

UNIVERSIDAD LAICA “ELOY ALFARO” DE MANABÍ

Creada mediante Ley No. 010 Reg. Off 313 del 13 de noviembre de 1985



FACULTAD DE EDUCACIÓN Y TURISMO
CARRERA DE PEDAGOGÍA LOS IDIOMAS NACIONALES Y EXTRANJEROS

PREVIO A LA OBTENCION DEL TITULO
LICENCIADO/A EN PEDAGOGÍA DEL IDIOMA INGLÉS

TRABAJO DE TITULACIÓN

MODALIDAD:

ESCRITURA DE ARTICULO CIENTIFICO

TEMA:

ENGLISH VOCABULARY ACQUISITION IN PRESCHOOLERS WITH ASD: REPETITION
AND OBSERVATION

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MANTA - ECUADOR

2026

CERTIFICADO DE DERECHO DE AUTOR

PROPIEDAD INTELECTUAL

Título de Trabajo de Titulación: English Vocabulary Acquisition in Preschoolers with

Asd: Repetition and Observation

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Fecha de Finalización: 23 de Julio del 2026

Descripción de Autoría:

El objetivo de este trabajo es analizar los cambios observados en el reconocimiento de vocabulario en inglés de tres niños preescolares con TEA después de una intervención multimodal basada en repetición, observación, total physical response, recursos audiovisuales y materiales manipulativos.

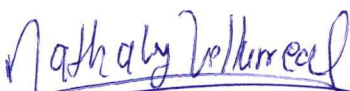
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CERTIFICO

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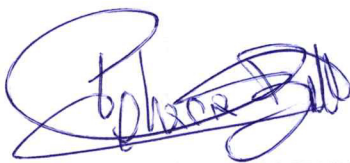
Haber dirigido, revisado y aprobado preliminarmente el Trabajo de Titulación bajo la autoría de la estudiante VILLARREAL HOLGUIN NATHALY GABRIELA, legalmente matriculada en la carrera de PEDAGOGÍA DE LOS IDIOMAS NACIONALES Y EXTRANJEROS 2024 AS, periodo académico 2026-2027(1), cumpliendo el total de **384 horas**, cuyo tema del proyecto o núcleo problémico es *"ENGLISH VOCABULARY ACQUISITION IN PRESCHOOLERS WITH ASD: REPETITION AND OBSERVATION"*

La presente investigación ha sido desarrollada en apego al cumplimiento de los requisitos académicos exigidos por el Reglamento de Régimen Académico y en concordancia con los lineamientos internos de la opción de titulación en mención, reuniendo y cumpliendo con los méritos académicos, científicos y formales, y la originalidad del mismo, requisitos suficientes para ser sometida a la evaluación del tribunal de titulación que designe la autoridad competente.

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Manta, Jueves, 23 de julio de 2026.

Lo certifico,



BELLO PIGUAUE JOHANNA ELIZABETH
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ACKNOWLEDGMENTS

First and foremost, I thank God for giving me life, strength, wisdom, and the opportunity to complete this important stage of my academic journey. His guidance and blessings enabled me to overcome every challenge and reach this milestone.

I am deeply grateful to my parents for being the greatest pillar of my life. Thank you for your unconditional love, endless sacrifices, and unwavering belief in me, even when I doubted myself.

Everything I have achieved reflects your support, encouragement, and dedication. This accomplishment is as much yours as it is mine.

I would like to express my heartfelt gratitude to my grandmother, who instilled in me a love for teaching from an early age and inspired me to pursue a career in education. Thank you for your guidance, encouragement, and for teaching me that education has the power to transform lives.

Special thanks to my cat, Álvori, whose quiet companionship made countless late nights of studying and writing much more comforting. His presence brought peace and warmth during the most demanding moments of this journey.

DEDICATION

To my beloved parents, because there is not a single day that I do not thank God for the blessing of having you in my life. This achievement is the result of your unconditional love, sacrifices, and the values you instilled in me from the very beginning.

To my mother, for being my safe place during the most difficult moments, for comforting me when I needed it most, for every word of encouragement, and for believing in me even when I struggled to believe in myself. Thank you for teaching me that with faith, love, and perseverance, anything is possible.

To my father, for every sacrifice you made so I could pursue my dreams, for your endless hard work, for always believing in me, and for encouraging me to keep moving forward. Thank you for teaching me, through your example, the true meaning of dedication, resilience, and unconditional love.

This achievement belongs to you as much as it belongs to me. Thank you for being my home, my greatest inspiration, and the reason I never stopped believing in my dreams. I love you with all my heart.

Resumen:

El presente estudio de casos múltiples analiza los cambios observados en el reconocimiento de vocabulario en inglés en tres niños preescolares después de una intervención educativa que utiliza Total Physical Response (TPR) para la adquisición de vocabulario en inglés en niños diagnosticados con Trastorno del Espectro Autista (TEA) en un contexto escolar ecuatoriano. La investigación se desarrolló con tres niños en edades comprendidas en cinco años. La intervención pedagógica consiste en ocho sesiones que combinan videos, flashcards, juguetes y materiales táctiles. Para la recolección de datos se utilizaron pruebas de conocimiento pretest y posttest, diario de campo y observación sistemática. Los resultados muestran que las estrategias de repetición y observación apoyados con recursos visuales y táctiles como videos educativos, flashcards, peluches, juguetes didácticos, frutas de juguete e hilos de colores favorecen la retención del aprendizaje, mientras que las dificultades se relacionan con la concentración inicial de los informantes. Las mejoras en el reconocimiento de vocabulario son notorias en las categorías como colores, animales, frutas y objetos de la clase. Se concluye que, en este caso, las estrategias de mayor éxito fueron el uso de recursos audiovisuales, la aplicación de actividades basadas en Total Physical Response (TPR) y el empleo de materiales manipulativos y táctiles.

PALABRAS CLAVES: Trastorno del Espectro Autista (TEA), adquisición de vocabulario en inglés, Total Physical Response (TPR)

Abstract

This multiple case study analyzes the changes observed in English vocabulary recognition in three preschool children following an educational intervention using Total Physical Response (TPR) for English vocabulary acquisition in children diagnosed with Autism Spectrum Disorder (ASD) in an Ecuadorian school context. The study was conducted with three five-year-old children. The pedagogical intervention consisted of eight sessions combining videos, flashcards, toys, and tactile materials. Data were collected through pretest and posttest knowledge tests, a field diary, and systematic observation. The results indicate that repetition and observation strategies supported by visual and tactile resources, including educational videos, flashcards, stuffed animals, toy fruits, colored strings, and other manipulative materials, promoted vocabulary retention, while the main difficulties were related to the participants' initial attention and concentration. Improvements in vocabulary recognition were particularly evident in the categories of colors, animals, fruits, and common objects. It is concluded that, in this study, the most effective instructional strategies were the use of audiovisual resources, the implementation of Total Physical Response (TPR) activities, and the use of manipulative and tactile materials.

Keywords: Autism Spectrum Disorder (ASD), English vocabulary acquisition, Total Physical Response (TPR)

Introducción

The acquisition of English vocabulary in preschool children is fundamental within language development at early ages. In the first years, children acquire essential linguistic skills that make it possible for them to understand and express themselves in the context that surrounds them. Regarding the acquisition of a foreign language, such as English, this process becomes a little more complex, considering that it not only contributes to cognitive development, but also promotes future academic and social opportunities. For this reason, teachers must use the right strategies to help children build their vocabulary.

Learning English has become a top priority around the world, as it opens doors for communication, information, and better career paths. Starting this journey early helps kids build their language skills more naturally. Because of this, we need to make sure every child especially those with special educational needs gets a real chance to learn English in an environment that works for them.

However, this process does not occur in the same way in all children. In the case of those diagnosed with Autism Spectrum Disorder (ASD), vocabulary acquisition may present greater challenges. These students often face different obstacles in a verbal and non-verbal communication, as well as in social interaction and joint attention, essential elements for language learning.

Various studies have indicated the importance of using teaching strategies that respond to the characteristics of students with ASD. Repetition and observation stand out as key tools in the teaching learning process. Repetition allows for the reinforcement of information and facilitates the retention of new words, while observation, especially through the use of visual resources, promotes understanding by establishing connectors between images, objects and meaning. These

strategies not only support vocabulary learning but also contribute to the creation of more structured and accessible learning environments.

Despite the importance of these strategies, there are still significant gaps in research regarding their application in specific contexts. It is observed that there are few studies within the Ecuadorian population that analyze in detail how repetition and observation influence English vocabulary acquisition in preschool children with ASD. In addition, many of the studies conducted have been developed in different contexts, which makes it difficult to apply their results to other educational realities.

In the Ecuadorian context, the situation is markedly different. Although certain advances have been made in inclusive education, research focused on teaching English to children with Autism Spectrum Disorder (ASD) remains limited. This highlights the need to develop studies that allow for a better understanding of how effective pedagogical strategies can be applied within Ecuadorian classrooms, while considering the specific characteristics of the educational system and the needs of the students.

Likewise, recent research in Ecuador has highlighted the importance of considering learning styles and cultural diversity within inclusive educational processes, showing the need to adapt pedagogical strategies to the characteristics of students (Davila et al., 202).

In this sense, the present study aims to analyze how repetition and observation strategies influence English vocabulary acquisition in children with ASD in preschool education within an Ecuadorian context, taking into account the diversity of learning styles presents in the classroom and the importance of implementing inclusive pedagogical strategies that promote meaningful learning in the Ecuadorian educational context and contribute to the development of future research in the area.

The aim of this study is to analyze the changes observed in English vocabulary recognition among three preschool children with Autism Spectrum Disorder (ASD) following a

multimodal intervention based on repetition, observation, Total Physical Response (TPR), audiovisual resources, and manipulative materials.

Theoretical framework.

1. Language Development and Language Learning in Children with Autism Spectrum Disorder

Autism Spectrum Disorder (ASD) is a neurodevelopmental condition that may influence communication, language development, learning, and social participation. However, children with ASD present diverse characteristics and learning needs, which means that their linguistic development and educational progress may vary considerably. These differences may be reflected in receptive and expressive language, communication, attention, and interaction. Consequently, educational instruction should consider the individual characteristics of each learner and provide structured and meaningful opportunities for development.

Language learning may represent a challenge for children with ASD because of differences in communication, attention, sensory processing, and language development. Nevertheless, ASD should not be considered an automatic barrier to learning an additional language. Research on bilingualism suggests that exposure to more than one language does not necessarily negatively affect language development in children with ASD. Valicenti-McDermott et al. (2013) identified differences in language development between monolingual and bilingual children with ASD, while Phillips et al. (2024) found that bilingual language exposure can provide opportunities for children with ASD to interact with and process more than one linguistic system. Similarly, Garrido et al. (2024), through a systematic review, highlight the importance of considering individual differences when examining bilingualism and language development in children with ASD.

The acquisition of English as a foreign language therefore requires instructional strategies adapted to the characteristics of each learner. Mohamed and Shaaban (2024) emphasize the

importance of considering the perspectives of parents and teachers when promoting multilingual skills in children with autism. Likewise, Brahim (2022) identifies challenges related to teaching English to students with ASD and highlights the importance of using appropriate and structured teaching strategies. Thus, English learning should be approached through accessible, predictable, and individualized educational experiences that facilitate comprehension and participation.

2. Vocabulary Acquisition and Recognition in Preschool Children

Vocabulary acquisition is a fundamental component of language learning because it allows learners to establish associations between words, meanings, objects, and experiences. During the preschool years, children develop vocabulary through interaction, exposure, observation, and meaningful experiences. For children with ASD, vocabulary instruction may require additional structure and repetition because language development and previous knowledge can vary considerably among learners.

Vocabulary recognition is particularly relevant during the initial stages of foreign-language learning. Before producing words orally, learners may demonstrate comprehension by identifying objects, images, colors, shapes, or other representations associated with a target word. Therefore, recognizing basic English vocabulary constitutes an appropriate indicator of initial progress in language learning, especially when learners are still developing their expressive language.

Repetition plays an important role in this process because repeated exposure provides learners with multiple opportunities to encounter, recognize, and consolidate new words. Canga Alonso (2012) explains that repeated experiences may contribute to strengthening learning through the formation of memory traces. In this sense, repetition should not be understood only as mechanical memorization, but as the opportunity to revisit vocabulary in different meaningful contexts.

Observation also contributes to vocabulary recognition by allowing learners to connect spoken language with visual representations, gestures, actions, and contextual information.

Through observation, children may gradually establish the relationship between a word and its meaning before producing the word independently. Consequently, repetition and observation may work together by providing repeated opportunities to hear, see, recognize, and respond to target vocabulary.

3. Visual, Manipulative, and Repetitive Supports for Vocabulary Acquisition

Children with ASD may benefit from structured learning environments that provide different ways of accessing information. Audiovisual and technological resources can support language learning by combining images, sounds, movement, and repetition. Martín González (2017) highlights the potential of new technologies to support English learning among students with autism, while Solo and Supena (2025) emphasize the importance of technology as a tool for facilitating English language learning among children with ASD.

Videos and other audiovisual materials can help learners associate spoken language with visual representations and may provide repeated exposure to target vocabulary. Similarly, flashcards and images can offer clear and concrete representations of words and their meanings. These resources may be particularly useful during the preschool years because they connect linguistic input with information that is more accessible and concrete for young learners.

Manipulable materials can provide additional opportunities for interaction with the concepts being taught. By touching, moving, observing, and handling objects, children may establish associations between vocabulary and concrete experiences. Bernal Senci3n and Ramos González (2022) highlight the relevance of English learning in special education contexts for children with autism, emphasizing the importance of adapting teaching practices to the characteristics of learners. In this sense, the combination of audiovisual, visual, and manipulable resources may provide multiple opportunities to encounter and recognize target vocabulary.

However, the usefulness of these resources may vary according to learners' individual characteristics, previous knowledge, the difficulty of the vocabulary, and the frequency of exposure. Therefore, instructional materials should be accompanied by systematic observation of

learners' responses and continuous adaptation of the teaching process. The combination of repetition and different types of resources can provide learners with multiple opportunities to interact with and consolidate new vocabulary.

4. Total Physical Response as a Multisensory and Inclusive Strategy

Total Physical Response (TPR) is a language teaching method based on the association between verbal language and physical movement. Asher, as cited in Canga Alonso (2012), developed the method according to the principle that comprehension may precede oral production. Consequently, learners can demonstrate understanding through physical responses before being required to produce spoken language.

TPR integrates listening, observation, repetition, and movement into the learning process. Canga Alonso (2012) explains that learners may initially observe the teacher's demonstrations and respond physically to verbal input, allowing comprehension to develop gradually. Similarly, Escribano Estremera (2020) describes TPR as a methodology in which learners respond to language through physical actions, making movement an important component of the learning process.

The use of TPR may be particularly appropriate for vocabulary learning because it allows learners to associate words with actions and concrete experiences. Putri and Taslim (2024) highlight the effectiveness of TPR in supporting vocabulary mastery, while Sari et al. (2021) demonstrate its applicability in English learning with autistic students. Through listening, observing, repeating, and physically responding to language, learners receive multiple opportunities to understand and remember new vocabulary.

These characteristics make TPR a potentially appropriate strategy for children with ASD who may benefit from structured routines, repetition, observation, and multisensory experiences. The possibility of demonstrating comprehension through movement may also provide an alternative to immediate oral production. Therefore, the present study integrated repetition, observation, audiovisual resources, flashcards, manipulable materials, and TPR to support the

recognition of basic English vocabulary among preschool children with ASD. This approach was intended to provide structured and meaningful opportunities to observe, hear, recognize, and interact with the target vocabulary while responding to the individual characteristics of the participants.

Methodology

The study employed a multiple-case study with a mixed-methods approach, predominantly qualitative, and exploratory-descriptive scope. Three individual cases of children diagnosed with ASD were examined. Pre-test and post-test scores were analyzed using descriptive statistics, while observation records and field notes were subjected to a thematic coding process. Finally, within-case analyses and cross-case comparisons were conducted across the three cases.

The study focused on analyzing the process of English vocabulary comprehension through the implementation of repetition and observation strategies in a real educational setting.

The cases studied:

For ethical reasons, pseudonyms were used to protect the participants' identities, and written informed consent was obtained from their legal guardians. In addition, prior authorization was granted by the educational institution where the intervention took place, ensuring an environment that promoted the protection, well-being, and respect of each participant.

Table 1

Participants	Age	School Grade	Diagnosis	Case Characteristics
Participant 1	5 years old Gender: Female	Second Grade of Basic General Education.	ASD Level 3 and ADHD	- No functional verbal language - No previous knowledge of English. - Easily distracted. - Preference for

				- videos and hands-on materials. - Educational and therapeutic support.
Participant 2	5 years old Gender: Male	Second Grade of Basic General Education.	ASD Level 1	- Functional verbal language. - Rapid vocabulary learning. - Good attention. - Preference for educational videos.
Participant 3	5 years old Gender: Male	Second Grade of Basic General Education.	ASD Level 3 and ADHD	- No functional verbal language. - No previous knowledge of English. - High support needs. - Attention and behavioral regulation difficulties.

A researcher-developed knowledge test was administered before and after the intervention to assess participants' recognition of basic English vocabulary. The instrument consisted of 21 vocabulary items distributed across seven categories addressed during the intervention: colors, shapes, animals, fruits, vegetables, common objects, and toys (three words per category). The vocabulary items were selected according to their relevance for preschool learners, their frequency of use in everyday contexts, and their appropriateness for children with Autism Spectrum Disorder (ASD).

During administration, each vocabulary item was presented individually using flashcards with colored pictures accompanied by the oral pronunciation of the target word in English.

Participants were asked to identify the corresponding image by pointing to it. When possible, children with functional verbal language were encouraged to repeat the target word; however, verbal production was not required for scoring. Participants were given approximately 10 seconds to respond to each item. Standardized instructions were provided, and only neutral prompts, such as repeating the instruction once or redirecting the child's attention, were allowed. No corrective feedback or clues regarding the correct answer were provided, and only neutral prompts, such as repeating the instruction once or redirecting the child's attention, were allowed. No corrective feedback or clues regarding the correct answer provided. Each correct response received one point, while incorrect responses or the absence of a response received zero points. The same instrument was administered as both the pretest and posttest to ensure score comparability. To minimize memory effects, the posttest was conducted only after the completion of the eight intervention sessions, during which participants were exposed to structured learning activities using videos, songs, flashcards, and manipulative materials rather than repeated testing.

Field Diary

A field diary was maintained throughout the eight intervention sessions to document relevant observations regarding the implementation of each lesson. The instrument included descriptive notes on participants' engagement, attention, responses to instructional activities, interaction with audiovisual and manipulative materials, behavioral changes, and contextual factors that could influence the learning process. These records also documented participants' strengths, difficulties, and progress in vocabulary acquisition. The field diary was completed by the principal researcher immediately after each session to ensure accurate and systematic documentation of the observed events. The information obtained complemented the quantitative findings from the pretest, posttest, and observation checklist.

Observation checklist.

An observation checklist was designed to systematically monitor participants' progress in recognizing basic English vocabulary throughout the intervention. The instrument comprised the seven vocabulary categories addressed during the study: colors, shapes, animals, fruits, vegetables, common objects, and toys. For each category, the researcher recorded participants' level of performance, attention, participation, response to audiovisual resources, and interactions were conducted individually by the principal researcher using the same evaluation criteria throughout the study. The observation checklist complemented the findings obtained from the pretest and posttest by providing continuous evidence of participants' learning progress. Since no second observer participated in the data collection process, inter-rater reliability was not assessed, which is acknowledged as a limitation of the study.

Expert Validation.

Before implementation, the intervention underwent an expert judgment validation process conducted by three specialists with experience in early childhood education, English language teaching, and the education of students with Autism Spectrum Disorder (ASD). The experts evaluated the intervention in terms of its relevance, clarity, coherence, methodological appropriateness, and the suitability of the proposed activities using an evaluation scale. Based on their feedback, revisions were made to the instructions, the sequence of activities, and the selection of instructional materials to improve the clarity and overall appropriateness of the intervention.

Sessions:

Session 1. Colors

60 minutes.

Objective

To promote the recognition and comprehension of the English vocabulary related to colors: red, blue, yellow, and green.

Materials

Flashcards, educational video, color cards, colored yarn, and visual support materials.

Procedure

- The session began with a greeting and a visual preview of the activities.
- An educational video introducing the target colors in English was presented.
- The teacher introduced each flashcard, pronouncing the target vocabulary and encouraging oral repetition.
- Total Physical Response (TPR) was implemented through commands such as Touch the red card and Show me the blue card.
- The session concluded with vocabulary recognition and matching activities using manipulative materials.

Stimulus Presentation

- Each word was presented simultaneously through oral and visual input.
- Each vocabulary item was repeated two to three times before requesting a response.
- Expected Response
- Point to the requested color.
- Repeat the vocabulary item whenever possible.
- Perform the requested action.

Response Time

- Between 5 and 10 seconds.
- Allowed Assistance
- Repetition of the instruction.
- Teacher modeling.
- Gestural support and pointing.
- Positive verbal and social reinforcement.

Observation Record

Vocabulary recognition, response time, type of assistance required, attention, and participation were recorded.

Session 2. Shapes

60 minutes.

Objective

To promote the recognition and comprehension of the English vocabulary related to shapes: circle, square, triangle, and rectangle.

Materials

Flashcards, foam geometric shapes, building blocks, educational video, and visual support cards.

Session 3. Animals

60 minutes.

Objective

To promote the recognition and comprehension of the English vocabulary related to animals: lion, elephant, monkey, and frog.

Materials

Stuffed animals, flashcards, educational video, and picture cards.

Session 4. Fruits

60 minutes.

Objective

To promote the recognition and comprehension of the English vocabulary related to fruits: apple, banana, orange, and grapes.

Materials

Toy fruits, flashcards, educational video, and picture cards.

Session 5. Vegetables

60 minutes.

Objective

To promote the recognition and comprehension of the English vocabulary related to vegetables: carrot, tomato, corn, and broccoli.

Materials

Toy vegetables, flashcards, educational video, and picture cards.

Session 6. Classroom Objects

60 minutes.

Objective

To promote the recognition and comprehension of the English vocabulary related to classroom objects: book, pencil, chair, and table.

Materials

Real classroom objects, flashcards, and visual support materials.

Session 7. Toys

60 minutes.

Objective

To promote the recognition and comprehension of the English vocabulary related to toys: ball, doll, car, and teddy bear.

Materials

Real toys, flashcards, educational video, and picture cards.

Session 8. Review and Post-test

Objective

To consolidate the English vocabulary taught throughout the intervention and evaluate vocabulary recognition across all categories.

Materials

Flashcards, manipulative materials used during previous sessions, educational videos, and the post-test.

Procedure:

The intervention was conducted over eight 60-minute sessions, applying the TPR approach supported by audiovisual resources and hands-on materials.

Stage 1. Participant selection: Participants were selected by the educational institution, considering their educational level and the diversity of the group

Stage 2. Instrument Design and validation: The instruments were developed to identify the students' level of knowledge before and after the teaching process. They were validated by three language teachers.

Stage 3. Educational intervention: During eight approximately 60-minute sessions, an instructional program based on the TPR approach was implemented, using audiovisual resources and activities designed to promote English communicative skills.

Stage 4. Evaluation of the intervention Process: The evaluation focused on monitoring the learning process of each participant to identify changes in English vocabulary recognition and use. Evidence from the pre-test and post-test was combined with qualitative data obtained through systematic observation and field notes, allowing the effects of the intervention on language performance to be analyzed.

Stage 5. Data Analysis: Quantitative data from the knowledge tests were analyzed descriptively to identify changes in learning, while qualitative data from observations and field notes were organized into the categories of attention, response to visual stimuli, interaction, and vocabulary recognition. Subsequently, data triangulation was conducted to identify patterns, similarities, and unique characteristics across the cases.

Stage 6. Systematization and interpretation of findings: the findings are systematized by integrating the collected data, prioritizing an in-depth understanding of each case. This made it possible to interpret the impact of the intervention according to the individual characteristics of the participants and to identify the factors that facilitated or limited learning.

Results:

The results are presented through an individual analysis of each case, followed by a cross-case comparison to identify common patterns in the learning process.

Table 2**Teaching strategies Applied for English Vocabulary Instruction by Category.**

Session	Vocabulary	Repetition Activity	TPR Activity	Visual or Tactile Resource	Number of Exposures	Assessment
1	Colors	Oral and individual repetition	Touch the red card	Flashcards and colored strings	5	Pointing task
2	Animals	Modeling and repetition	Jump like a frog	Video and stuffed animals	6	Object selection
3	Fruits	Spaced repetition	Pick up the apple	Toy fruits	5	Vocabulary recognition

During the intervention, the researcher first presented the target vocabulary using short educational videos, flashcards, and manipulative materials. Each word was modeled orally approximately five to six times. Since two of the three participants did not have functional verbal language, Total Physical Response (TPR) was used as the primary instructional and assessment strategy. Instead of asking participants to repeat the words, they were instructed to point to, touch, or pick up the requested object after listening to the target vocabulary. Only the participant with functional verbal language was encouraged to repeat the words orally, although verbal production was not required for successful task completion. When necessary, neutral prompts, such as repeating the instruction or redirecting attention, were provided. A response was considered correct when the participant independently identified the requested item through the corresponding physical action.

Table 3**Progress in English Vocabulary Learning Among Children with ASD (Pre-test-Post-test)**

Participan ts	PRETEST					POSTEST					<u>Diferenci a</u>
	Animal s	Color s	Fruit s	Object s	Tota l	Animal s	Color s	Fruit s	Object s	Tota l	
Participant 1	0/3	0/3	0/3	0/3	0	2/3	3/3	3/3	3/3	11	+11
Participant 2	0/3	3/3	2/3	0/3	5	3/3	3/3	3/3	3/3	12	+7
Participant 3	0/3	1/3	0/3	0/3	1	2/3	3/3	3/3	3/3	11	+10

The results presented in Table 3 show a positive progression in English vocabulary recognition across the three cases analyzed, although differences were observed in the participants' initial levels and individual learning trajectories.

Participant 1 demonstrated no prior knowledge in any of the vocabulary categories assessed during the pre-test. However, the post-test revealed significant improvement, achieving full recognition scores in colors, fruits, and objects (3/3), and partial improvement in animals (2/3). These findings suggest that systematic exposure to audiovisual and tactile stimuli, together with repetition, supported the gradual acquisition of English vocabulary.

Participant 2 showed a higher initial level of knowledge in the colors (3/3) and fruits (2/3) categories, indicating some previous exposure before the intervention. In contrast, performance in the animals and objects categories was initially absent (0/3). Following the intervention, the participant achieved full recognition in all vocabulary categories (3/3), reflecting not only the consolidation of prior knowledge but also the effective acquisition of new vocabulary. This case demonstrated a rapid adaptation to the instructional methodology.

Participant 3 presented a low initial level of vocabulary recognition, with partial recognition only in colors (1/3) and no correct responses in the remaining categories. After the intervention, the participant obtained results similar to those of the other cases, achieving full recognition in colors, fruits, and objects (3/3) and substantial improvement in animals (2/3). This

progress reflects a gradual learning process, likely facilitated by increased attention and familiarity with the instructional activities.

Overall, the three cases exhibited a common pattern of improvement across all vocabulary categories, with the most consistent gains observed in colors, fruits, and objects, whereas progress in the animals category was slightly lower. These differences may be associated with the nature of the instructional stimuli and the participants' previous familiarity with the target vocabulary. Taken together, the findings suggest that repetition and observation strategies, supported by audiovisual resources, promoted English vocabulary recognition among the participants, reflecting a gradual, mediated, and contextualized learning process.

Tabla 4

Results of the Observation Checklist During the Didactic Intervention

Category	Frequency	Description
Attention to videos	High	Students maintained sustained attention during the videos.
Response to touch	High	Participant 1 and Participant 3 learned better through tactile materials
Use of flashcards	Medium–High	It worked best with Matthew.
Motivation	High	Greater interest with toys and stuffed animals
Difficulties	Medium	Initial pronunciation and concentration problems.

The results from the observation sheet (Table 4) demonstrate high levels of student attention and engagement during the implementation of audiovisual strategies. These findings indicate that visual and manipulative resources significantly enhanced motivation and fostered active involvement in vocabulary learning. Furthermore, the data reveals that while tactile materials facilitated comprehension for some students, others responded more effectively to flashcards, highlighting the necessity of tailoring pedagogical approaches to meet individuals needs. Although initial difficulties related to concentration and pronunciation were recorded, these decreased progressively throughout the sessions, reflecting sustained progress in the learning process.

Although the intervention various resources and strategies, the improvement observed in the participants' acquisition of basic English vocabulary was primarily associated with the processes of repetition and observation carried out consistently throughout the eight sessions. Repetition provided the participants with multiple opportunities to listen to, recognize, and reproduce the vocabulary presented, while systematic observation made it possible to monitor their responses, progress, and difficulties throughout the intervention. In this regard, the progressive improvement observed in the results cannot be attributed exclusively to a single resource or strategy, since the intervention also included videos, flashcards, manipulate objects, Total Physical Response (TPR), and individual interaction with the teacher. However, the continuous repetition of the target stimuli and the systematic observation of the participants' performance constituted central elements of the intervention and contributed to identifying a gradual improvement in their recognition and acquisition of basic English Vocabulary.

Discussion

The present case study found that the three preschool children with Autism Spectrum Disorder (ASD) showed improvement in the recognition of basic English vocabulary after eight-session intervention. However, the progress was not identical among the participants or across the vocabulary categories. These differences may be related to the heterogeneous nature of ASD and to the different level of prior knowledge identified in the pretest. This finding is consistent with Valicenti-McDermott et al. (2013), who emphasize the variability of language development among children with ASD.

Therefore, the results suggest that English vocabulary acquisition in children with ASD is an individual process that requires instruction adapted to each learner's previous knowledge and learning profile.

The greatest progress was observed in several vocabulary categories, while the category of animals presented comparatively greater difficulties for some participants. This may be related to differences in previous familiarity with the concepts, the number of exposures to specific

words, and the difficulty of individual vocabulary items. The results are consistent with research indicating that children with ASD may benefit from structured and repeated language experiences that facilitate vocabulary comprehension and retention (Chu et al., 2020; Mohamed & Shaaban, 2024). Nevertheless, the improvement cannot be attributed exclusively to the intervention, since differences in prior knowledge and the characteristics of each vocabulary category may also have influenced the results. This highlights the importance of conducting an initial assessment before designing individualized English language instruction.

The observation records showed a progressive increase in participation and attention during activities involving repetition, observation, videos, physical movement, flashcards, and manipulable objects. These findings are consistent with previous research highlighting the value of structured, visual, and multisensory instruction for children with ASD (Brahim, 2022; García & López, 2019; Martín Gonzáles, 2017). Repetition and observation were central processes throughout the intervention, as participants repeatedly encountered the target vocabulary and observed the teacher's demonstrations, gestures, and actions. This interpretation is also consistent with the principles of TPR, which connect language comprehension with movement and repeated exposure (Canga Alonso, 2012; Escribano Estremera, 2020). However, because these strategies were implemented simultaneously with audiovisual resources, manipulable materials, TPR, and individualized teacher support, the study cannot determine which component had the greatest effect. Therefore, the findings should be interpreted as improvement following a multimodal intervention rather than as evidence of the isolated effectiveness of one strategy.

Other explanations for the observed improvement should also be considered. The participants received individualized interaction with the teacher and may have progressively become more familiar with the classroom routines, the activities, and the assessment procedures. Additionally, the repetition of similar tasks in the posttest may have contributed to better performance through test familiarity. The novelty of videos and toys, natural maturation, and the

different number of exposures to each vocabulary item may also have influenced the results. Consequently, the improvement observed cannot be interpreted entirely as evidence of vocabulary acquisition produced by the intervention. Although the finding suggest that structured repetition and observation may have supported learning, the design does not allow these effects to be separated from other possible influences.

Regarding English learning among children with ASD, the results support the view that ASD should not be considered an automatic barrier to foreign-language learning. The three participants demonstrated progress in recognizing basic English vocabulary, although their learning trajectories were different. This finding is consistent with research suggesting that bilingual exposure does not necessarily negatively affect language development in children with ASD (Valicenti-McDermott et al., 2013; Phillips et al., 2024). From an educational perspective, the results emphasize the importance of providing structured, repetitive, visual, and multisensory learning opportunities adapted to individual needs, in accordance with inclusive education and the principles of Universal Design for Learning (CAST, 2018).

Finally, to the small sample size, short intervention period, and absence of a comparison group, several limitations should be considered. The intervention combined multiple instructional strategies simultaneously, preventing the identification of the specific contribution of each component. The study also lacked a delayed retention assessment, transfer measures, follow-up evaluation, and analysis of spontaneous vocabulary production. Differences in prior knowledge, the comorbidity of ADHD in two participants, possible observer bias due to the absence of inter-rater agreement, and unequal exposure across vocabulary categories may also have influenced the findings. Although these limitations are consistent with the exploratory nature of a case study, they restrict the generalizability and interpretation of the results.

Conclusion

After the eight intervention sessions, the three participants showed an improvement in their recognition of basic English vocabulary, although the magnitude of progress varied across

cases. The greatest gains were observed in the categories of colors, fruits, and common objects, whereas some difficulties persisted in recognizing animal vocabulary. These changes occurred during an intervention that combined repetition, observation, Total Physical Response (TPR), audiovisual resources, and manipulable materials. However, due to the small sample size, the absence of a comparison group, and the simultaneous implementation of multiple instructional strategies, it is not possible to establish causal relationships or determine the specific contribution of each component. Nevertheless, the findings suggest that basic English vocabulary recognition can be supported through individualized instructional approaches tailored to the characteristics of preschool children with Autism Spectrum Disorder (ASD). These results provide preliminary evidence for the feasibility of adapting English language instruction to promote vocabulary recognition in this population.

It is recommended that future research include a larger number of participants, longer intervention periods, and comparative or longitudinal research designs to further examine the specific contribution of different pedagogical strategies to English language learning among children with Autism Spectrum disorder (ASD).

Ethical Considerations.

The ethical considerations followed APA guidelines and the code of ethics of the participants' university. Therefore, informed consent was obtained for their voluntary participation. All data obtained through this project will be used exclusively for academic and research purposes. The data or results of this research will never be commercialized.

Conflict of interest

The authors declare that they have no conflicts of interest.

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