it necessary to use didactic resources to strengthen English language vocabulary in kids with ASD?*** |
|---|---|---|---|---|
| ***Answers*** | *Teachers agree that these resources are highly beneficial, since children with autism spectrum disorder process information differently and rely on visual and concrete representations. The combination of visual and auditory resources improves students' attention and engagement, creating a safe environment that reduces fatigue and anxiety.* | *The teachers mentioned various practical experiences, including the use of flashcards in games and memory activities, and combining real objects (realia) with PECS symbols and audio buttons to develop communication skills in children with verbal abilities. The teachers also emphasized the use of visual schedules to reduce uncertainty and the proper use of auditory aids to prevent discomfort caused by hypersensitivity.* | *Daily use of technological tools such as projectors to show videos or slides, as well as flashcards, vocabulary puzzles, real objects, color-coded maps, repetitive songs, and visual schedules. Teachers note that there is no better auditory resource than their own voice.* | *The interviewees emphasized that these are truly necessary to achieve genuine linguistic understanding and avoid rote memorization. They also mentioned that it is important to choose the right resources to avoid overwhelming the student.* |
| ***Authors*** | *The sensory processing of children with autism spectrum disorder is unique, and as such, it has a profound impact that shapes language development. (Alsayedhassan et al. 2020)* | *Children with ASD have acute sensory perception, which causes them to develop auditory hypersensitivity that leads to stress if they are in a noisy environment. (AssistiveWare, 2026).* | *Tiche et al. (2025) noted that continuous repetition and the proper use of voice and rhythm in teaching improve students' comprehension and auditory memory.* | *According to Sweller (2020), deep learning is significantly enhanced when instructional resources minimize cognitive load and begin to effectively manage intrinsic load.* |

**Tabla 3**

*Analysis of the Interviewees' Perceptions (teachers) to the Visual and Auditory Resources to Enhance Vocabulary in Children with Autism Spectrum Disorder.*

| ***Questions*** | ***What advantages do you see with the use of visual and auditory English language resources inside the class?*** | ***What disadvantages do you see with the use of visual and auditory English language resources inside the class?*** | ***What are your teaching experiences like using visual and auditory didactic resources to teach English vocabulary to children with ASD?*** | ***Do you think English vocabulary skills in children with ASD could be improved if visual and auditory resources were used the teaching and learning process?*** |
|---|---|---|---|---|
| ***Answers*** | *Teachers noted that using these resources reduces cognitive fatigue, strengthens dual encoding, and improves children's memory and engagement in learning. In addition, the use of visual schedules promotes independent learning, minimizing anxiety and behavioral outbursts.* | *The main drawback is overloading students with highly distracting, noisy resources that can actually hinder learning. There is even a risk that children may become dependent on visual aids. Teachers also pointed out that they need extra time to design materials that are useful for the classroom. Furthermore, schools often do not provide funding for educational tools, and teachers must pay for these teaching resources out of their own pockets.* | *The teachers described their experience as very rewarding, noting that implementing these resources requires more time and effort. It demands constant learning and a great deal of patience to figure out each day how to teach according to each child's special needs. However, seeing the progress they've made is rewarding.* | *The interviewees firmly believe that vocabulary skills improve when visual and auditory resources are used as multisensory aids in the classroom. They emphasized that the consistent and appropriate use of these materials ensures student success in learning.* |
| ***Authors*** | *Norrington-Davies (2024) stated that children with ASD have a strong capacity for visual processing; therefore, visual and auditory stimuli used to learn vocabulary facilitate dual coding and lead to more solid learning.* | *There is a need to investigate how teachers and families independently adapt high- and low-tech resources in order to comply with inclusive educational models. (ASAT, 2026)* | *Wildmon et al. (2023) stated that virtual training and video modeling using visual resources are highly effective methods for teacher training in Ecuador.* | *Visual aids are effective for explaining complex concepts, providing quick context, and greatly supporting the encoding and learning of new vocabulary. (Cangá and Benites, 2025)* |

The responses gathered from the interviews, presented in the tables, allow us to analyze teachers' perspectives on the use of visual and auditory resources in the classroom and identify the most effective strategies, tools, and technological adaptations

that teachers implement when teaching English vocabulary. Finally, the responses obtained help us identify the advantages and disadvantages of using these multisensory tools in the language development process of children with Autism Spectrum Disorder.

# Chapter V

## Conclusions and Recommendations

This chapter presents the results of an analysis of the benefits, challenges, and applications of visual and auditory resources for improving vocabulary in children with Autism Spectrum Disorder (ASD), to optimize language and communication skills at an early stage of education. Interviews were conducted with participants (teachers) in English as a Foreign Language (EFL) who have experience in this field of research; their responses are highlighted in alignment with the work of renowned authors on the development of a multisensory and adapted guide. This phenomenological research study has compiled perspectives and opinions on techniques and strategies to improve students' language competencies and foster their confidence and self-assurance in the language-learning process.

### Conclusions

The objective of this qualitative research project was to explore teachers' different perspectives on the use of visual and auditory resources to improve vocabulary in children with ASD, taking into account the key insights that various authors have contributed to this field of study through different learning theories, strategies, techniques, and methods for children, in order to determine whether these tools help facilitate the association of words and objects, thereby reducing communication gaps.

It is concluded that EFL teachers perceive significant educational benefits and value in utilizing visual and auditory resources. Based on their experiences, they emphasize that students with ASD process information differently; therefore, it is essential to use appropriate visual and auditory materials to significantly strengthen vocabulary and prevent rote learning and memorization.

Second, based on teachers' experiences, the most effective strategies and tools for teaching English vocabulary to children with autism are picture flashcards, real objects (realia), the PECS system, audio buttons, visual schedules on digital tablets, and videos. However, they noted that extreme caution must be exercised when using overly loud auditory resources, as they can cause pain for children with autism who suffer from auditory hypersensitivity, and that it is important to carefully select appropriate materials to avoid cognitive overload or fatigue in students.

Finally, the teachers noted that vocabulary acquisition offers several benefits, such as reducing the frustration and anxiety experienced by many students, thereby creating a fun, practical, and safe environment that improves long-term memory retention. However, the teachers interviewed also pointed out several challenges they face on a daily basis, such as the extra time they must devote to preparing teaching materials that are perfectly suited to the English language learning process, the risk of technological dependence, and infrastructure barriers—such as power outages that disrupt classroom routines and cause confusion among students—not to mention the urgent need to adapt materials to the Ecuadorian context.

**Recommendations**

Based on the results of this study, the following recommendations are made to improve the use of visual and auditory tools designed to enhance English vocabulary instruction for children with ASD.

First, it is recommended that suitable resources be designed and selected with rigorous attention to detail, based on the principles of cognitive load theory, to ensure that the materials and tools are highly precise and clear. This rigorous selection will prevent students from feeling fatigued and experiencing sensory overload; furthermore,

careful selection of materials will ensure that visual stimuli enhance sensory encoding without tiring the student.

Another recommendation is for teachers to use an appropriate tone of voice, as it is a fundamental auditory tool in the classroom. Incorporating clear articulation, repetition, intonation, and rhythm ensures that students with auditory hypersensitivity can process auditory information comfortably and calmly. It is very important to continue researching and discovering new methods, strategies, and high- and low-tech tools that can be adapted to real-world classroom context within Ecuadorian educational institutions. Creating educational spaces where teachers can receive ongoing methodological training on children with Autism Spectrum Disorder will be of great value for the inclusive classrooms of the new Ecuador.

Finally, it is recommended to conduct future quantitative research with an experimental group that incorporates the multisensory methodology described in this qualitative study; data from multiple measurements will help clarify the effectiveness of a structured visual-auditory guide in improving English vocabulary instruction for children with ASD.

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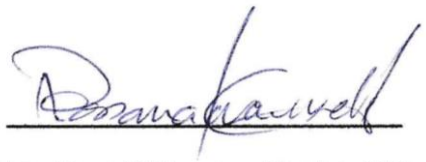
# Anexes

## Annex A. Certified Anti-Plagiarism

**Certificado Sistema Anti-Plagio**

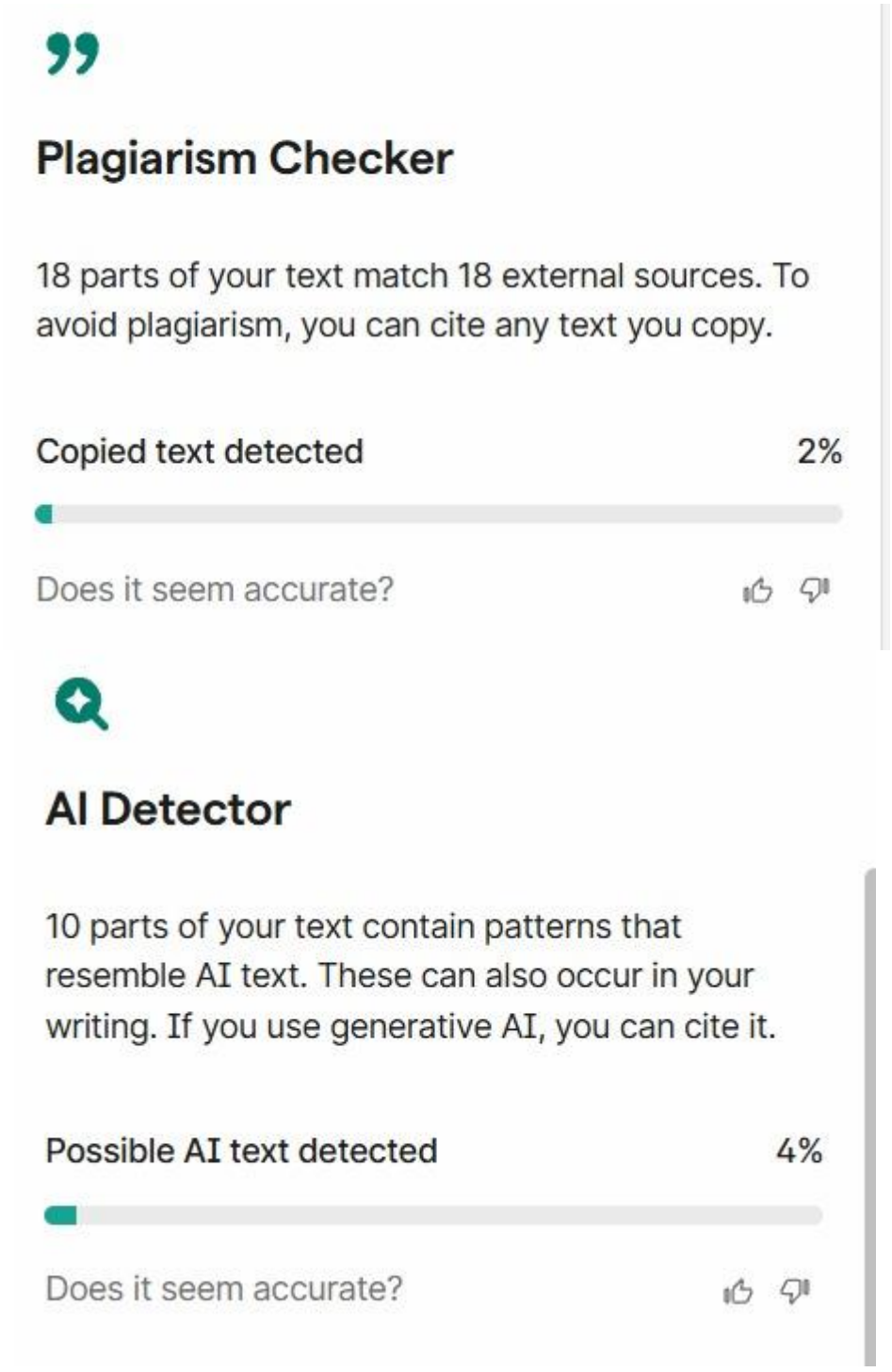
En calidad de tutor del Trabajo de Integración Curricular denominado "**VISUAL AND AUDITORY RESOURCES TO ENHANCE VOCABULARY IN CHILDREN WITH AUTISM SPECTRUM DISORDER**" elaborado por los estudiantes **ESTRADA GUAMÁN STEFANNY PAOLA** y **MURILLO RIVERA JEHILY MIQUENIA** de la Carrera de Pedagogía de los Idiomas Nacionales y Extranjeros, de la Facultad de Ciencias de la Educación e Idiomas, de la Universidad Estatal Península de Santa Elena, me permito declarar que una vez analizado en el sistema anti plagio GRAMMARLY , luego de haber cumplido los requerimientos exigidos de valoración, el presente trabajo de investigación, se encuentra con 6 % de la valoración permitida, por consiguiente se procede a emitir el informe.

**Atentamente**



Vera Cruzatti Rossana Narcisa, MSc.

**ADVISOR**



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18 parts of your text match 18 external sources. To avoid plagiarism, you can cite any text you copy.

Copied text detected 2%

Does it seem accurate?

## AI Detector

10 parts of your text contain patterns that resemble AI text. These can also occur in your writing. If you use generative AI, you can cite it.

Possible AI text detected 4%

Does it seem accurate?

**Annex B. Interview Model for Teachers**

**Visual and Auditory Resources to Enhance Vocabulary in Children with Autism Spectrum Disorder**

1. What is your point of view on the use of visual and auditory teaching resources for teaching vocabulary to children with ASD?
2. Could you describe some experiences you have used with visual and auditory resources in teaching English vocabulary to children with ASD?
3. What kind of visual and auditory resources do you use daily to teach English language vocabulary to children with special needs?
4. Do you consider it necessary to use didactic resources to strengthen English language vocabulary in kids with ASD?
5. What advantages do you see with the use of visual and auditory English language resources inside the class?
6. What disadvantages do you see with the use of visual and auditory English language resources inside the class?
7. What are your teaching experiences like using visual and auditory didactic resources to teach English vocabulary to children with ASD?
8. Do you think English vocabulary skills in children with ASD could be improved if visual and auditory resources were used in the teaching and learning process?

**Annex C. Interview of Teachers Face to Face**

1. **What is your point of view on the use of visual and auditory teaching resources for teaching vocabulary to children with ASD?**

1. From my perspective, the use of educational resources is essential for vocabulary learning in children with ASD, as this stimulates their ability to concentrate and at the same time allows them to associate images with real objects, which is necessary to acquire a large vocabulary capacity more quickly and easily.

**2.** In my opinion, visual and auditory didactic resources are highly beneficial for teaching vocabulary to children with ASD. Through these resources, students tend to react in a more positive way because they connect better with the class activities. As a result, their attention and participation improve, making the learning process more meaningful and effective.

3. My point of view is that they are not just helpful; they are absolutely essential. Children with Autism Spectrum Disorder (ASD) often process information differently. Many are highly visual learners who benefit from concrete representations rather than abstract language. Combining visual support with clear, predictable auditory stimuli helps bridge the communication gap, reduces anxiety, and creates a secure learning environment where language acquisition can actually happen.

4. From my perspective, the use of educational resources is essential for vocabulary learning in children with ASD, as this stimulates their ability to concentrate and at the same time allows them to associate images with real objects, which is necessary to acquire a large vocabulary capacity more quickly and easily.

5. In my opinion Visual and auditory didactic resources are highly effective tools for teaching vocabulary to children with Autism Spectrum Disorder (ASD).

these resources avoid processing barriers, reduce anxiety, and significantly enhance vocabulary retention.

2. **Could you describe some experiences you have used with visual and auditory resources in teaching English vocabulary to children with ASD?**

1. One experience that I can mention is that when I have used flashcards with big images, the children have paid more attention, especially when I have taken those same flashcards for choice or memory games. On the other hand, I would like to mention that auditory resources like songs haven't been as effective, since these children often have auditory hypersensitivity, which can be bothersome or painful for them.

**2.** In my experience, I worked with a child with ASD in the initial grades who was very sensitive to loud sounds. At first, he felt uncomfortable with audio materials; however, through the gradual use of projected images and vocabulary recordings, he slowly adapted to both the sounds and the visual stimuli. Over time, he became more engaged and comfortable during English lessons.

3. I remember working with a 7-year-old non-verbal student with ASD. We were learning food vocabulary. Instead of just showing standard flashcards, I used real objects (realia) combined with PECS (Picture Exchange Communication System) symbols and a simple audio button that said the word ("Apple") when pressed. Over a few weeks, the student went from resisting the English block to actively bringing me the "apple" card and pressing the button to request it during snack time. The multisensory approach gave him a functional way to use the new language.

4. From my perspective, the use of educational resources is essential for vocabulary learning in children with ASD, as this stimulates their ability to concentrate and at the same time allows them to associate images with real objects, which is necessary to acquire a large vocabulary capacity more quickly and easily.

5. “First-Then" Audio Triggers for Actions. cards paired with a soundboard app on a Tablet teaching action verbs like sit down, stand up, or listen, I used a visual schedule layout. I would point to the "listen" card, play a crisp, 2-second sound effect of a chime, and model the action. This reduced anxiety and helped students map the English verb to the physical expectation instantly.

3. **What kind of visual and auditory resources do you use daily to teach English language vocabulary to children with special needs?**

1. Among visual resources, I frequently use flashcards, educational videos, word association games with images, vocabulary puzzles, and real objects. Regarding auditory resources, I usually only use my own voice with guided repetition of words and phrases.

**2.** I mainly use a digital projector because it is very intuitive and can easily be connected to my cellphone. This allows me to display images, videos, and vocabulary activities that support learning. I also use a speaker to improve the quality of listening activities and, on some occasions, a megaphone can be useful for giving instructions clearly during class.

**3.** On a daily basis, my toolkit includes:

**Visuals:** Visual schedules (to show the routine of the class), high-contrast flashcards, real objects, and color-coded semantic maps.

**Auditory:** Short, repetitive songs with clear actions (like Super Simple Songs), interactive soundboards, and clear, slowed-down voice recordings for listening transitions.

4. I usually use flashcards, posters, educational videos, songs, and interactive audio activities. I also use visual schedules and digital presentations to support vocabulary learning and maintain students' attention.

5. To teach English vocabulary to children with special needs on a daily basis, I rely on highly structured, predictable, and sensory-friendly tools. My daily toolkit is divided into concrete visual and auditory resources that work together to minimize cognitive fatigue.

4. **Do you consider it necessary to use didactic resources to strengthen English language vocabulary in kids with ASD?**

1. Yes, I consider it necessary because it increases their motivation to learn, helps them perform better in class by interacting socially with their classmates, and thus improves their communication skills.

**2.** Yes, I believe it is always beneficial to use didactic resources to enhance students' learning. However, teachers must carefully select the resources they use because not all materials are educational or designed to support learning objectives.

3. Yes, absolutely necessary. Without concrete didactic resources, English vocabulary remains an abstract concept that can easily overwhelm a child with ASD. Resources act as a cognitive anchor. They translate an unfamiliar auditory signal (a foreign word) into a stable, understandable reality that the child can see, touch, or interact with.

4. Yes, I do. I believe didactic resources are necessary because they provide different ways for children with ASD to learn and practice vocabulary. These

resources support comprehension, motivation, and long-term retention of new words.

5. Absolutely. It is not just necessary; it is practically mandatory if we want to move beyond rote memorization and achieve real, functional language acquisition.

5. **What advantages do you see with the use of visual and auditory English language resources inside the class?**

1. One advantage is that children acquire more vocabulary more quickly, promoting meaningful learning. Another advantage is that it stimulates their cognitive development, improving their ability to concentrate and pay attention.

2. One of the main advantages is the increase in students' attention. Visual and auditory resources are more attractive and engaging than traditional teaching methods where the teacher only explains the lesson verbally. These resources help students with ASD remain focused on the class instead of directing their attention to unrelated activities.

3. The advantages are massive:

**Increased Engagement:** Retention increases when students can interact with the material.

**Autonomy:** Visual schedules and clear cues allow students with ASD to predict what comes next, reducing meltdowns and anxiety.

**Dual Coding:** Presenting a word visually and auditorily at the same time strengthens memory pathways, making it easier to recall vocabulary later.

4. One of the main advantages is that they increase students' engagement and participation. They also help learners understand abstract concepts, improve

memory, and create a more inclusive learning environment. Additionally, they support different learning styles and make lessons more dynamic.

5. Inside the classroom, the strategic use of visual and auditory resources provides three major advantages that directly optimize how children with ASD learn and retain English vocabular: Drastic Reduction in Cognitive Fatigue, Immediate elimination of imprecisión, Increased Autonomy and Independent Learning.

6. **What disadvantages do you see with the use of visual and auditory English language resources inside the class?**

1. Among the disadvantages, I can mention that it takes a lot of time to plan and prepare resources for each type of need, since not all resources work the same way for all students. Another disadvantage is that I can't use songs in an environment where there are children with auditory hypersensitivity, and this often affects the group as a whole.

2. One disadvantage is that some students may become attached to viewing content that is entertaining rather than educational. Another challenge is the financial investment required to obtain technological resources, as not all schools have access to them and sometimes teachers must purchase materials themselves. Additionally, preparing lessons with these resources requires extra planning time.

3. The main disadvantage is the risk of **sensory overload**. If a visual resource is too bright, busy, or cluttered, or if an auditory resource is too loud, high-pitched, or chaotic, it can trigger sensory aversion or anxiety in a child with ASD. Another drawback is time; designing customized, durable, and highly specific resources requires a huge amount of prep work for the teacher.

4. One disadvantage is that some students may become overstimulated by too many visual or auditory elements. Another challenge is that preparing and

selecting appropriate resources can require additional time and effort from teachers. Technical issues may also affect the use of digital resources.

5. High Risk of Sensory Overload (Overstimulation), The Trap of Prompt Dependency.

7. **What are your teaching experiences like using visual and auditory didactic resources to teach English vocabulary to children with ASD?**

1. In my experience, I can say that by using these resources, the level of knowledge of students with ASD has increased and improved, and this has been satisfying because it is challenging to work with children with these characteristics when you don't know if you are using the right resources for each need.

2. Generally, my experiences have been very positive. These resources are excellent tools for helping students stay engaged and connected with the lesson, making it easier for them to understand and retain new vocabulary. One challenge is the time needed to set up portable projectors before each class. Also, younger children are often curious and may try to touch the projector, which can sometimes create safety concerns.

3. It has been a journey of trial and error, but incredibly rewarding. I've learned that "less is more." Early on, I used to make very colorful, busy boards, which backfired because the students got distracted. Once I switched to minimalist visuals (one clear image on a plain background) and calm, repetitive audio cues, the breakthroughs started happening. Seeing a student successfully point to a flashcard to express a need in English is unmatched.

4. My experiences have been mostly positive. I have observed that students tend to participate more actively and show better vocabulary retention when visual and auditory resources are included in lessons. These resources help create a supportive and motivating learning environment.

5. To sum up my journey as an educator, using visual and auditory didactic resources to teach English vocabulary to children with ASD has been deeply rewarding, highly demanding, and a continuous lesson in patience and precision.

8. **Do you think English vocabulary skills in children with ASD could be improved if visual and auditory resources were used in the teaching and learning process?**

1. Yes, I am sure this would improve, as I have seen it in many years of experience working with children with ASD, and I am convinced that without these resources, a child would not make the progress they need to acquire more vocabulary and adapt it to their learning routine.

**2.** Yes, I believe their English vocabulary skills can improve significantly through the use of visual and auditory resources. However, the level of improvement depends on the quality and appropriateness of the materials selected by the teacher. Well-designed resources can lead to more favorable learning outcomes, while less effective resources may produce limited results.

**3.** Without a doubt. When we integrate tailored visual and auditory resources into the English curriculum, we stop forcing the child to adapt to a traditional teaching style that doesn't fit their brain. Instead, we adapt the environment to them. When the barrier of communication is lowered through multi-sensory support, their vocabulary skills, comprehension, and confidence improve significantly.

4. Yes, I strongly believe that English vocabulary skills can be improved by visual and auditory resources. These tools help children better understand, practice, and remember vocabulary. When used consistently and appropriately, they can significantly enhance the learning process and support language development.

5. Without a doubt, yes. Integrating visual and auditory resources directly addresses the underlying neurodivergent learning styles of children with ASD, leading to measurable improvements in their English vocabulary acquisition, retention, and functional use.