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EXTRANJEROS**

**Immersive Virtual Reality as a strategy to improve speaking skill in
children with Autism Spectrum Disorders Level 1**

**Trabajo de Titulación para optar al título de Licenciatura en Pedagogía de
los Idiomas Nacionales y Extranjeros**

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DEDICATORY

Con todo mi amor y gratitud, dedico esta tesis a mis amados hijos Eduardo, Salomé y Julio César, quienes han sido mi mayor inspiración y fortaleza en este camino. Ellos, con su paciencia y amor incondicional, han comprendido mis ausencias y celebrado cada logro alcanzado. Su existencia ilumina mi vida y le da sentido a cada esfuerzo realizado; todo lo que soy y lo que construyo tiene como propósito su bienestar y su futuro.

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RESUMEN

La educación inclusiva busca garantizar igualdad de oportunidades y acceso a una educación de calidad para todos los estudiantes; sin embargo, los niños diagnosticados con Trastorno del Espectro Autista (TEA) suelen presentar dificultades significativas en el desarrollo de habilidades de comunicación oral, especialmente en contextos de aprendizaje de idiomas extranjeros como el inglés, donde los desafíos relacionados con la interacción social, la atención y la ansiedad pueden limitar una participación efectiva. Frente a esta necesidad educativa, la presente investigación tuvo como objetivo analizar la efectividad de la Realidad Virtual Inmersiva (IVR) como estrategia pedagógica para mejorar la habilidad oral en inglés en estudiantes con TEA nivel 1 de la Unidad Educativa American High School de Riobamba durante el período académico 2024-2025. El estudio se desarrolló mediante un enfoque mixto, de carácter aplicado, centrado en estudiantes diagnosticados clínicamente con TEA. Se utilizaron pruebas pretest y postest para evaluar las habilidades orales en inglés, además de fichas de observación para analizar el desempeño, la interacción y la participación de los estudiantes durante el proceso de intervención. Los resultados evidenciaron avances significativos en aspectos fundamentales de la expresión oral, como la pronunciación, el vocabulario y la disposición para participar en actividades comunicativas. Asimismo, se observó que dentro del entorno de realidad virtual los estudiantes presentaron mayor atención, motivación y reducción de la ansiedad durante las actividades de expresión oral. Se concluye que la Realidad Virtual Inmersiva constituye una estrategia innovadora y efectiva para favorecer el desarrollo de habilidades comunicativas en estudiantes con Trastorno del Espectro Autista, al proporcionar un entorno estructurado, multisensorial y emocionalmente seguro. Se recomienda considerar la incorporación de estrategias basadas en IVR dentro de los procesos de enseñanza del inglés inclusivo, realizando las adaptaciones pedagógicas necesarias para responder a las necesidades particulares de los estudiantes neurodivergentes.

Palabras clave: Realidad Virtual Inmersiva, Trastorno del Espectro Autista, comunicación oral, aprendizaje del inglés, educación inclusiva, tecnología educativa.

ABSTRACT

Inclusive education currently aims to guarantee equal opportunities and access to quality learning for all students; however, children diagnosed with Autism Spectrum Disorder (ASD) often experience significant difficulties in developing oral communication skills, particularly in foreign language learning contexts such as English, where challenges related to social interaction, attention, and anxiety may limit effective participation. To address this educational gap, the objective of our research was to examine how well Immersive Virtual Reality (IVR) works as a teaching aid to improve English speaking skills in students with ASD Level 1 at Riobamba American High School by 2024. The study used a combination of practical research methods, focusing on clinically diagnosed students with ASD. It included pre- and post-program tests to assess their speaking skills, as well as observation sheets to track their performance, interaction, and participation throughout the process. The study showed clear progress in important aspects of speaking skills, such as pronunciation, and enthusiasm for participating in speaking exercises. Furthermore, when in the virtual reality environment, students paid closer attention and felt less nervous. It turns out that using IVR is an excellent way to help children with ASD speak better by providing a learning space that is organized, engages the senses, and is not overly stressful. It's a good idea for teachers to consider using IVR strategies in their English classes. With some personal adjustments and teaching tips, this can give everyone a better opportunity to communicate and make learning more equitable for students with different learning styles.

Key words: Immersive Virtual Reality, Autism Spectrum Disorder, oral communication, English learning, inclusive education, educational technology.

CHAPTER I

REFERENTIAL FRAMEWORK

1.1 Introduction

Immersive Virtual Reality (IVR) has gained increasing attention as an innovative technological resource in educational and therapeutic contexts, particularly in interventions designed for individuals diagnosed with Autism Spectrum Disorder (ASD). Recent research highlights that immersive environments can provide structured, predictable, and low-anxiety scenarios that are especially beneficial for learners with ASD, who often experience challenges related to communication, attention, and social interaction (Ke, Moon, & Sokolikj, 2022). Despite the principles of inclusive education, many children with ASD continue to face significant difficulties in developing oral communication skills, particularly in foreign language learning settings such as English, where spontaneous interaction and verbal production are essential.

Difficulties in verbal expression, social engagement, and anxiety regulation may limit students' participation and performance in language learning activities. In this situation, it is essential to use innovative teaching methods. Immersive VR allows you to immerse yourself in worlds that feel real, engaging all your senses, enabling you to concentrate, eliminate noise, and achieve genuine participation. VR allows students to simulate real conversations to practice their language skills in a safe and guided environment, unlike traditional teaching methods.

This research was conducted at the American Secondary School in Riobamba, Chimborazo Province, during the 2024-2025 school year. The study focused on a group of first-grade children with Autism Spectrum Disorder (ASD) who participated in engaging virtual reality learning activities. The study adopted a mixed-methods approach, applying it to real-world scenarios and using numerical analysis tools, such as pre- and post-tests to assess speaking skills, and qualitative methods, such as observation sheets, to observe how people communicated, interacted, and participated during the program.

This study aimed to analyze the effectiveness of Immersive Virtual Reality in helping children with ASD improve their English. By examining the impact of VR in an inclusive educational environment, this study seeks to provide empirical evidence to the field of educational technology and even pedagogy, supporting the design of innovative instructional strategies adapted to neurodiverse students.

1.2 Problem Statement

Children diagnosed with Autism Spectrum Disorder (ASD) frequently experience persistent difficulties in the development of oral communication skills, particularly in structured academic environments where verbal interaction plays a central role. These challenges may include delayed speech production, reduced speech clarity, limited vocabulary use, and difficulties in maintaining coherent verbal exchanges, all of which can negatively affect both learning processes and social participation (Papadopoulos, 2021). In the early years of schooling, these restrictions are super important because talking well is tied to how kids think, how they get involved in class, and how they hang out with friends

Studies show that early school years are super important for learning language and how to communicate. During this stage, students are expected to progressively use verbal language to express ideas, participate in instructional activities, and establish social relationships (Duker et al., 2017). But sometimes, the usual teaching and therapy methods don't always hit the mark for kids with ASD, which creates a mismatch between what's being taught and what they can actually communicate. (Shiva, 2020) This scenario really shows we need to come up with fresh ways to help students learn in a structured, motivating, and stress-free setting

In response to this educational challenge, the present study implemented Immersive Virtual Reality (IVR) as a pedagogical intervention strategy aimed at improving English oral communication skills. IVR offers multisensory and interactive environments that may reduce anxiety, enhance attention, and create controlled opportunities for language practice, characteristics considered particularly beneficial for learners with ASD (Frye, 2018). The research was conducted at the American High School Educational Unit in Riobamba during the 2024–2025 academic period and involved a group of first-grade students clinically diagnosed with ASD.

The study used a combination of methods, focusing on practical applications. They used pre- and post-intervention numerical tests to assess how much someone's speaking skills improved, and they also used observation sheets to measure how well people communicated, participated, and remained engaged throughout the program. The aim of this study was to analyze how effectively interactive voice response (IVR) can help children with autism spectrum disorder (ASD) improve their speaking skills and make learning English more welcoming and supportive.

1.3 Problem Description

ASD impacts about 1 in 160 kids worldwide, according to the World Health Organization (Gomot & Wicker, 2012) This condition makes it tough to chat well, which is super important for growing up socially and in school. People with ASD deal with all sorts of communication hurdles, from struggling to talk to others to having a tough time getting what's being said (Schipper and colleagues, 2016) Kids with ASD can have a tough time talking, especially when it comes to learning how to speak properly. Around 30% of people with ASD don't speak much and can't chat naturally enough to handle their everyday chats

Some people who start talking might really have a tough time using language well (Cridland et al., 2014) These challenges involve speech that's off the usual track, like odd pitch, tone, and rhythm, plus repeating words or phrases, which is a big deal for many kids with ASD (Kenworthy and colleagues, 2008)

There are challenges to understand nuances of conversations due to the specific types of language that people with autism spectrum disorders (ASD) take part in. These challenges are especially evident for children with ASD as they learn to engage in and maintain conversations, as many of the necessary skills for this process are not typically present for them. For example, children with ASD usually have difficulty with turn-taking, social cues, and contextualizing the use of language. In addition, many pragmatic aspects of language are typically areas of deficit for children with ASD. Examples of pragmatic deficits include understanding indirect language, humor, and implied meanings within conversations (Robic, et al., 2015).

Through school visits and engaging in discussions with school personnel at American High School Educational Unit, Riobamba city, Chimborazo province, I have identified a large population of seventh-grade learners, specifically those with Autism Spectrum Disorder (ASD) Level 1, who are unable to fully develop their oral language skills due to their specific communication deficits. These students with ASD have a significant impairment in communication and/or, in some cases, will verbalize little or no spoken language with their peers. When they verbalize, they may or may not produce intelligible speech related to their peers. Most of their peers are able to express themselves in English very clearly and comprehensively as compared to students with ASD. Many students with ASD will not be provided with the best teaching methods and opportunities for meaningful learning due to traditional teaching methods not applied to the needs of these students. In addition, a lack of understanding of the characteristics of ASD by some teachers also creates additional barriers for the inclusion of these students and development of effective communication skill development. Some students with ASD attend school with a trained shadow teacher who is knowledgeable about autism, while English as a Second Language (ESL) teachers report being unprepared to provide adequate support for students with ASD. Individual teacher efforts are ineffective in developing the required skill sets necessary to address the needs of their students and many teachers end up dedicating valuable and limited teaching resources to meet their needs instead of meeting the needs of all of their students in the classroom.

The lack of personalized support with traditional methods does not create an inclusive learning environment for students with Autism Spectrum Disorder (ASD), thus limiting their ability to communicate and interact with peers and creating a barrier to learning. As a result, students with ASD have difficulty communicating effectively. Studies show that children with ASD are experiencing significant difficulties in communication requiring immediate intervention. The number of children diagnosed with ASD and the associated communication deficits affects millions of families and educational institutions across the globe (Klimova, 2021). Therefore, educators must utilize customized instructional methods that emphasize inclusiveness and improving the communication skills of children

with autism. In addition, they must also be adequately trained and use inclusive methods to effectively assist these children throughout their educational journey.

1.4 Problem Foundation

In the pursuit of effective educational interventions for children with autism spectrum disorder (ASD), emerging technologies such as Immersive Virtual Reality (VR) offer promising new avenues. The unique sensory and interactive capabilities of VR may align well with the learning preferences of children with ASD, potentially enhancing their acquisition of crucial skills such as verbal communication. Given the pivotal role of speaking skills in social and academic success, it is imperative to examine how VR can be specifically leveraged to support these outcomes in children with ASD. Accordingly, this research seeks to address the following specific questions:

Research Question 1:

What are the initial characteristics of English oral expression in students diagnosed with Autism Spectrum Disorder Level 1 prior to the IVR-based intervention?

Research Question 2:

How can immersive Virtual Reality English language teaching activities be effectively implemented to meet the individual needs of a child with ASD?

Research Question 3:

What changes in performance are observed in children with ASD when they engage in immersive Virtual Reality English teaching activities specifically adapted to their individual needs?

1.5 Objectives

1.5.1 General Objective

To evaluate the effectiveness of immersive virtual reality (IVR) in improving speech skill in English for students diagnosed with Level 1 Autism Spectrum Disorder at the American High School Educational Unit in Riobamba City, Chimborazo province, during the 2024-2025 academic year.

1.5.2 Specific Objectives

- To Diagnose the level of English oral expression and student satisfaction with the use of Immersive Virtual Reality (IVR) in children diagnosed with Autism Spectrum Disorder Level 1
- To Apply Immersive Virtual Reality English language teaching activities adapted to the individual needs of students with ASD.
- To assess the performance of Immersive Virtual Reality English teaching activities adapted to the individual needs of children with ASD.

CHAPTER II

THEORETICAL FRAMEWORK

2.1 Theoretical Background

This study is theoretically grounded in the principles of Communicative Language Teaching (CLT), which conceptualizes language as a tool for meaningful interaction rather than the mere production of grammatical forms. CLT is strongly influenced by the notion of communicative competence, originally proposed by (Hymes, 1972) who emphasized that effective language use involves not only linguistic knowledge but also the ability to use language appropriately in social contexts. The concept of communicative competence as suggested by Canale (1980) expands upon the core competences of speaking and would include other categories to the communicative competence such as; grammatical competence, sociolinguistic competence, discourse competence, and strategic competence, which are critical indicators of the importance of speaking as a functional communicative competence.

Understood within the structure of the communicative competence model, speaking is viewed as an active and participatory (interactive) activity that requires learners to develop meaning, understand one another, and communicate in contexts where the communication is meaningfully contextualised. Harmer (2007) further suggests that when learning to speak, learners need to have opportunities to interact in real time, as a learner develops their ability to speak by practicing communicating and not by doing repetitive dry mechanical drills. As suggested by Nation (2009) the ability to speak effectively is dependent upon having an adequate vocabulary and (or) repetition of vocabulary, as well as having sufficient context in which to use that vocabulary, all of which are significant factors in a structured learning environment.

From an epistemological standpoint, this research adopts a constructivist perspective, in which learning is viewed as an active process of knowledge construction. Constructivist theory, largely associated with Piaget (1952) posits that learners build understanding through interaction with their environment and through cognitive engagement with meaningful experiences. Complementing this view, Vygotsky's (1978) Sociocultural Theory emphasizes that learning is mediated by tools, social interaction, and guided participation. In this sense, learning technologies such as Immersive Virtual Reality (IVR) can function as mediational tools that facilitate cognitive and communicative development by providing experiential and interactive contexts.

The study also draws on principles of situated learning (Lave, 1991), which propose that knowledge acquisition becomes more meaningful and transferable when learning occurs within contexts resembling authentic situations. IVR environments offer simulated yet contextually rich scenarios where learners can engage in structured communicative practice. These immersive contexts allow learners to associate language use with visual, spatial, and situational cues, thereby supporting comprehension and oral production.

In relation to learners diagnosed with Autism Spectrum Disorder Level 1 (ASD Level 1), communication and speaking development require specific pedagogical adaptations. According to the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) (Association., 2013) individuals with ASD Level 1 typically require support, particularly in areas of social communication and interaction. Research indicates that learners with ASD benefit from structured and predictable environments (American Psychiatric Association, 2013). These instructional conditions are consistent with inclusive education frameworks such as the Universal Design for Learning (UDL) model (CAST., 2018), which advocates for multiple means of representation, engagement, and expression to address learner variability.

Consequently, IVR-based instruction can be theoretically justified within constructivist and communicative paradigms. IVR does not merely introduce technological novelty but provides structured, multisensory, and interactive environments that align with established theories of language learning, speaking development, and inclusive pedagogy. Through experiential interaction, visual scaffolding, and contextualized practice, IVR may facilitate oral expression while reducing anxiety and enhancing learner engagement, factors particularly relevant for students with ASD.

2.2 Literature Review

2.2.1 Speaking as a Language Skill in EFL Contexts

Speaking is widely recognized as a multifaceted and cognitively demanding language skill, particularly in English as a Foreign Language (EFL) context where learners often have limited exposure to authentic communicative environments. Contemporary research highlights that speaking involves the dynamic integration of linguistic knowledge, cognitive processing, and interactional competence, requiring learners to manage vocabulary retrieval, grammatical encoding, pronunciation, and real-time meaning negotiation. Unlike receptive skills, oral production demands immediate processing and response, making speaking performance highly sensitive to instructional conditions and learner-related variables.

Recent studies emphasize that effective speaking development in EFL classrooms depends on opportunities for meaningful interaction, contextualized language use, and supportive learning environments. (Zhang, 2022) argues that speaking proficiency is strengthened when learners engage in communicative tasks that simulate authentic language use rather than isolated mechanical practice. Similarly, (Sato, 2020) underline that interaction-based instruction plays a central role in fostering oral fluency and communicative confidence, particularly when learners are exposed to structured yet communicatively purposeful activities.

Lexical knowledge continues to be identified as a critical factor influencing speaking performance. According to (Teng, 2020), vocabulary accessibility significantly affects learners' ability to produce spoken language, as limited lexical resources may constrain fluency, accuracy, and communicative effectiveness. This relationship suggests that speaking instruction must incorporate repeated exposure, contextualized input, and opportunities for active language use. Furthermore, pronunciation and intelligibility remain

essential dimensions of oral competence, as clarity of speech directly impacts communicative success in EFL contexts (Goh, 2021).

In addition to cognitive and linguistic dimensions, recent literature underscores the influence of affective factors on speaking development. Studies on foreign language anxiety indicate that learners' willingness to participate in oral tasks is closely linked to emotional variables such as confidence, motivation, and perceived communicative competence (Derakhshan, 2021). Anxiety, in particular, may inhibit oral production and reduce engagement, highlighting the importance of low-stress instructional environments that encourage risk-taking and verbal participation.

Consequently, contemporary speaking pedagogy advocates for instructional strategies that integrate cognitive support, lexical scaffolding, and affective facilitation. Learning environments that provide visual cues, contextualized practice, and interactive opportunities may reduce processing demands while enhancing learners' communicative engagement. These principles are especially relevant in studies exploring innovative educational technologies, as immersive and visually rich environments may offer conditions conducive to speaking development in diverse learner populations.

2.2.2 Speaking Development in Learners with Autism Spectrum Disorder

Learners diagnosed with Autism Spectrum Disorder (ASD) often present distinctive patterns in the development of oral communication, particularly in expressive language and pragmatic speaking skills. Contemporary research indicates that speaking development in learners with ASD may be characterized by reduced spontaneous verbal production, difficulties in conversational reciprocity, atypical prosody, and challenges in organizing coherent oral discourse, especially in academic settings where verbal interaction is required (Association., 2013). These characteristics may influence learners' participation in classroom discussions and foreign language speaking activities.

Recent educational studies emphasize that speaking instruction for learners with ASD benefits from highly structured and supportive learning environments. According to (Fleury, 2020), instructional approaches that incorporate clear routines, explicit modeling, visual supports, and guided practice can facilitate expressive language use and reduce communicative anxiety. Such strategies are particularly relevant in second or foreign language contexts, where speaking demands may increase cognitive load and emotional pressure for learners with ASD.

In foreign language learning environments, speaking development for students with ASD requires pedagogical adaptations that address both linguistic and affective dimensions. (Odom, 2021) highlight that learners with ASD often benefit from predictable interactional patterns and reduced social complexity, as these conditions support attention regulation and communicative engagement. Structured speaking activities that limit unexpected social demands may enhance learners' willingness to participate in oral tasks while promoting gradual communicative confidence.

Recent research also underscores the importance of multimodal support in speaking development for learners with ASD. Visual cues, contextual scaffolding, and multimodal input have been shown to support comprehension and oral production by reducing

processing demands and supporting lexical retrieval (Alzrayer, 2020). These supports align with inclusive education practices that seek to accommodate diverse communicative profiles while fostering functional language use.

Moreover, affective factors such as anxiety and emotional regulation play a significant role in the speaking performance of learners with ASD. Studies indicate that low-anxiety learning environments and supportive instructional conditions may positively influence learners' oral participation and engagement (Khowaja, 2020). Consequently, speaking instruction for this population should prioritize environments that minimize stress while offering repeated, meaningful opportunities for guided oral expression.

Overall, recent literature suggests that effective speaking development for learners with ASD requires instructional approaches that integrate structure, visual support, repetition, and emotional safety. These pedagogical principles provide a strong foundation for exploring innovative instructional resources capable of creating controlled, engaging, and inclusive speaking environments in foreign language education.

2.2.3 Overview of Autism Spectrum Disorder and Language Impairments.

Autism Spectrum Disorder (ASD): A neurodevelopmental disorder with a diversity of symptoms that are extreme in presentation and severity. This presents a complex challenge for research and intervention, particularly in educational environments. The primary characteristics of ASD are impaired social communication and social interaction across multiple environments and restrictive/repetitive behavioral patterns, interests, or activities..

2.2.4 Communication Deficits in ASD

Communication impairments are one of the most common challenges faced by individuals with ASD. These impairments can range from complete absence of verbal communication to subtle difficulties with the pragmatic aspects of language use. Key communication challenges include (Craig et al., 2018; Topal et al., 2018):

Delayed Speech Development: Many children with ASD experience delays in speech onset. Some may not speak at all, while others develop language skills significantly later than neurotypical children.

Echolalia: This is a common verbal behavior in ASD where the individual repeats phrases or noises they have heard. Echolalia can be immediate or delayed and is often a functional part of language development in ASD, serving purposes such as turn-taking, requesting, or self-regulation.

Pragmatic Language Impairments: Children with ASD often struggle with the use of language in social contexts, which encompasses a range of skills such as making appropriate conversational turns, using language for different purposes (e.g., greeting, requesting), modifying speech to fit different social contexts, and understanding abstract language concepts like irony or metaphor.

Articulation Problems: While not universal, some children with ASD may also have difficulty with articulation, which can make their speech difficult to understand even when they can form words and sentences.

2.2.5 Broader Language and Cognitive Impacts

The following are some examples of how these broader cognitive and processing challenges can impact communication for children with Autism Spectrum Disorder (ASD):
Literal interpretations: Some individuals with ASD may interpret all of the words spoken to them as being absolutely literal, rather than figuratively (for example, using a joke or idiom), due to their limited ability to understand contextual or other subtle cues.

Processing delays: Some children with ASD may need greater amounts of time to process spoken language and provide an appropriate response than do other children.
Social cues and nonverbal communication: Social cues (ex: facial expressions, motions), as well as other forms of non-verbal communication (eye contact), play a very important role in communication. Many children with ASD have difficulty interpreting and utilizing non-verbal cues for effective communication.

2.2.6 Empirical Studies on Virtual Reality in Education and Language Learning

Virtual reality (VR) is increasingly recognized as a transformative tool in education, providing immersive experiences that can enhance learning across various disciplines. Particularly in language education, VR's ability to simulate real-life interactions offers a unique environment for practicing and acquiring new languages.

Jang et al. (2021) undertook a study examining the integration of Augmented Reality (AR) and Virtual Reality (VR) in educational contexts. Their research utilized an extended Technology Acceptance Model (eTAM) to analyze how various factors, such as teachers' technological pedagogical content knowledge (TPACK), social norms, and motivational support, influence teachers' intentions to employ AR and VR technologies. Analyzing responses from 292 in-service teachers, the study identified significant correlations between these factors and the acceptance and intended use of AR and VR. The results highlight the importance of understanding and supporting these factors to enhance the adoption and efficacy of AR and VR in education, pointing to the necessity for tailored professional development and institutional support.

Rahimi (2014) conducted a study to assess the implementation of Virtual Environments (VE) in the Iranian EFL context, focusing on personal, technical, and pedagogical aspects. They employed a mixed-method approach, including a questionnaire and semi-structured interviews, to gather data from 36 EFL teachers in Iran. Their findings indicated strong enthusiasm among teachers for using VE as an instructional tool, though there was significant apprehension about handling new technologies, especially VR tools. The teachers recognized the pedagogical benefits of VR, particularly its potential to enhance language learning by providing immersive, realistic environments that stimulate student engagement and interaction. However, technical challenges and a lack of infrastructure were significant barriers, preventing effective implementation of VR in educational settings.

Klimova (2021) conducted research on the use of Virtual Reality (VR) in non-native language learning and teaching (NLLT). The study explores how emerging technologies, particularly VR, have been integrated into educational settings. The methodology employed was a literature review, highlighting both the potential and barriers associated with the use of VR in NLLT. The findings indicate that while VR technologies have penetrated NLLT,

their application remains limited due to several obstacles such as the lack of technical skills among teachers and the high costs associated with VR technologies. Nevertheless, VR offers significant benefits in language learning through immersive and authentic environments that can enhance learner autonomy, improve learning outcomes, and increase retention of new knowledge and skills. The author notes that more attention needs to be paid to developing collaborative learning strategies within VR applications to fully exploit their potential in language education.

Hsu (2024) conducted a comprehensive exploration of EFL learners' acceptance and cognitive absorption in VR-based language learning. The research utilized a dual approach consisting of a survey and a neurophysiological experiment to understand the underlying dynamics of VR integration in language education. The study adopted the hedonic motivation system adoption model (HMSAM) to evaluate various constructs such as perceived ease of use, usefulness, curiosity, joy, control, and behavioral intentions related to VR learning environments. The findings revealed a significant positive impact of VR on learners' cognitive absorption and language retention, highlighting its effectiveness in enhancing language learning experiences. This study not only underscored the pedagogical benefits of immersive VR environments but also addressed gaps in understanding the cognitive engagement facilitated by VR in educational settings.

Yudintseva (2023) explored the affordances of virtual reality for enhancing oral communication in English as a second language classrooms through a comprehensive literature review. The study synthesized insights from 34 research papers published between 2015 and 2022, focusing on VR features such as immersion, interaction, feedback, and creation within educational contexts. The findings highlight that while VR is generally perceived positively and can significantly improve motivation, confidence, and cultural awareness among learners, its impact on tangible learning outcomes, especially oral fluency, remains unclear. This inconclusiveness is attributed to issues like cognitive load, equity concerns, and technological challenges. The review proposes several strategies to mitigate these challenges to better harness VR's potential in language learning environments.

Yan et al. (2023) carried out an exploratory mixed-method study to assess the impact of virtual reality (VR) on the development of speaking skills in English as a Foreign Language (EFL) learners within the context of situated learning. The research involved 16 first-year undergraduate English majors from a public university in China, who participated in role-playing speaking exercises via the desktop-based VR application, Immerse. The methodology included a pretest and posttest to measure comprehension, pronunciation, fluency, grammar, and vocabulary, alongside pre and post-surveys and semi-structured interviews. The quantitative analysis revealed significant improvements in the students' speaking skills, particularly in vocabulary, fluency, and grammar. The qualitative data supported these findings, indicating that the authentic VR environments facilitated knowledge comprehension and retention, increased engagement and motivation, and enhanced the transfer of knowledge to real-life scenarios, thus effectively supporting situated learning.

Shiva (2020) executed a study on Virtual Reality Assisted Pronunciation Training (VRAPT) for young EFL learners to analyze its influence on their pronunciation skills. This research, conducted at the Islamic Azad University and Sharif University of Technology in Tehran, involved 18 low-intermediate English learners aged 6-12. Employing a mixed-method approach, the study included pre-tests and post-tests of pronunciation using Speech Ace, alongside practical training sessions within a VR environment over ten 90-minute sessions. The study's results, based on a paired samples t-test, showed significant improvements in the learners' pronunciation skills post-training, indicating the effectiveness of VR in enhancing pronunciation.

Virtual reality (VR) is increasingly being recognized as a powerful tool in therapeutic interventions for individuals with autism spectrum disorder (ASD). By creating controlled, immersive environments, VR enables the safe exploration and practice of social and communication skills that are often challenging for those with ASD. The technology's capacity to simulate realistic social interactions can help individuals learn and generalize skills in a supportive setting. Studies have shown promising results, suggesting that VR can significantly enhance behavioral and cognitive outcomes in autism therapies.

Van Pelt et al. (2022) executed a feasibility study to assess the effectiveness of a Virtual Reality (VR) intervention, Dynamic Interactive Social Cognition Training in Virtual Reality (DiSCoVR), tailored for adults with autism spectrum disorder (ASD). The methodology involved a pilot study with 26 participants who engaged in VR-based social cognition training. Assessments were conducted at baseline, post-treatment, and follow-up, using tools like the Ekman 60 Faces test for emotion perception and the Movie for the Assessment of Social Cognition for social cognition. The results indicated that most participants and therapists found the VR intervention both acceptable and feasible. The study suggests promising preliminary findings, though further controlled research is necessary to determine the effectiveness of VR within social cognition training for adults with ASD.

Zhao et al. (2021) conducted a study to explore the effects of cognitive training based on Virtual Reality (VR) on children with autism spectrum disorder (ASD). Utilizing a control group design, the research assessed the effectiveness of VR interventions in improving typical ASD symptoms such as social communication disorders, speech retardation, narrow interests, and rigid behavior. The study involved 120 children with ASD, split into experimental and control groups, with assessments using the Autism Behavior Checklist (ABC), Childhood Autism Rating Scale (CARS), and Clancy Autism Behavior Scale (CABS). Results demonstrated significant improvements in the experimental group compared to the control group, indicating that VR-based cognitive training could substantially enhance behavioral and cognitive functions in children with ASD.

2.2.7 Challenges in Educational Settings

Children with ASD often face significant barriers in traditional learning environments, which are designed around the assumption of typical developmental trajectories including verbal communication and social interaction skills. The presence of communication deficits can lead to several educational challenges (Schmitt, White, Cook, Sweeney, & Mosconi, 2018):

Participation in Classroom Activities: Children with ASD might struggle with following verbal instructions or participating in spoken discussions, which are common in classroom settings. This can limit their ability to engage with the curriculum and contribute to classroom discussions, potentially affecting their academic performance and learning outcomes.

Peer-Led Learning: Educational strategies that rely on peer interaction, such as group projects or peer tutoring, can be particularly challenging for children with ASD. These situations require not only verbal communication but also the ability to read social cues and collaborate closely with others.

Teacher Misunderstanding: Without specific training in ASD, teachers may misinterpret a student's communication difficulties as lack of interest or cooperation. This can lead to inappropriate disciplinary measures or educational strategies that do not align with the child's needs.

Adaptation of Learning Materials: Many children with ASD benefit from visual aids rather than purely verbal explanations. Schools may not always have resources or the knowledge to adapt teaching materials to meet these needs, potentially hindering the child's educational progress.

2.2.8 Social Implications

The inability to communicate effectively can also have profound social implications for children with ASD. These can manifest in several ways (Van Pelt, et al., 2022):

Forming Friendships: Effective communication is key to forming and maintaining friendships. Children with ASD may want to interact with their peers but lack the communication skills to do so effectively, which can lead to social isolation.

Participation in Social Activities: Many social activities involve complex social interactions and communication, such as understanding rules in games, sharing experiences, and negotiating roles. Difficulties in these areas can lead to decreased participation in social activities, further isolating the child.

Emotional Regulation: Communication deficits can also affect a child's ability to express their needs, desires, and feelings appropriately. This can result in frustration and behavioral issues, which are often manifestations of the child's inability to communicate their internal states.

Misinterpretation by Peers: Even when children with ASD attempt to communicate, their peers may not always understand their intentions or expressions due to atypical speech patterns or non-verbal cues. This can lead to misunderstandings and conflicts, exacerbating feelings of loneliness and frustration.

2.2.9 IVR in L2 learning

Immersive Virtual Reality (IVR) has gained increasing attention in recent years as a pedagogically valuable tool in second language (L2) learning due to its capacity to create interactive, multisensory, and contextually rich learning environments. Unlike conventional digital resources, IVR environments simulate realistic scenarios in which learners can engage with language through experiential interaction, visual cues, and contextualized

communication. Contemporary research suggests that such immersive experiences may facilitate language acquisition by supporting attention, enhancing engagement, and promoting meaningful language use (Makransky, 2021).

One of the most frequently reported benefits of IVR in L2 learning relates to its influence on affective variables, particularly anxiety and motivation. Studies indicate that immersive environments may reduce foreign language anxiety by providing controlled and low-pressure contexts for communication, thereby encouraging learners' willingness to participate in oral tasks (Dewaele, 2021). Reduced anxiety levels are strongly associated with improved speaking performance, as learners may experience greater confidence and communicative readiness when interacting within virtual scenarios. In this sense, IVR environments may function as psychologically safe spaces that support risk-taking and experimentation in language use.

From a cognitive perspective, IVR has also been associated with enhanced comprehension and retention through contextualized learning. According to Parmaxi (2020), immersive virtual environments may strengthen learners' ability to associate linguistic forms with situational meaning by integrating visual, spatial, and auditory stimuli. These multimodal affordances can facilitate vocabulary activation, pronunciation practice, and oral production by reducing abstractness and increasing contextual salience. Furthermore, IVR-mediated tasks may support experiential learning processes, where knowledge construction occurs through interaction rather than passive reception.

Recent investigations further highlight the potential of IVR to foster oral communication skills, particularly speaking and pronunciation. (Chen, 2021) found that learners exposed to immersive VR-based language activities demonstrated improvements in speaking fluency and engagement compared to traditional instructional conditions. Similarly, Radianti et al. (2020) emphasize that immersive environments can provide repeated opportunities for contextualized speaking practice, enabling learners to rehearse communicative exchanges in simulated real-world situations.

Despite the documented advantages, the pedagogical integration of IVR in English as a Foreign Language (EFL) contexts remains an evolving area of research. Challenges related to instructional design, teacher preparedness, and cognitive load management continue to influence learning outcomes (Parmaxi, 2020). Consequently, recent literature calls for further applied studies that examine how IVR-mediated instruction may influence speaking development, learner engagement, and affective responses across diverse educational populations (Hsu, 2024).

2.2.10 Benefits and pitfalls of the use of VR in non-native language learning and teaching

The rise of Virtual Reality (VR) is a growing trend in the non-native language learning and teaching (NLLT) sectors, though it does not see the same level of usage as it does in natural sciences. A new approach to language teaching has been introduced called Virtual Reality Assisted Language Learning (VRALL), which was first developed in 2018 (Klimova, 2021). While fully immersive VR systems are limited in their application (mostly found in university programs that utilize VR technology to teach English), their ability to

simulate realistic environments while also supporting kinesthetic learning is noteworthy. Studies indicate that using VR can have a positive impact on retention and performance when studying outside of a more structured classroom setting. Furthermore, using gamification strategies within VR has increased student engagement levels and motivation to learn a foreign language. Data concerning the effectiveness of VR on non-native speakers is fairly limited and primarily focuses on improving speaking, listening, and reading abilities, with writing skills receiving less attention (Yudintseva, 2023).

CHAPTER III

3. METHODOLOGICAL FRAMEWORK

3.1 Research Approach

The present study adopted a mixed-methods research approach, integrating both quantitative and qualitative procedures to obtain a comprehensive understanding of the effects of Immersive Virtual Reality (IVR) on students' English oral expression. Mixed-methods research is characterized by the systematic combination of numerical measurement and interpretative analysis, allowing the researcher to examine not only measurable changes but also behavioral and contextual dimensions of the learning process.

Quantitative data was obtained in order to assess the degree to which IVR helped improve the students' use of English orally. The quantitative data were collected through using pre-testing and post-testing instruments that provided aggregated evidence regarding the impact of the intervention on the students' performance.

Qualitative data were collected in order to assess how many students interacted, participated, and responded behaviourally to IVR based instructional activities. The collection of qualitative data was done using structured observational sheets that analysed communicative behaviour, engagement, attention, and motivation in students diagnosed with Autism Spectrum Disorder Level 1 (ASD Level 1).

The use of both qualitative and quantitative methods was justifiable based on the nature of the research question, which required the researcher to measure both students' performance (i.e., the expression of English) and to interpret their performance within the context of their participation, motivation, and communicative behaviour. Quantitative data provided objective measures of performance improvement while qualitative data provided the researcher with an opportunity to interpret students' interactions in response to learning through the use of IVR, particularly regarding their participation, motivation and communicative behaviour.

3.2 Research Modality

The modality of the present research was based on field research. Field research is defined as a method of data collection that involves obtaining information directly from the real context where the phenomenon under study occurs. This implies that the researcher gathers data in the natural setting of the participants, allowing for a more accurate and contextualized understanding of the research problem (Nájera, 2017).

In this study, data collection was carried out directly in the educational environment through the application and assessment of four students diagnosed with Autism Spectrum Disorder Grade 1 during the implementation of Immersive Virtual Reality as a pedagogical strategy for teaching English. The researcher observed students' performance, participation, and speaking skills while they interacted with IVR-based learning activities, ensuring that the information collected reflected their authentic learning experiences..

3.3 Level and Type of Research

The research level of the present study was applied. Applied research aims to generate knowledge with direct and medium-term applications in society or within educational contexts, focusing on solving practical problems and improving real-life situations. (Lozada, 2014) In this type of research, the researcher is not limited to producing theoretical knowledge, but also seeks to apply it in order to contribute to the improvement of people's quality of life.

This study employed Immersive Virtual Reality (IVR) activities to facilitate English language instruction and develop the speaking skills of four individuals with Level 1 Autism Spectrum Disorder. The activities were conducted at the American High School Educational Unit. The study evaluated the impact of IVR on the students' oral expression, participation, and engagement before and after the implementation of the IVR activities.

3.4 Study Population

The population of the study consisted of four children diagnosed with Autism Spectrum Disorder Grade 1 who were enrolled in Grade 1 at the American High School Educational Unit, located in the city of Riobamba, Chimborazo Province, during the academic period 2024–2025.

These students presented communication difficulties that affected their pronunciation, vocabulary use, and oral expression in English, which justified their selection for the study.

3.5 Sample

According to Camacho (2008), when a study population is small and clearly delimited within a specific context, it is methodologically appropriate to work with all accessible participants who meet the established inclusion criteria. In such cases, the research may adopt a census-based approach rather than a sampling procedure, since the entire target population is included in the investigation.

In this study, the population consisted of four students enrolled in Seventh Grade at the American High School Educational Unit, located in Riobamba City, Chimborazo province, during the 2024–2025 academic period. All participants had been clinically diagnosed with Autism Spectrum Disorder Level 1 (ASD Level 1) and fulfilled the inclusion criteria established for the research. Due to the limited number of eligible students, the study was conducted with the total accessible population.

Although participants were enrolled in Seventh Grade, the instructional content and assessment tasks were adapted to their actual English oral proficiency level rather than to the standard curricular expectations of that grade. Preliminary diagnostic findings indicated that students demonstrated a foundational level of English oral production, characterized by limited vocabulary retrieval and reduced pronunciation clarity. Therefore, basic vocabulary topics such as colors, shapes, animals, and classroom objects were intentionally selected to ensure accessibility, reduce cognitive overload, and provide a structured basis for

measurable improvement in speaking skills. The principles of inclusive education guide this decision; For example, instructional methods must be based upon the student's functional communicative level and not just the usual chronological grade level.

The Student Counseling Department (DECE) provided support in selecting the study participants, verifying the clinical diagnoses and academic enrollment of students. This ensured that participants met the criteria for inclusion in the study and that their inclusion was in line with the objectives of the study.

Formal permission to conduct the research was obtained from the educational authorities at the institution. In keeping with ethical research principles, data from the student participants would only be collected with written consent from parents/legal guardians. Through this process parental/legal guardian consent was given for participation in the study and for the academic use of the data collected, and for the documentation of research activity, providing for confidentiality, anonymity, and responsible use of data.

3.6 Techniques and Instruments for Data Collection

Two types of techniques were used in the present research, each one with its corresponding instrument. These techniques were aligned with the specific objectives of the study and focused on evaluating students' English speaking skills as well as their performance during the learning process.

3.6.1 Pre-Test, Intervention, and Post-Test

understood as the student's ability to produce an oral response that meets the communicative demand of the task (e.g., naming, repeating, or producing short phrases) within a supported and structured format; therefore, it was considered an indicator of functional oral expression rather than a separate construct.

The pre-test tasks and the analytic rubric were designed by the researcher and aligned with the specific objectives of the study, considering descriptors informed by the Common European Framework of Reference for Languages (Council of Europe, 2020) and adapted to the characteristics of learners with ASD Level 1. Content validity and contextual appropriateness were ensured through two expert reviewers: (a) a qualified English teacher with experience working with students at this institution and familiarity with students' communicative needs, classroom dynamics, and possible learning outcomes, and (b) a licensed psychologist who specializes in Autism Spectrum Disorder from Centro Integral Trascender (in Riobamba). Through the expert review, we modified descriptions of tasks for clarity, expectations about language use, and performance criteria in relation to the communication profiles of students being assessed.

A common analytic rubric and evaluation process was used to score both the pre-test and the post-test, thus promoting objectivity and consistency in the scoring process. The analytic rubric provided clearly defined descriptors to distinguish between criteria as well as a stated rating scale that will facilitate an objective assessment of performance before and after entering into this study.

Additionally, pictograms were incorporated as visual scaffolding to support comprehension of instructions and reduce ambiguity during task performance. This

adaptation was pedagogically justified because visual cues can reduce cognitive overload and facilitate participation for learners with ASD, ensuring that the assessment primarily measured oral production rather than comprehension limitations.

Following the diagnostic phase, Immersive Virtual Reality (IVR)-based instructional activities were implemented as the intervention strategy. These activities were planned to provide structured, multisensory, and interactive contexts in which students could practice targeted oral production through repeated exposure, guided imitation, and controlled communicative demands within virtual environments.

Finally, the post-test was administered using the same tasks, rubric criteria, and visual supports applied in the pre-test. This procedure enabled direct comparison of students' English oral expression performance before and after the IVR-mediated intervention, allowing the identification of changes associated with the implementation of the strategy.

3.7 Data Analysis

Quantitative data obtained from the pre-test and post-test were analyzed using descriptive statistical procedures, specifically frequencies and percentages, in order to identify variations in students' English oral expression performance across the two measurement points. These analyses allowed for the identification of observable changes in pronunciation clarity, vocabulary production, and task completion following the implementation of the IVR-based intervention.

For the qualitative component, the study employed structured non-participant observation as the data collection technique. The corresponding instrument consisted of a structured observation sheet (observation checklist) designed by the researcher. Behavioral indicators regarding participation, attention, motivation, confidence and communicative interactions were pre-defined before conducting the immersive virtual reality (IVR) activity. The structured data collection process ensured systematic recording of each data point over each of the IVR sessions.

A descriptive interpretative analysis of the qualitative data sought to identify patterns and/or observable differences in the students' engagement and communication that occurred over the course of the intervention. This included observations of patterns and/or differences in the behaviours of all students, as recorded in the observations of a session-by-session basis; the comparison of behaviours over time; and the interpretation of behaviours related to the IVR activity by each student.

By triangulating quantitative performance data with the qualitative observational data, it allowed for a methodological triangulation. The quantitative data supported evidence of improvement in verbal communication of students with autism spectrum disorder level one, while the qualitative data supported an understanding of the behaviours exhibited by students to communicate and engage with immersive learning environments.

CHAPTER IV

4. RESULTS AND DISCUSSIONS

4.1 Results

4.1.2 Post-Test Results and Comparative Analysis

Following the implementation of IVR-based instructional activities, a post-test was administered using the same instrument and evaluation criteria applied in the diagnostic phase. This allowed for direct comparison between baseline and post-intervention performance.

4.1.3 Post-Test Quantitative Findings

Comparative analysis indicated measurable improvement across all evaluated dimensions. In terms of pronunciation clarity, student performance showed increased intelligibility through better articulation stability. There was an increase in vocabulary production, as students were able to locate and produce more lexical items with greater independence. There were also improvements in oral expression from students producing more organized and consistent responses in their speaking tasks. The differences in performance based upon the contrast of pretest posttest scores show that there was positive change in performance measures which supports the validity of the IVR-mediated intervention.

4.1.4 Qualitative Findings: Adaptation and Communicative Engagement

Structured observations during the intervention period revealed notable behavioral changes. As sessions progressed, students displayed greater confidence in navigating the IVR environment and required less external guidance. Participation became more consistent, and hesitation decreased during speaking tasks.

Students' familiarity with the immersive tool appeared to positively influence their communicative engagement. The structured and visually supported virtual scenarios contributed to a more predictable learning context, which facilitated attention regulation and oral participation. Increased motivation and willingness to respond were recurrent patterns recorded across sessions.

4.1.5 Integrated Interpretation

The integration of quantitative and qualitative findings provides a comprehensive understanding of the intervention's impact. While numerical data demonstrated measurable improvement in English oral expression, observational evidence revealed progressive adaptation to the IVR environment and enhanced communicative confidence.

The combination of structured immersive contexts, visual scaffolding, and guided repetition appears to have created favorable conditions for both linguistic development and behavioral engagement. Overall, the results suggest that Immersive Virtual Reality

constitutes a supportive pedagogical resource for fostering oral expression in students diagnosed with ASD Level 1 within inclusive educational settings.

Tabla 1. Scores from pre-test (Rubric-based speaking criteria)

	Pronunciation (5/5)	Vocabulary (5/5)	Oral Expression (5/5)	Total score (15/15)
Student 1	1	1	1	3
Student 2	1	1	1	3
Student 3	1	1	1	3
Student 4	2	2	1	5

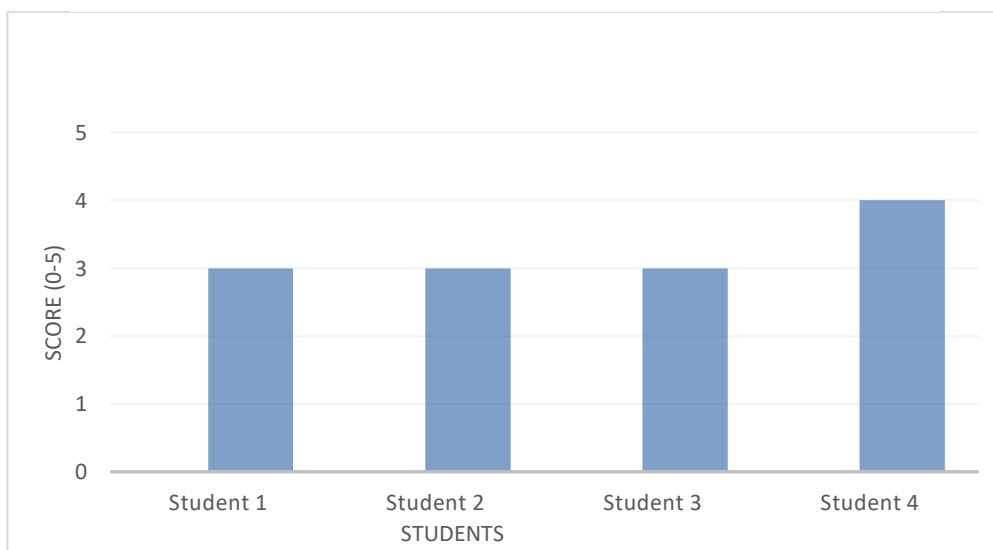
Source: Pre-test applied to Grade 1 ASD, students Seventh Grade at the American High School Educational Unit.

Elaborated by: The researcher

Overall, pre-test scores indicated an initial A0 (Beginner) performance. This means students demonstrated very limited ability to produce English orally, with frequent hesitations, restricted vocabulary, and inconsistent pronunciation. Given the communicative demands of classroom interaction, it was necessary to implement an adapted strategy that could support attention, comprehension, and participation in oral tasks.

The following figure presents a detailed view of students' scores in the pronunciation criterion during the pre-test.

Figure 1. Pre-test scores, Pronunciation Criterion



Source: Bar graph representing the scores obtained in the pre-test rubric.

Elaborated by: The researcher

Analysis

Students achieved low scores in pronunciation, indicating frequent mispronunciations of basic words, unclear articulation, and difficulty imitating model sounds. The results suggest that students required more guided repetition and multisensory support to stabilize sound–meaning associations.

Interpretation

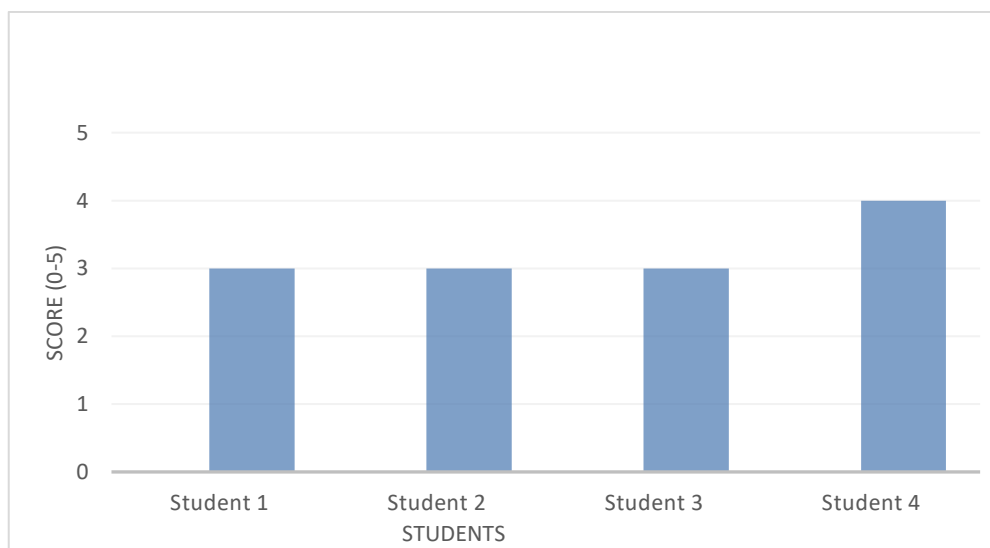
Pronunciation development in language learning is strongly associated with repeated exposure to meaningful and comprehensible input, as well as opportunities for guided imitation and corrective feedback. Currently, research on the acquisition of a second language shows that learners' ability to pronounce words correctly increases when they practice in a way that gives them an opportunity to rehearse, hear how they should sound, and produce the words in context or as a part of an exchange (Derwing & Munro, 2015; Saito & Plonsky, 2019). The concept of pronunciation is not usually viewed as a series of isolated articulation skills but is generally considered to be a part of an ongoing process that can enhance the ability to effectively communicate orally with other speakers in an intelligible manner. Researchers have noted that those students identified with Autism Spectrum Disorder Level 1 (ASD Level 1) may experience variations in their pronunciation and oral production due to differences in how they communicate, including differences in prosody, lack of spontaneous verbal interaction, and differences in how they process social communication (Association, 2013). These variations in communication style may result in learners with ASD Level 1 being less willing to participate in speaking tasks. This is especially true when they are required to perform speaking tasks either in an environment where they perceive the social expectations to be high, or in an environment that they perceive to be unpredictable.

According to Odom (2021), educational research suggests that a low-anxiety, structured, and visually supported learning environment can positively impact oral production for participants with autism spectrum disorder (ASD). Furthermore, predictable instructional environments that allow for repetition and guided practice, while minimizing excessive social pressure, can help to alleviate communicative anxiety and increase the likelihood of producing speech. Thus, Immersive, controlled, multi-user learning environments may provide the ideal conditions to allow for pronunciation practice because participants can continuously interact with multimodal input and modeled language without the constraints associated with face-to-face interaction.

Participants' improvements in pronunciation performance after intervention in the IVR-based study may therefore be viewed in terms of the above theoretical principles. The multisensory and structured nature of the IVA activities likely supported repeated exposure to auditory input, focused attention, and reduced affective barriers, as noted elsewhere, are all important factors for pronunciation development and oral expression across diverse learner groups.

The following figure presents a detailed view of students' scores in the vocabulary criterion during the pre-test.

Figure 2 Pre-Test Score Vocabulary



Source: Bar graph representing the scores obtained in the pre-test Vocabulary

Elaborated by: The researcher

Analysis

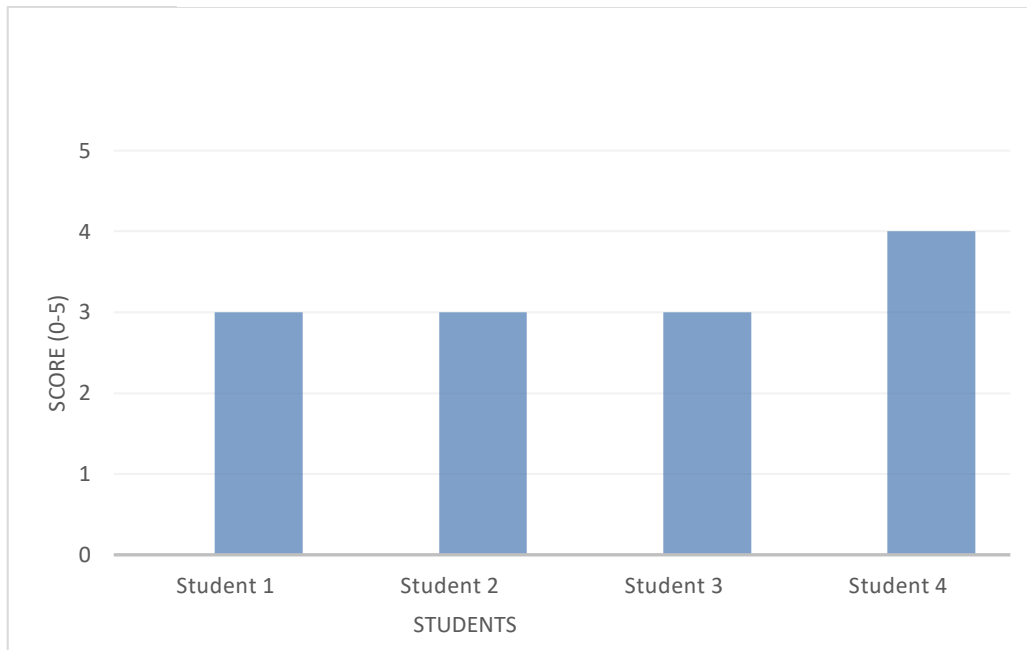
Vocabulary scores were slightly higher than pronunciation for most students, suggesting partial recognition of basic classroom words and common objects. However, performance remained limited, with students relying on isolated words rather than combining them into meaningful utterances.

Interpretation

Vocabulary knowledge supports speaking because words provide the building blocks for oral expression. Visual supports (e.g., pictograms) and contextualized exposure can enhance comprehension and recall. In immersive environments, vocabulary can be reinforced through repeated encounters with objects, actions, and labels.

The following figure presents a detailed view of students' scores in the oral expression criterion during the pre-test.

Figure 3 Pre-test scores, Oral Expression criterion



Graph: Pre-Test Rubric Scores

Illustration provided by: Researcher

Analysis

The oral expression domain had the lowest performance overall. Students were not able to create a complete verbal response (i.e., create a short phrase, respond to a prompt, or begin an oral exchange with others). Instead, the majority of their responses were single words or required an extensive amount of stimulation before they could produce a response.

Interpretation

Oral expression includes both language knowledge and pragmatics and interaction. Students with Autism Spectrum Disorder often require varying amounts of scaffolding, visual cues and structured turn-taking opportunities when communicating. By allowing students with ASD to use IVR in participatory practice within a known context repeatedly, they will likely experience a reduction in anxiety and an increase in willingness to respond..

4.1.2 Implementation of Immersive Virtual Reality activities in Level 1

To determine the contributions of Immersive Virtual Reality in English classes, the intervention phase focused on implementing IVR-based activities designed to foster students' engagement and oral participation. The IVR activities were selected to provide visually rich and predictable contexts, allowing students to practice naming objects, repeating target words, and responding to short prompts.

The intervention was organized into structured sessions with consistent routines (greeting, brief review with pictograms, IVR activity, and closing). Consistency and predictability were prioritized to support attention and reduce cognitive overload. Throughout the intervention, observation sheets were used to record students' motivation, participation, confidence, attention, and interaction.

Tabla 2. Example structure of IVR intervention sessions

Session	Topic	Target vocabulary	Speaking task	Visual support	Evidence collected
1	Classroom objects	book, pencil, chair	Naming + repetition	Pictograms	Observation sheet
2	Colors & shapes	red, blue, circle	Say + point + repeat	Pictograms	Observation sheet
3	Animals	cat, dog, bird	Identify + short phrase	Pictograms	Observation sheet

Source: IVR lesson planning and observation records.

Elaborated by: The researcher

Observed patterns during the intervention

Structured observations conducted throughout the intervention phase revealed several recurrent behavioral and communicative patterns. During the initial sessions, students required external guidance to navigate the Immersive Virtual Reality (IVR) environment and to manage interactional conventions such as turn-taking. However, as instructional routines became predictable, students progressively demonstrated increased independence and task familiarity. The development of students with Autism Spectrum Disorder Level 1 (ASD Level 1) has been found to follow a pattern that reflects the positive impact of stable routines and a structured interaction framework on reducing uncertainty and promoting participation (Association, 2013).

Motivation appears to strongly correlate with task design characteristics- that is, students demonstrate greater engagement in activities that utilize a well-defined visual

prompt and require short, concrete oral responses (e.g., naming a familiar object). This suggests that learners with ASD may be able to communicate more effectively through the use of visually supported, cognitively manageable tasks because it reduces processing demands while increasing attention (Alzrayer, 2020).

In addition, students were more willing to try to produce words verbally when they received feedback that was immediate, positive, and not threatening. It seems that using positive reinforcement strategies (e.g., visual cues and teacher praise) can lessen hesitation and encourage attempts to produce verbal words. Recent studies of the relationship between affective variables and language learning suggest that creating non-threatening instructional environments and using positive feedback can have a major impact on learners' willingness to communicate and their level of participation in verbal communication (Dewaele, 2021).

Pictograms proved helpful as a means of mediation during the intervention. The pictograms helped students understand how to follow the directions given to them by reducing the number of times verbal directions were repeated and increasing students' confidence when completing speaking tasks. This relates to the principles of multimodal instruction and the framework of inclusive education that indicate that visual scaffolding is effective for learners who have diverse means of communicating (CAST, 2018; Westby & Watson, 2021).

4.1.3 Students' English speaking level once Immersive Virtual Reality has been implemented

The post-test was administered to assess students' English speaking performance after the IVR intervention. The same rubric-based criteria used in the pre-test were applied to ensure comparability: pronunciation, vocabulary use, and oral expression. Pictograms were again used as visual supports to facilitate instruction comprehension and reduce ambiguity.

Tabla 3. Scores from post-test (Rubric-based speaking criteria)

Student	Pronunciation (5/5)	Vocabulary (5/5)	Oral Expression (5/5)	Total score (15/15)
Student 1	3	4	3	10
Student 2	4	4	3	11
Student 3	3	3	3	9
Student 4	4	4	4	12

Source: Post-test applied to Grade 1 ASD Seventh Grade students at the American High School Educational Unit.

Elaborated by: The researcher

Post-test results revealed notable progress in all rubric criteria. In CEFR terms, students moved from an initial A0 performance toward an emerging A1 profile, demonstrating greater ability to recognize and produce basic words and short responses in structured contexts.

Tabla 4 Comparison of pre-test and post-test total scores

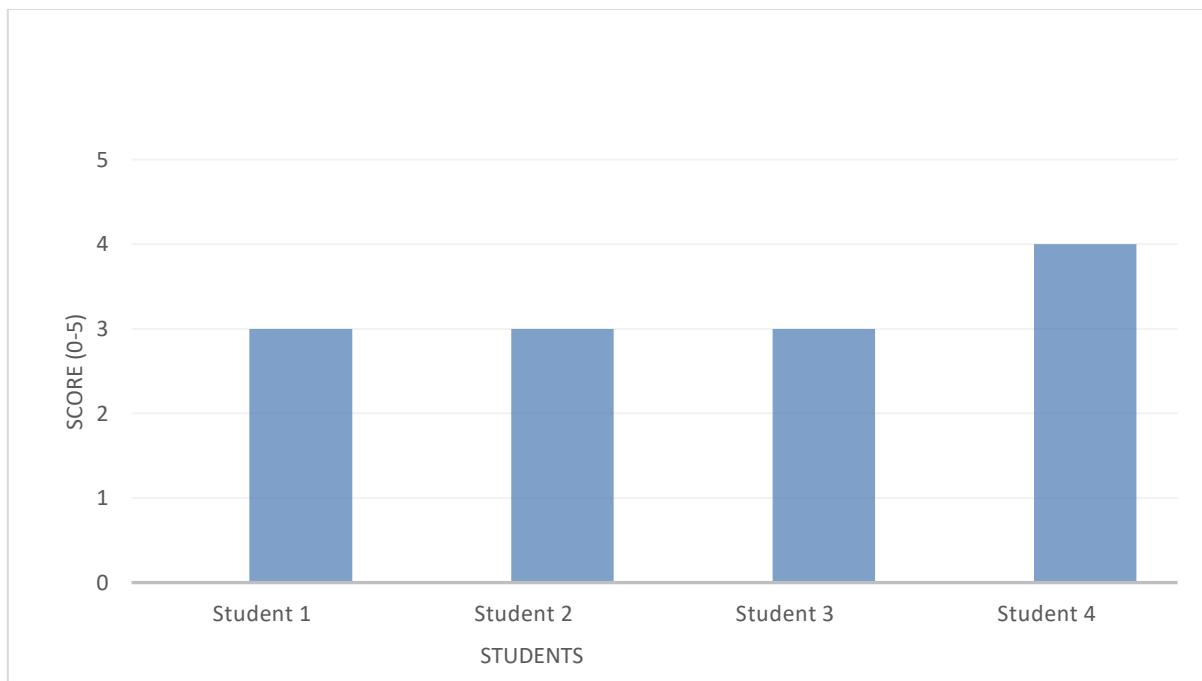
Student	Pre-test total (15)	Post-test total (15)	Gain
Student 1	3	10	7
Student 2	3	11	8
Student 3	3	9	6
Student 4	5	12	7

Source: Researcher’s comparison of pre-test and post-test rubric results.

Elaborated by: The researcher

The following figure presents a detailed view of students’ scores in the pronunciation criterion during the post-test.

Figure 4. Post Test Score Pronunciation



Source: Bar graph representing the scores obtained in the post-test rubric.

Elaborated by: The researcher

Analysis

Pronunciation scores increased for all students, indicating clearer articulation and more accurate repetition of target words. The structured IVR practice likely supported repeated exposure to the same items and reduced performance pressure.

Interpretation

Improvements suggest that immersive repetition and immediate feedback can support pronunciation practice. When learners can rehearse words within a consistent scenario, they may consolidate sound patterns more effectively.

Pedagogical Strategies Supporting the Observed Gains

The improvements reflected in Table 4 can be directly associated with the structured design of the IVR-based intervention. Throughout the implementation phase, sessions were organized following a consistent routine: (1) guided introduction of target vocabulary using pictograms, (2) immersive practice within the virtual scenario, (3) repeated oral production through controlled prompts, and (4) immediate corrective and supportive feedback.

Immersive Virtual Reality was created to enable multisensory input, a combination of visual immersion and auditory modeling. Participants were provided with multiple exposures (repeated access) to the same words within an interactive (contextualised) virtual learning environment (i.e., classroom objects, colours & animals). This provided a context in which to receive reinforcement for their responses via repetition, but without the constraints of social anxiety often associated with face-to-face responses to speaking tasks.

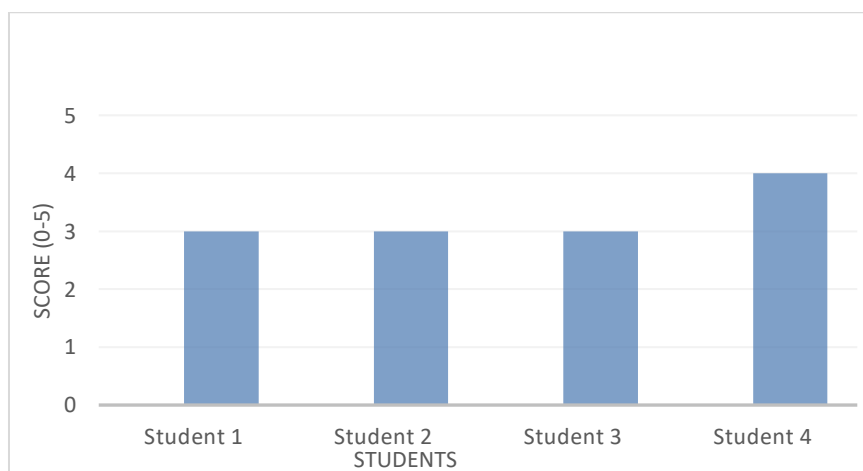
The focus of the instructional dynamic was on providing brief, structured oral responses rather than spontaneous extended speech. The tasks included naming objects, repeating words that had been modelled, producing 2-3 word combinations and responding to guided questions within a structured and predictable context. This structure allowed for reduced cognitive overload and facilitated progressive stabilization of pronunciation.

Each session included the provision of immediate positive reinforcement and corrective feedback. The combination of this predictable sequence of activities, combined with visual supports and total engagement, led to increased self-confidence and decreased hesitation when producing orally.

These pedagogical elements collectively explain the measurable gains observed in pronunciation clarity, vocabulary production, and overall oral expression between the pre-test and post-test assessments.

The following figure presents a detailed view of students' scores in the vocabulary criterion during the post-test

Figure 5. Post-Test Scores, Vocabulary Criterion



Source: Bar graph displaying the points earned on post-test rubric.

Elaboration: Researcher

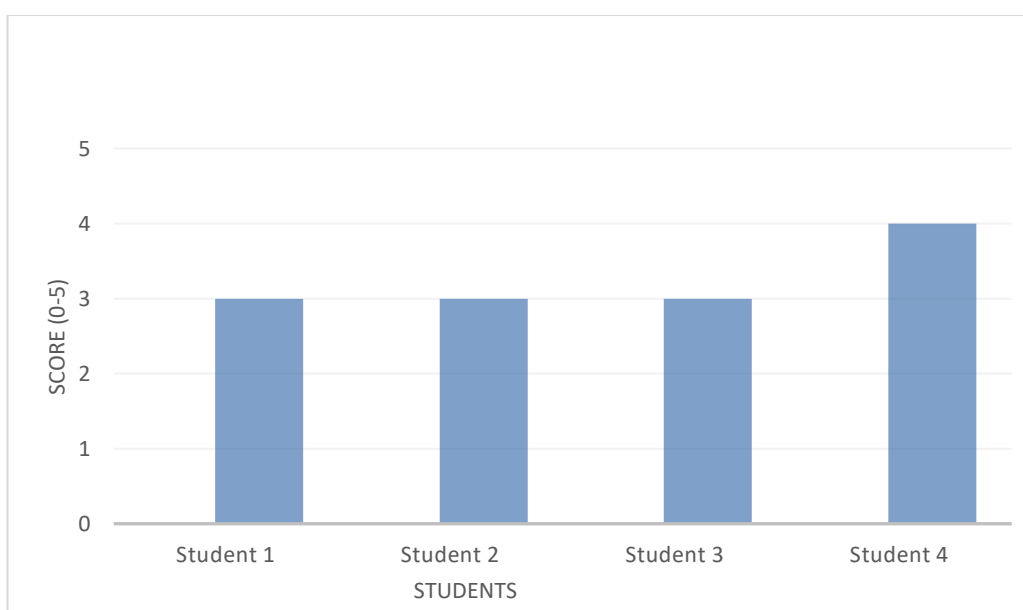
Analysis

There was a greater increase in vocabulary than expected. Students were better able to identify and demonstrate many new basic words that were involved with each of the IVR scenarios (i.e., objects, colours, animals, places). The results suggest that learning in context will enhance both the retention and retrieval of these newly acquired vocabulary words.

Interpretation

Vocabulary acquisition can be enhanced when vocabulary is paired with visual or contextual clues and is associated with an action. Using IVR, learners will be able to initially associate vocabulary words with visual context through video repetitions of the vocabulary used as scenery of the IVR and will have the opportunity to revisit these visuals.

Figure 6. Post-test scores, oral expression criterion



Source: Bar graph representing the scores obtained in the post-test rubric.

Elaborated by: The researcher

Analysis

Oral expression improved gradually. Students were more willing to respond to prompts and combine words into short phrases (e.g., color + noun). Despite improvement, this criterion remained comparatively lower than vocabulary, reflecting the complexity of spontaneous oral production.

Interpretation

Oral expression often develops more slowly because it requires integrating vocabulary, pronunciation, and interactional skills. Continued exposure and additional practice time may further strengthen this area.

CHAPTER V

5. CONCLUSIONS AND RECOMMENDATIONS

5.1. Conclusions

Based on the results obtained in this study, several conclusions can be established in direct relation to the research objectives.

In relation to the first objective, which aimed to evaluate students' initial level of English oral expression, the diagnostic pre-test results revealed that participants presented a markedly limited baseline performance. Students demonstrated restricted vocabulary production, reduced pronunciation clarity, and minimal oral responses. These findings confirmed the existence of significant difficulties in English speaking performance, justifying the need for a pedagogical intervention adapted to their communicative characteristics.

Regarding the second objective, which focused on the implementation of Immersive Virtual Reality (IVR)-based instructional activities, the study demonstrated that IVR can be effectively integrated into inclusive educational contexts when activities are pedagogically structured and aligned with learners' needs. The incorporation of predictable routines, visual supports, and controlled interactional scenarios facilitated comprehension, engagement, and participation. These instructional conditions proved particularly beneficial for students diagnosed with Autism Spectrum Disorder Level 1, as they supported attention regulation and reduced communicative anxiety.

Concerning the third objective, which sought to assess students' performance following the intervention, the comparison between pre-test and post-test results evidenced measurable improvements in pronunciation and vocabulary use, along with gradual progress in oral expression. Students exhibited greater intelligibility, increased lexical accessibility, and improved willingness to participate in speaking tasks. Although oral expression development occurred at a slower pace, the gains observed during the intervention period represent meaningful advancement consistent with the multidimensional nature of speaking skills.

Overall, the findings of this research support the conclusion that Immersive Virtual Reality constitutes a pedagogically valuable strategy for promoting English oral expression within neurodiverse educational settings. The structured, multisensory, and low-pressure characteristics of IVR environments appear to facilitate speaking practice, enhance learner engagement, and create supportive conditions for oral communication development.

5.2.- Recommendations

Considering that the findings revealed significant improvements in pronunciation and vocabulary use, it is recommended that teachers working with students diagnosed with Autism Spectrum Disorder Level 1 (ASD Level 1) prioritize structured speaking activities that reinforce lexical accessibility and pronunciation practice. Immersive Virtual Reality (IVR) may be incorporated as a complementary instructional resource, as its multisensory and visually supported environments appear to facilitate oral production under controlled conditions.

Given that oral expression development was observed to be more gradual, educators are encouraged to implement sustained and progressive speaking interventions. Extended exposure to communicative tasks, repetition-based activities, and predictable instructional routines may contribute to more stable development of expressive language abilities.

Given the positive effects of visual support and pictogram use on comprehension and engagement, implementing visual scaffolding strategies in English language instruction would be beneficial. Visual cues may help decrease cognitive load, establish expectations, and increase confidence for learners who thrive with multimodal input.

The study also found that IVR-based activities produced greater outcomes when embedded within a predictable, structured environment. Therefore, teachers should ensure that sessions are designed consistently to build upon instructional sequence. Stable routines and clearly stated tasks may relieve anxiety and assist in motivating learners with autism to engage.

Higher education institutions should encourage professional development opportunities related to inclusive methodologies and immersive technologies. Providing teachers access to professional development will support implementation of IVR-based instruction more effectively while maintaining pedagogical coherence.

Finally, future research should investigate the impact of IVR-based instructional strategies over an extended period across a wide variety of student populations and educational environments. Studies conducted in various educational environments including large public schools and small rural schools will provide further understanding of the scalability and effective use of immersive technologies for inclusive education

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6. ANNEXES

6.1 Annex 1: Pre-test for the fulfillment of specific objective 1.



UNIVERSIDAD NACIONAL DE CHIMBORAZO
Facultad de Ciencias de la Educación Humanas y Tecnologías
Pedagogía de los Idiomas Nacionales y Extranjeros



Immersive Virtual Reality as a strategy to improve Speaking skill in children with Autism Spectrum Disorders Grade 1

Date: _____

Student Code: _____

Objective 1 : To Diagnose the level of English proficiency and satisfaction with Immersive Virtual Reality in children with Autism Spectrum Disorder Grade 1

Instructions

The student will complete short oral tasks supported by pictograms and visual prompts. The evaluator will observe and assess the student's oral responses using the speaking rubric. No time pressure will be applied, and support will be provided when necessary.

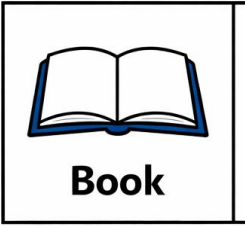
Evaluated Topics

- Classroom objects
- Colors & shapes
- Animals

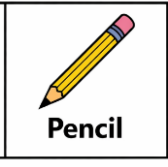
SECTION 1: PRONUNCIATION

Task 1: The student repeats the word after the teacher, supported by pictograms.


Book

Pictogram	Student Response	Score (1–5)
 Book	_____	____ / 5

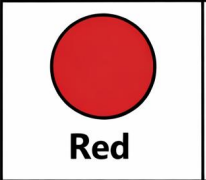
Pencil

Pictogram	Student Response	Score (1–5)
 Pencil	_____	____ / 5

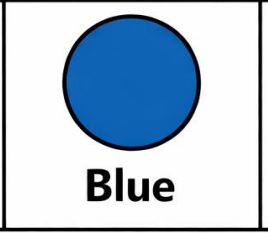
Chair

Pictogram	Student Response	Score (1–5)
 Chair	_____	____ / 5

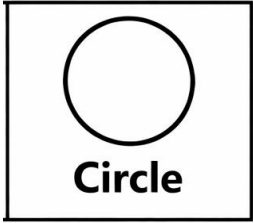
Red

Pictogram	Student Response	Score (1–5)
 Red	_____	____ / 5

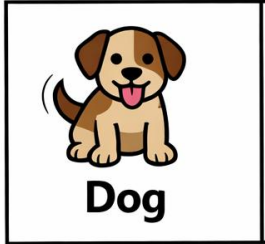
Blue

Pictogram	Student Response	Score (1–5)
	<hr/>	<hr/> / 5

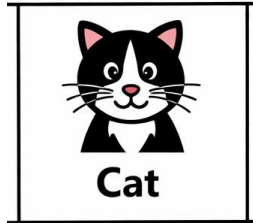
Circle

Pictogram	Student Response	Score (1–5)
	<hr/>	<hr/> / 5

Dog

Pictogram	Student Response	Score (1–5)
	<hr/>	<hr/> / 5

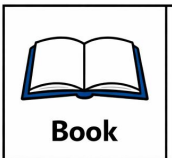
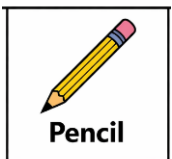

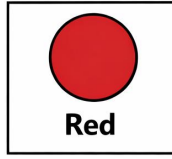
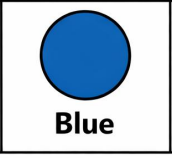
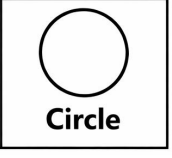
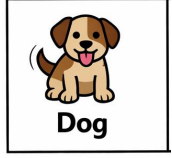
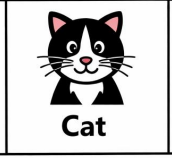
Cat

Pictogram	Student Response	Score (1–5)
	<hr/>	<hr/> / 5

Section Score (Pronunciation): _____ / 5

SECTION 2: VOCABULARY USE









Task2 : The student names the word represented in the pictogram.

Pictogram	Question	Student Answer	Score (1-5)
 Book	What is this?		
 Pencil	What is this?		
 Chair	What is this?		
 Red	What color is it?		
 Blue	What color is it?		
 Circle	What shape is it?		
 Dog	What animal is it?		
 Cat	What animal is it?		

Section Score (Vocabulary Use) : _____ / 5

SECTION 3: ORAL EXPRESSION

Task: The student responds using one word or a short phrase.

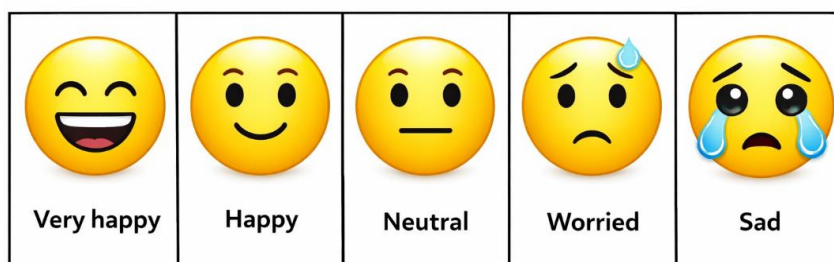
Visual Support	Prompt	Student Response	Score (1–5)
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid black; padding: 5px; text-align: center;">  Red </div> <div style="font-size: 20px;">+</div> <div style="border: 1px solid black; padding: 5px; text-align: center;">  Book </div> </div>	What color is the object?		
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid black; padding: 5px; text-align: center;">  Blue </div> <div style="font-size: 20px;">+</div> <div style="border: 1px solid black; padding: 5px; text-align: center;">  Chair </div> </div>	What color is the chair?		
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid black; padding: 5px; text-align: center;">  Blue </div> <div style="font-size: 20px;">+</div> <div style="border: 1px solid black; padding: 5px; text-align: center;">  Circle </div> </div>	What color is the shape is it?		
<div style="border: 1px solid black; padding: 5px; text-align: center;">  Dog </div>	What animal is it?		
<div style="border: 1px solid black; padding: 5px; text-align: center;">  Cat </div>	What animal is it?		

Section Score (Oral Expression): _____ / 5

TOTAL SCORE: _____ / 15

HOW DID YOU FEEL DURING THE ACTIVITY?

Circle the emoji that shows how you felt:



Researcher's Note: This activity supports emotional awareness and basic metacognitive reflection in children with Autism Spectrum Disorder

ANNEX 2: OBSERVATION GUIDE – IMPLEMENTATION OF IMMERSIVE VIRTUAL REALITY (IVR)



UNIVERSIDAD NACIONAL DE CHIMBORAZO
Facultad de Ciencias de la Educación Humanas y Tecnologías
Pedagogía de los Idiomas Nacionales y Extranjeros



Immersive Virtual Reality as a strategy to improve Speaking skill in children with Autism Spectrum Disorders Level 1

Objective 1: To Diagnose the level of English oral expression and student satisfaction with the use of Immersive Virtual Reality (IVR) in children diagnosed with Autism Spectrum Disorder Grade 1

Date: _____

Student Code: _____

Session Number: _____

This observation guide was designed to assess the implementation process of Immersive Virtual Reality (IVR) as a teaching strategy for children with Autism Spectrum Disorder Level 1 in seventh-grade students of Basic Education at Unidad Educativa American High School. The instrument focuses on observable behavioral, emotional, and interactional responses during the IVR sessions. A five-point Likert scale is used to facilitate systematic observation and data analysis.

1. Interaction with the Virtual Environment				
Indicator	INDEPENDENT	WHIT SUPPORT	MINIMAL RESPONSE	NOT OBSERVED
Recognizes virtual objects				
Responds to visual stimuli				
Follows instructions within the IVR environment				
Interacts appropriately with virtual elements				

2. Attention and Engagement				
Indicator	INDEPENDENT	WHIT SUPPORT	MINIMAL RESPONSE	NOT OBSERVED
Maintains attention during IVR activities				
Shows interest in the virtual environment				
Completes assigned tasks				
Remains engaged throughout the session				
3. Emotional Response				
INDICATOR	INDEPENDENT	WHIT SUPPORT	MINIMAL RESPONSE	NOT OBSERVED
Appears calm and comfortable during IVR use				
Shows signs of enjoyment				
Manages frustration appropriately				
Accepts support when needed				
4. Communication Behavior				
INDICATOR	INDEPENDENT	WHIT SUPPORT	MINIMAL RESPONSE	NOT OBSERVED
Attempts oral responses				

Uses words or sounds to communicate				
Responds to verbal prompts				
Initiates communication during the activity				
5. Adaptation to IVR				
Indicator				
Accepts IVR equipment				
Navigates the virtual environment				
Tolerates sensory input				
Adapts progressively to IVR sessions				

1.6 General Observations

Elaborated by: The Researcher

Annex 3: Post -Test for the fulfillment of specific objective 3.



UNIVERSIDAD NACIONAL DE CHIMBORAZO
Facultad de Ciencias de la Educación Humanas y Tecnologías
Pedagogía de los Idiomas Nacionales y Extranjeros



Immersive Virtual Reality as a strategy to improve Speaking skill in children with Autism Spectrum Disorders Level 1

Date: _____

Student Code: _____

Objective 3 : To assess the performance of Immersive Virtual Reality English teaching activities adapted to the individual needs of children with ASD.

Instructions

The student will complete short oral tasks supported by pictograms and visual prompts. The evaluator will observe and assess the student’s oral responses using the speaking rubric. No time pressure will be applied, and support will be provided when necessary.

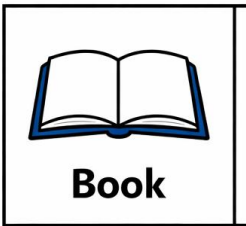
Evaluated Topics

- Classroom objects
- Colors & shapes
- Animals

SECTION 1: PRONUNCIATION

Task 1: The student repeats the word after the teacher, supported by pictograms.

Book


Pictogram	Student Response	Score (1–5)
 Book	_____	____ / 5

Pencil

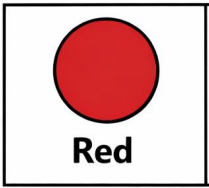
Pictogram	Student Response	Score (1–5)

 Pencil	<hr/>	<hr/> / 5
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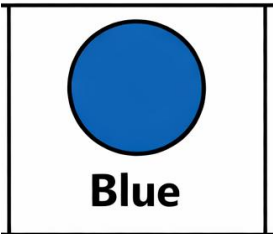
Chair

Pictogram	Student Response	Score (1–5)
 Chair	<hr/>	<hr/> / 5

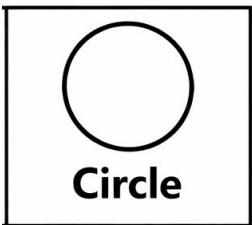
Red

Pictogram	Student Response	Score (1–5)
 Red	<hr/>	<hr/> / 5

Blue

Pictogram	Student Response	Score (1–5)
 Blue	<hr/>	<hr/> / 5

Circle


Pictogram	Student Response	Score (1–5)
 Circle	<hr/>	<hr/> / 5

Dog

Pictogram	Student Response	Score (1–5)
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 Dog	<hr/>	<hr/> / 5
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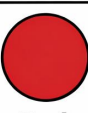
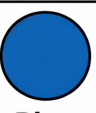
Cat

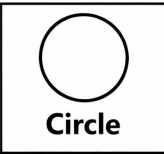
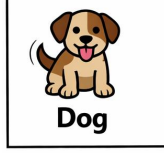
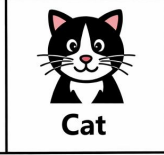
Pictogram	Student Response	Score (1–5)
 Cat	<hr/>	<hr/> / 5

Section Score (Pronunciation): _____ / 5

SECTION 2: VOCABULARY USE

Task2 : The student names the word represented in the pictogram.

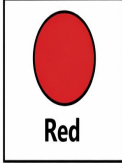
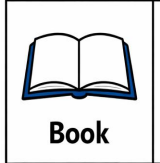
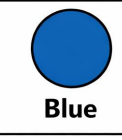
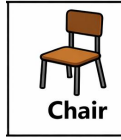
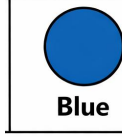
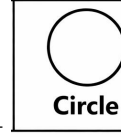

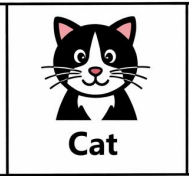
Pictogram	Question	Student Answer	Score (1–5)
 Book	What is this?		
 Pencil	What is this?		
 Chair	What is this?		
 Red	What color is it?		
 Blue	What color is it?		

 Circle	What shape is it?		
 Dog	What animal is it?		
 Cat	What animal is it?		

Section Score (Vocabulary Use) : _____ / 5

SECTION 3: ORAL EXPRESSION

Task: The student responds using one word or a short phrase.






Visual Support	Prompt	Student Response	Score (1–5)
 Red	 Book	What color is the object?	
 Blue	 Chair	What color is the chair?	
 Blue	 Circle	What color is the shape is it?	
 Dog	What animal is it?		
 Cat	What animal is it?		

Section Score (Oral Expression): _____ / 5

TOTAL SCORE: _____ / 15

HOW DID YOU FEEL DURING THE ACTIVITY?

Circle the emoji that shows how you felt:

				
Very happy	Happy	Neutral	Worried	Sad

Researcher's Note: This activity supports emotional awareness and basic metacognitive reflection in children with Autism Spectrum Disorder.



Annex 4: Speaking Skills Rubric ASD Level 1
UNIVERSIDAD NACIONAL DE CHIMBORAZO
Facultad de Ciencias de la Educación Humanas y Tecnologías
Pedagogía de los Idiomas Nacionales y Extranjeros



Immersive Virtual Reality as a strategy to improve Speaking skill in children with Autism Spectrum Disorders Grade 1

Objective 3 : To assess the performance of Immersive Virtual Reality English teaching activities adapted to the individual needs of children with ASD.

Speaking Skills Rubric ASD Level 1

Based on psychological assessment models such as ATEC, CARS, and SRS, this rubric was pedagogically adapted to evaluate functional English-speaking skills in children with Autism Spectrum Disorder Level 1.

Criteria	5	4	3	2	1
<i>Pronunciation Clarity</i>	Clear and intelligible	Minor errors	Generally understandable	Limited intelligibility	Unclear
<i>Vocabulary Production</i>	Wide range	Several target words	Some isolated words	Rare vocabulary use	No functional vocabulary
<i>Oral Expression</i>	Oral Expression	Oral Expression	Oral Expression	Oral Expression	Oral Expression

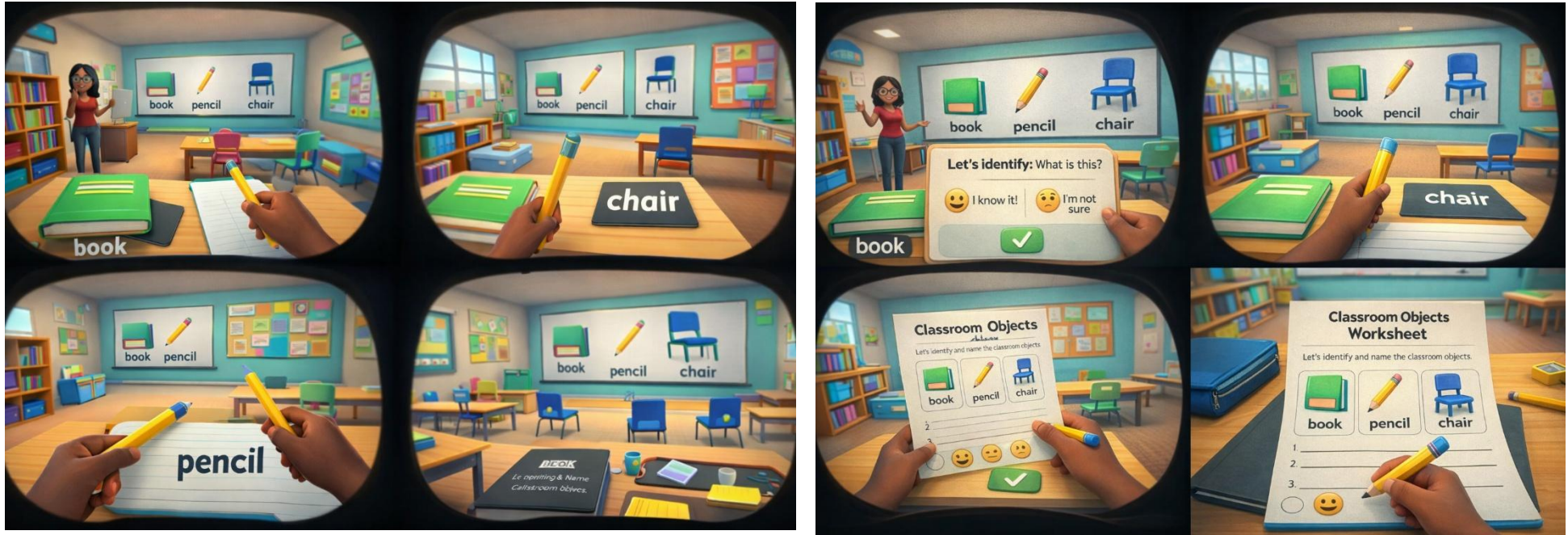
ANNEX 5 LESSON PLAN

LESSON PLAN 1

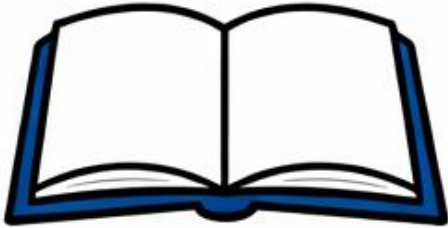
1. INFORMATIONAL DATA										
Elaborated by:	Gloria Monar	Area:	English as a foreign language	Subject:	English	DATE				Week
• Degree/Course	Seventh	Parallel(S):	A			From:	02/06/2025	To:	06/06/2025	1
2. DISCIPLINARY LEARNING										
DISCIPLINARY OBJECTIVE	O.EFL 4.1.5 – Identify information from visual and oral texts related to familiar topics. O.EFL 4.2.3 – Produce short oral responses using basic vocabulary.									
TRASVERSE AXES:	Exploring Classroom Objects Through Immersive Virtual Reality									
EVALUATION CRITERION EVALUATION INDICATORS OBJECTIVE	SKILL WITH PERFORMANCE CRITERIA	ESSENTIAL CONCEPTS	CONTENTS (Conceptual, Procedural, Attitudinal)	ACTIVE METHODOLOGICAL STRATEGIES FOR TEACHING AND LEARNING	EVALUATION	WEEK				
I.EFL.4.10.1: Learners can identify and orally name familiar classroom objects in English through guided interaction, repetition, and visual support within an immersive virtual environment.	Oral Communication – Speaking Students recognize and orally produce basic vocabulary related to classroom objects, demonstrating attention, participation, and emotional	<ul style="list-style-type: none"> Classroom objects vocabulary (book, pencil, chair). Basic oral naming and repetition. Visual-symbolic association between objects and words. 	Conceptual Content <ul style="list-style-type: none"> Identification of common classroom objects in English. Relationship between visual stimuli and oral language production. Procedural Content	<ul style="list-style-type: none"> Exploration of a virtual classroom using Immersive Virtual Reality (IVR). Use of large pictograms as visual support. 	<ul style="list-style-type: none"> Formative Assessment: Continuous observation of students’ oral responses during IVR activities. 	1				

	<p>confidence during guided IVR activities.</p>	<ul style="list-style-type: none"> • Oral expressions are supported by immersive environments. 	<ul style="list-style-type: none"> • Observation of objects within a virtual classroom environment. • Oral repetition and naming of classroom objects using IVR and pictograms. • Guided speaking practice with teacher modeling. <p>Attitudinal Content</p> <ul style="list-style-type: none"> • Willingness to participate in oral activities. • Emotional regulation and confidence during speaking tasks. • Positive interaction with learning environments and materials. 	<ul style="list-style-type: none"> • Short, clear, and repetitive instructions. • Teacher modeling and guided oral repetition. • Emotional self-regulation activities using emoji-based reflection. 	<ul style="list-style-type: none"> • Instrument: Observation guide and speaking rubric adapted for students with Autism Spectrum Disorder Grade 1. • Evidence: Oral responses, participation level, and emotional engagement. 	
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IVR ENVIRONMENTS (SCHOOL OBJECTS)



VOCABULARY PICTOGRAMS – OBJECTS SCHOOL



Book



Pencil



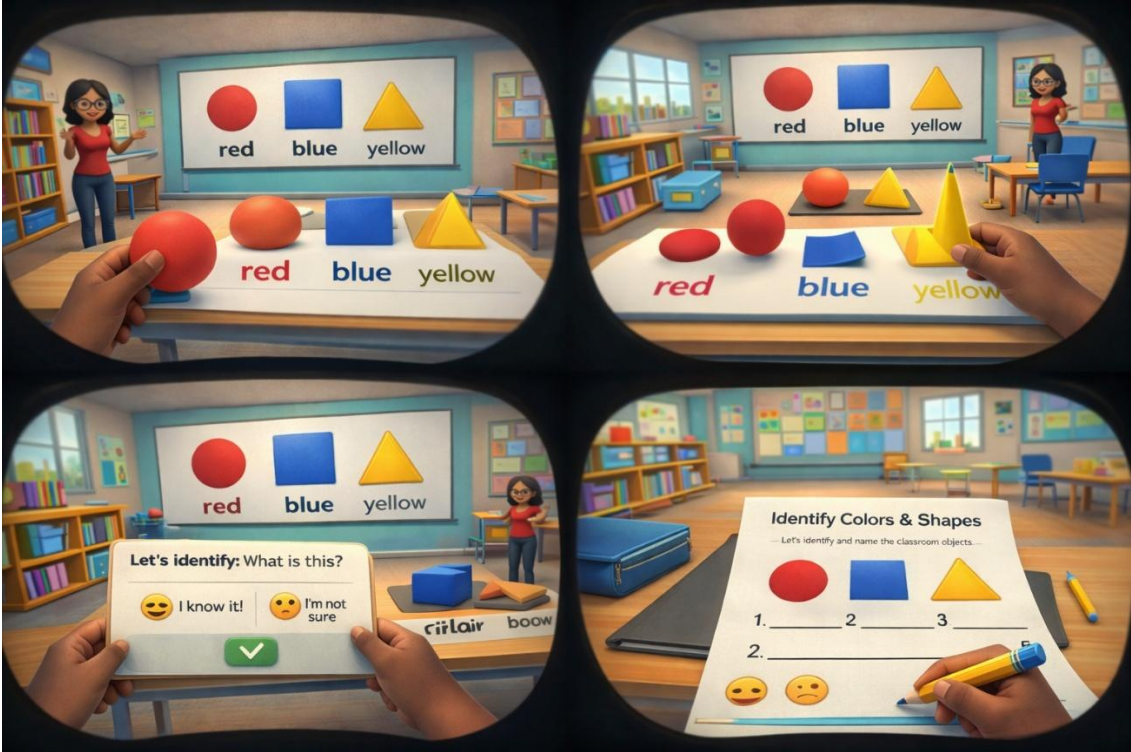
Chair

LESSON PLAN 2

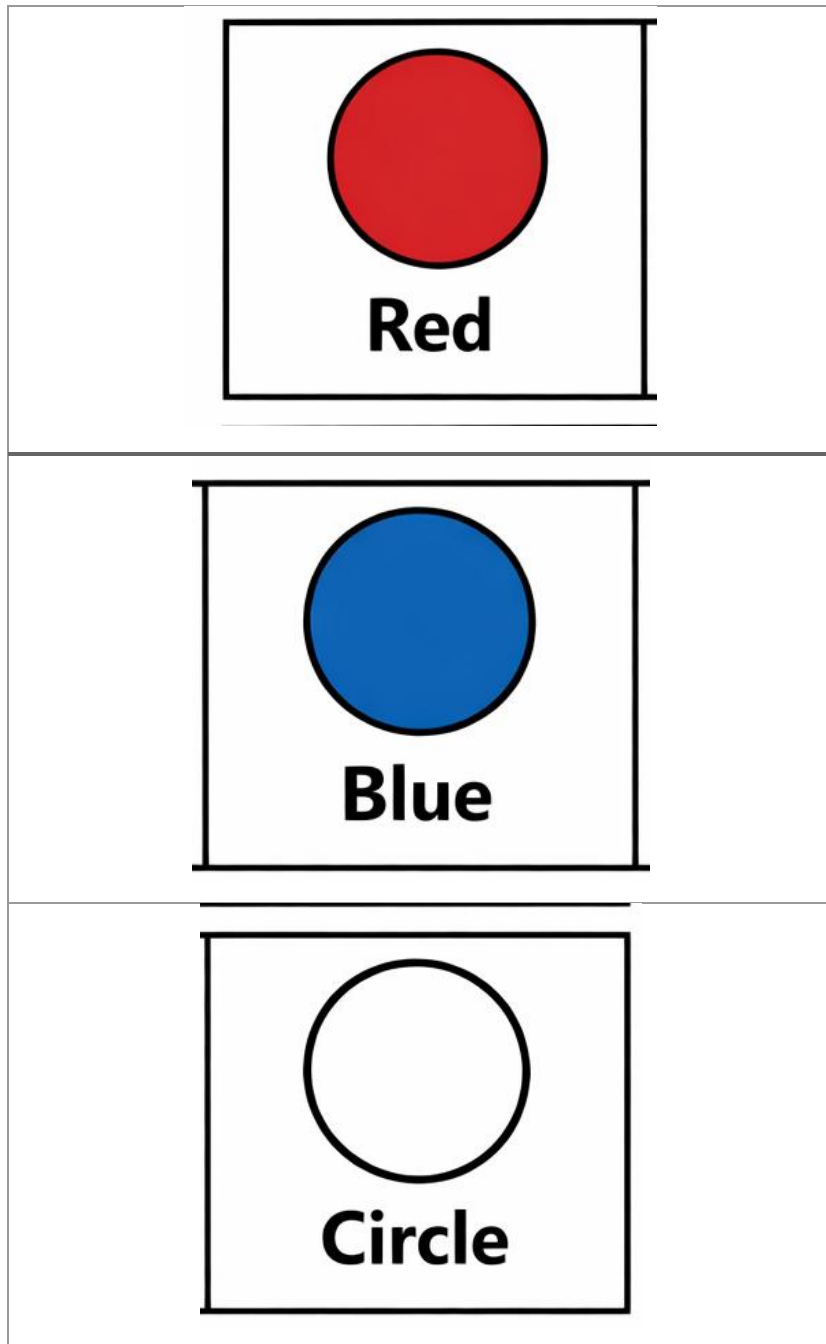
3. INFORMATIONAL DATA										
Elaborated by:	Gloria Monar	Area:	English as a foreign language	Subject:	English	DATE			Week	
Degree/Course	Seventh	Parallel(S):	A			From:	09/06/2025	To:	13/06/2025	2
4. DISCIPLINARY LEARNING										
DISCIPLINARY OBJECTIVE	O.EFL 4.1.5 – Identify information from visual and oral texts related to familiar topics. O.EFL 4.2.3 – Produce short oral responses using basic vocabulary.									
TRASVERSE AXES:	Exploring Colors and Shapes Through Immersive Virtual Reality									
EVALUATION CRITERION EVALUATION INDICATORS OBJECTIVE	SKILL WITH PERFORMANCE CRITERIA	ESSENTIAL CONCEPTS	CONTENTS (Conceptual, Procedural, Attitudinal)	ACTIVE METHODOLOGICAL STRATEGIES FOR TEACHING AND LEARNING	EVALUATION	WEK				
CE.EFL.4.10 – Oral Communication (Interaction – Interpersonal): Participate effectively in familiar and predictable oral exchanges by identifying and naming basic colors and shapes using simple spoken expressions, supported by visual and immersive strategies. I.EFL.4.10.1: Learners can identify and orally name basic colors and shapes in English through guided	Oral Communication – Speaking Students recognize and orally produce basic vocabulary related to colors and shapes, demonstrating attention, participation, and emotional confidence during guided IVR activities.	<ul style="list-style-type: none"> • Basic colors vocabulary (red, blue). • Basic shapes vocabulary (circle). • Visual–verbal association. • Oral repetition supported by 	Conceptual Content <ul style="list-style-type: none"> • Identification of basic colors and shapes in English. • Association between visual stimuli and oral language production. Procedural Content <ul style="list-style-type: none"> • Observation of colors and shapes within a virtual environment. 	<ul style="list-style-type: none"> • Exploration of colors and shapes through Immersive Virtual Reality (IVR). • Use of large, high-contrast pictograms. • Short, clear, and repetitive instructions. 	<ul style="list-style-type: none"> • Formative Assessment: Continuous observation of students’ oral responses during IVR activities. • Instrument: Observation guide and speaking 	2				

<p>interaction, repetition, and visual support within an immersive virtual environment.</p>		<p>immersive environments.</p>	<ul style="list-style-type: none"> • Oral repetition and identification using IVR and pictograms. • Guided speaking practice through “say–point–repeat” strategies. <p>Attitudinal Content</p> <ul style="list-style-type: none"> • Willingness to participate in oral activities. • Emotional regulation and confidence during speaking tasks. • Positive interaction with immersive learning environments. 	<ul style="list-style-type: none"> • Teacher modeling and guided oral repetition. • Emotional self-regulation through emoji-based reflection. 	<p>rubric adapted for students with Autism Spectrum Disorder Grade 1.</p> <ul style="list-style-type: none"> • Evidence: Oral identification of colors and shapes, level of participation, and emotional engagement. 	
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IVR ENVIRONMENTS (COLORS AND SHAPES)



COLORS AND SHAPES PICTOGRAMS



LESSON PLAN 3

5. INFORMATIONAL DATA										
Elaborated by:	Gloria Monar	Area:	English as a foreign language	Subject:	English	DATE				Week
Degree/Course	Seventh	Parallel(S):	A			From:	16/06/2025	To:	16/06/2025	3
6. DISCIPLINARY LEARNING										
DISCIPLINARY OBJECTIVE	O.EFL 4.1.5 – Identify information from visual and oral texts related to familiar topics. O.EFL 4.2.3 – Produce short oral responses using basic vocabulary.									
TRASVERSE AXES:	Exploring Animals Through Immersive Virtual Reality									
EVALUATION CRITERION EVALUATION INDICATORS OBJECTIVE	SKILL WITH PERFORMANCE CRITERIA	ESSENTIAL CONCEPTS	CONTENTS (Conceptual, Procedural, Attitudinal)	ACTIVE METHODOLOGICAL STRATEGIES FOR TEACHING AND LEARNING	EVALUATION	WEK				
CE.EFL.4.10 – Oral Communication (Interaction – Interpersonal): Participate effectively in familiar and predictable oral exchanges by identifying and naming common animals using simple spoken expressions, supported by visual and immersive strategies. I.EFL.4.10.1: Learners can identify and orally name common animals in English through guided interaction,	Oral Communication – Speaking Students recognize and orally produce basic vocabulary related to animals, demonstrating attention, participation, and emotional confidence during guided IVR activities.	<ul style="list-style-type: none"> Animals vocabulary (cat, dog, bird). Visual–verbal association. Oral identification and repetition. 	Conceptual Content <ul style="list-style-type: none"> Identification of basic colors and shapes in English. Association between visual stimuli and oral language production. Procedural Content <ul style="list-style-type: none"> Observation of colors and shapes within a virtual environment. 	Conceptual Content <ul style="list-style-type: none"> Identification of common animals in English. Association between animal images and oral language production. Procedural Content	<ul style="list-style-type: none"> Formative Assessment: Continuous observation of students’ oral responses during IVR activities. Instrument: Observation guide and speaking 	3				

<p>repetition, and visual support within an immersive virtual environment.</p>		<ul style="list-style-type: none"> • Short oral responses supported by immersive environments. 	<ul style="list-style-type: none"> • Oral repetition and identification using IVR and pictograms. • Guided speaking practice through “say–point–repeat” strategies. <p>Attitudinal Content</p> <ul style="list-style-type: none"> • Willingness to participate in oral activities. • Emotional regulation and confidence during speaking tasks. • Positive interaction with immersive learning environments. 	<ul style="list-style-type: none"> • Observation of animals within a virtual environment. • Oral repetition and identification using IVR and pictograms. • Production of short oral responses (one- or two-word phrases). <p>Attitudinal Content</p> <ul style="list-style-type: none"> • Willingness to participate in oral speaking activities. • Emotional regulation and confidence during IVR sessions. • Positive interaction with immersive and visual learning environments. 	<p>rubric adapted for students with Autism Spectrum Disorder Grade 1.</p> <ul style="list-style-type: none"> • Evidence: Oral identification of animals, level of participation, and emotional engagement. 	
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IVR ENVIRONMENTS (ANIMALS)



ANIMAL PICTOGRAMS



Dog



Cat