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**A Comprehensive Inclusive Approach to Enhance Reading Skills in People with
Vulnerabilities Level A2**

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DEDICATION

I am glad to express my gratitude. First, to God in whom I believe; Our lord has helped me overcome all my mental conflicts related to autism and hopefully obtain the degree that I have always wanted.

Secondly, I thank my parents, who have supported me throughout my entire life; their encouragement gave me access to a typical education despite my disability, which allowed me to achieve a milestone. I also want to dedicate this work to my 13-year-old Yorkie, Daysi, who stayed by my side while I worked long hours on this thesis.

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I hope to offer a higher quality of teaching to my future students through this degree, grounded in a solid theoretical background. This will help to give an excellent and professional education and distinguish it from people without formal certifications.

ABSTRACT 250 WORDS

This research proposes an educational intervention to improve the English writing skills of adolescents with autism spectrum disorder (ASD) using online resources and materials tailored to their special interests, such as Marvel comics. The proposal was designed as an adaptation of an inclusive intervention, considering how students with Autism need help overcoming attitudinal barriers due to stigmas and prejudices. Visual activities, guided tasks, and digital tools such as quizzes and periodic Google Meet classes were used to build students' confidence and motivation. The project was developed in an online setting, which reduced implementation costs and increased accessibility. The methodology was mixed, combining quantitative and qualitative data from multiple instruments, the student sample comprised high school teenagers recruited with the support of non-governmental organizations (NGOs).

The proposal included a continuous evaluation during classes to track English Language Learners (ELLs) performance inclusively. An objective test was taken before and after the intervention to prove students' improvement, and a subjective survey was carried out to measure students' satisfaction with the materials. In addition, the teacher evaluated students' engagement with the materials.

The results showed significant improvements in reading comprehension and adapted vocabulary, thanks to strategies focused on clarity and meaningful content. Consequently, it was observed that when students feel confident with the materials, they participate more and express themselves with greater confidence. This experience of adapting educational resources to the fundamental interests of students with ASD demonstrates that inclusive teaching is possible, inexpensive, and necessary.

Keywords: Writing Skills, Inclusive Teaching, Online Resources, Autism Spectrum Disorder, Special Interests, Adapted Vocabulary.

RESUMEN:

Esta investigación propone una intervención educativa para mejorar las habilidades de escritura en inglés de adolescentes con trastorno del espectro autista (TEA) mediante recursos y materiales en línea adaptados a sus intereses, como los cómics de Marvel. La propuesta fue concebida como una intervención inclusiva, considerando la necesidad de superar barreras actitudinales derivadas de los estigmas y prejuicios. Se utilizaron actividades visuales, tareas guiadas y herramientas digitales como cuestionarios y clases periódicas de Google Meet para fomentar la confianza y la confianza de estudiantes. El desarrollo en línea, redujo los costos de implementación y aumentó la accesibilidad. La metodología aplicada fue mixta, combinando datos cuantitativos y cualitativos de múltiples instrumentos. La muestra estuvo compuesta por adolescentes de secundaria reclutados con el apoyo de organizaciones no gubernamentales (ONG).

La propuesta incluyó una evaluación continua durante las clases para monitorear el desempeño de los estudiantes de inglés como segundo idioma (ELL). Se realizó una prueba objetiva antes y después de la intervención, y una encuesta subjetiva para medir satisfacción con los materiales. Además, el docente evaluó la interacción de los estudiantes con los materiales. Los resultados mostraron mejoras significativas en la comprensión lectora y el vocabulario adaptado, gracias a estrategias centradas en la claridad y el contenido significativo. Consecuentemente, se observó que cuando se sienten seguros con los materiales, participan más y se expresan con mayor confianza. Adaptar recursos educativos a los intereses fundamentales de los estudiantes con TEA demuestra que la enseñanza inclusiva es posible, económica y necesaria.

Palabras clave: Habilidades de escritura, enseñanza inclusiva, recursos en línea, trastorno del espectro autista, intereses especiales, vocabulario adaptado.

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INTRODUCTION

In the current world, the English language plays a key role in communication, education, and access to better job opportunities. As English continues to be taught at Ecuadorian schools as a Second Language after Spanish, it is vital to ensure that all students, including those with special educational needs, can learn in an inclusive environment. One of the most relevant challenges in inclusive education is to support students with autism spectrum disorder -ASD-, who may have difficulties with social interaction and adapting to traditional classroom methods (Alshalan, 2019). These students often require adapted strategies considering their characteristics, learning styles, and interests.

Students with ASD have neurodevelopmental challenges in social development, communication, and repetitive behaviors; they also face discrimination in other forms beyond education, including legal, economic, and institutional barriers that limit their full participation and inclusion in society. Students often face challenges in learning a second language, L2, due to insufficient inclusive practices, as diversity initiatives are not consistently implemented in class. (Ungureanu & Georgescu, 2012). Consequently, the statement of the problem to be addressed is whether students who experience a challenging learning trajectory in reading due to ASD can overcome those challenges through an intervention-based approach.

The justification for this research highlights the importance of considering the experiences and needs of all English students, including those with disabilities, to create more equitable and effective learning environments. Fuentes Moncayo et al. (2024). Students with autism are stereotyped as problematic, and some teachers do not properly focus on them. The aim of the proposal is based on the recognition that many young people with autism have a high level of interest in specific topics, in this case comics, which can become a powerful tool for fostering learning. (Annex 1)

The general objective of this research is to implement a methodological and technological proposal aimed at improving reading comprehension skills in high school

students with autism spectrum disorder. This proposal uses adapted materials and technological integration as specific strategies to increase reading comprehension in students with ASD, which represents a significant challenge. (Annex 5) The specific objectives of this proposal focus on improving English language learning in adolescents with ASD with resources tailored to their needs.

Discussing shortly about the research context, in Ecuador, the situation of English Teaching is critical due to the results of Ecuador's English proficiency 2023 English Proficiency Index –EPI-, which were announced, and Ecuador was ranked 81st out of 113 countries evaluated, 18th out of 20th in Latin American evaluated countries. This indicates a very low level of English proficiency in the band. Level A1 is the lowest level found in developing countries, while Level C2 is the highest, meaning a superior English found in developed countries. Ecuador national scored 46.57, which is equivalent to an A1 level according to the Common European Framework of Reference for Languages – CEFR- It emphasizes four communicative activities: listening, speaking, writing, and reading, and promotes a task-based approach that focuses on meaningful communication EF's report also shows that English proficiency in Ecuador has declined over time, despite institutional efforts to adopt international frameworks and standards due to lack of financial public investment. This decline particularly affects young learners and those from rural or marginalized areas, where people have low income to enroll in private classes.

One of the reasons for the low level of English among the population is that the current Ecuadorian English subject Curriculum only requires learners to read very short, simple texts and personal letters, predictable information in simple everyday materials such as advertisements, prospectuses, menus, and timetables. Therefore, the country's average English knowledge score is significantly below the regional and global averages, suggesting systemic problems in curriculum design, teacher training, and resource allocation. Covid-19 pandemic, implanted a mandatory confinement in the world, suspended all presential classes and jobs for around one year, new teaching strategies arouse in the world, mostly throughout the use of digital technologies and internet-based

platforms as Google Teams, Zoom, WhatsApp and Quizz, these applications allow a regular virtual contact between students and teachers, producing satisfactory experiences in teens of sixteen and seventeen years old, resulting in a meaningful learning and accurate assessment.

The methodological proposal considers three dimensions of variables, such as authentic inclusion, didactic practices, and educational care. Didactic practices involve using specialized materials and specific procedures designed to yield positive student outcomes, such as using content linked to specific interests, promoting attention, comprehension, and expression. Educational care extends the inclusive treatment of students, incorporating the expertise of physiological and psychiatric practitioners, shadow teachers, and personnel from the Department of Wellbeing. Authentic inclusion for individuals with autism achievement is hindered when teachers tend to concentrate more on physical, visual, auditory, or motor impairments rather than on students with mental disability. Thus, Attitudinal Barriers are created by teachers and academic staff, which comprise perceptions and prejudices that hinder the educational inclusion of students with special needs.

The relevance of this project is to serve as a guide to design more intervention programs in schools or non-governmental institutions where students with autism can receive inclusive education. For example, we aim to build a model policy that applies to respectable educational institutions in other education systems. An idea is to define a public institutional policy, whereby all students with a disorder or malfunction that results in the person learning differently from others can demonstrate, with reasonable adjustments, the inherent requirements for their course. They can negotiate reasonable adjustments to participate in learning activities as in the JCU ¹Student Disability Policy, 2023).

¹ Student Disability Policy www.jcu.edu.au/policy/academic-governance/student-experience/student-disability

During the research, the following questions should be addressed for development:

1. How does using inclusive reading materials improve English reading skills in teens with Autism Spectrum Disorder ASD?
2. How do students with ASD respond behaviorally and emotionally to integrating content in English reading sections? Assessment can be done with data.

This paper comprises three chapters in which the research is developed. First, Chapter One explains the relevant literature review applied to our objectives. Second, Chapter Two explains the research design methodology and how the experiment is conducted with students. Finally, Chapter Three is where the proposal is presented and validated with the theoretical concepts discussed before:

In chapter one, we will analyze the relationship with university research lines within the literature review because we can catalogue methodological research as aligning with the area of Pedagogy, Didactics, and Management of Education, encompassing topics of Inclusive Teaching and Learning Methodologies; as it promotes innovative teaching practices, supports students with special educational needs, and contributes to the development of equitable and accessible learning environments for diverse populations.

To apply the theoretical approaches in the literature review, teachers will develop indirect strategies tailored to their learning activities for these students, including metacognitive and audiovisual material, affective behavior, and social strategies in making groups. The object is to integrate special students into the crew, for instance, those of similar age, income, current level of English, and socio-affective factors. This approach involves evaluating autistic students' reading abilities before and after the intervention program.

Chapter two focuses on designing a model to apply the theoretical approach from the literature review. This includes elaborating a plan of Specific objectives to design, gathering data through collection and posterior analysis, and involving technology use in classrooms among other dependent variables. Once these connections and chains are made, we apply theories by asking students to participate in activities. For example, to verbally retell the story by saying, What is the main idea of the story we just read? While

this strategy helps students with ASD recall discrete events, it may not elicit a coherent retelling of the story.

This research will encompass learning strategies for specific approaches, and methods that individuals employ to enhance their proficiency in learning English as a second language because it is not their native language. For this purpose, we aim to apply and develop innovative and comprehensive techniques to teach English to them, ensuring they have equal opportunities to acquire English language proficiency. This research design also draws on communicative language teaching theories, highlighting the importance of context-based learning and functional communication, especially for students with special needs (Assaiqeli, 2013).

Chapter three uses the questionnaire data to interpret the research results correctly. When describing the research results, variables should avoid weaknesses and target activities to facilitate improvement. Within this framework, a proposal is made that integrates the communicative approach to teaching English with motivating content.

Within the research approach, a combination of theoretical, empirical, and statistical-mathematical methods will be identified, allowing the study object to be approached from different and complementary perspectives. Theoretical methods could include analysis of existing literature on autism and inclusive education, to use literature combined with popular media such as comics and superheroes in educational contexts. These inputs will be used to construct the study's conceptual framework design of an intervention and an empirical technical method, such as direct observation, opinion, and testing, before and after the intervention. These tools will allow for collecting concrete data on the level of participation, academic performance, and the program's impact. Finally, statistical-mathematical methods could include using descriptive statistics, such as mean, median, and standard deviation, to determine the effectiveness of the educational proposal.

The independent variable involves the effectiveness of applying an adapted teaching method explored in this paper, as these students will utilize an inclusive program, contrasting with other students without any specific methodology (Mesibov et al., 2021).

The dependent variables under consideration include test scores and opinions about the program, influenced by the implementation of the independent variable.

The population and sample of this study will focus on minors aged from 13 to 17 who have been diagnosed with autism spectrum disorder -ASD- and are enrolled in traditional educational institutions that offer English as one of the subjects. A non-probabilistic, purposive sample of approximately 1 to 4 students will be selected among selected people of a non-governmental with experience in supporting autistic learners. The sample size will be intentionally limited, considering the specific educational needs of this population of the proposed reading intervention.

In the context of teaching English to students with autism, the term field refers to the specific area of study and practice that encompasses both language teaching and the application of linguistic principles to facilitate the development of language and social communication skills. This field requires the adaptation of pedagogical approaches and linguistic strategies that respond to the cognitive and communicative particularities of autistic students, to promote their educational inclusion and adequate socialization (Ghani, Jamian, & Abdul Jobar, 2022).

Practical contributions to the proposal relate to the scarce research focused on autistic students, which can become a guide to implement this project. The idea is to reduce the gap caused by discrimination in educational institutions. Activities that integrate vocabulary and grammatical structures will be designed through a motivating approach, respecting each student's preferences and learning style.

Finally, project justification is important in different scenarios, such as professional, methodological, technological, and social. It is considered an applied research approach that addresses a specific situation: improving the English reading skills of adolescents with autism through an adapted educational program. Hence, this project follows an operational matrix, as it involves the planning, implementation, and evaluation of an educational intervention in a real-life context, simultaneously avoiding attitude barriers and bringing new experience for future education planning.

CHAPTER I: LITERATURE REVIEW

1.1 Key Vocabulary Conceptualization

Understanding this study's conceptual foundations is essential for defining the pedagogical and theoretical framework for developing English reading skills in adolescents with autism spectrum disorder. The following paragraphs develop the central concepts necessary to understand research in people without prior knowledge of disability issues.

Autism spectrum disorder -ASD- is a neurodevelopmental condition characterized by differences in social communication, sensory processing, and behavior. ASD can influence how learners engage with language tasks, making students fail in traditional classes. Understanding the unique profile of strengths and challenges associated with ASD in education is fundamental to implementing effective interventions for enhancing English skills to work independently (Lord et al., 2018).

Reading is a basic skill in language learning. According to Alshalan (2019), in reviewing language acquisition theories, highlights that for Stephen Krashen, “comprehensible input in the form of reading and listening is essential for language acquisition”, emphasizing that reading, when meaningful and tailored to the student's level, promotes natural and lasting language acquisition. In the context of autistic adolescents, this view allows texts to be adapted to their interests and levels of comprehension, using visual and narrative materials that reduce cognitive load and increase motivation. Thus, reading becomes a teaching tool and an accessible path to developing language skills within an inclusive environment.

The study is based on the Ecuadorian Society, where the education system faces challenges in ensuring effective learning and communication between students and teachers. Commonly, students have a poor inclusion because diversity is not addressed in the regular plan of teaching Foreign Languages, consequently students have harsh progression. When English as a Foreign Language is taught using inclusive and adaptive methods, students with autism spectrum disorder show improved social skills and greater willingness to communicate (Golshan et al., 2019).

Likewise, understanding the definition of an English Language Learners -ELLs- or students whose native language L1, is not English and who are in the process of learning this language while continuing their education in other academic content areas. These students face specific challenges in the classroom because they must acquire English language skills to understand and actively participate in school activities. Addressing the needs of ELLs should include pedagogical approaches that promote inclusion, respect for linguistic and cultural diversity, and support strategies that improve language development and overall academic performance (Snow, Burns & Griffin, 2015).

Besides, within the language learning field, L1 refers to the learner's *first language* or *mother tongue*, which forms the foundation for communication and conceptual development. In contrast, L2 refers to the second language acquired later, often in educational settings. According to Snow (2015), learners rely heavily on their L1 when acquiring L2 skills, especially in reading and comprehension tasks. In the case of students with autism spectrum disorder, differences in cognitive processing can affect the transfer of knowledge between L1 and L2, highlighting the importance of visual supports, structured input, and functional vocabulary.

The purpose of teaching a subject to students who their L1 Language is other than English is to deliver a L2 Functional language. It refers to the use of language for specific communicative purposes in real-life contexts, focusing on the functions that language serves to facilitate effective communication, such as asking for help, expressing opinions, or giving instructions. This approach promotes meaningful and contextualized learning, adapted to the students' needs and environment. In inclusive education, especially with adolescents with autism, it helps to overcome attitudinal barriers and promote a more inclusive environment. (Ghani, Jamian, & Abdul Jobar, 2022).

Furthermore, it is mandatory in research to define the tenor involved for a better understanding. In this case, it refers to the social relationship between participants in a class which is a communicative act, between teachers and students, who are considered active agents in their learning process. (Annex 6) Class Example According to Ghani, Jamian, & Abdul Jobar (2022), effective communication in inclusive classrooms depends

on understanding these social dynamics and tailoring interactions to accommodate neurodivergent learners' needs. In this sense, the tenor is not only shaped by formal roles, but also by the empathy, flexibility, and collaborative attitudes that educators and peers bring to each interaction.

Recognition of students, especially those with autism or other disabilities, require tailored educational approaches called Diverse Learning Needs to support inclusion and effective learning. These, various professionals actively collaborate in the teaching-learning process, together with the classroom teacher is the main actor who adapts methodologies and materials to ensure equitable access to the content (Villafuerte & Mosquera, 2020). For example, in inclusive settings, teachers and assistants are recommended to support students with special educational needs by using guiding questions or visual aids to facilitate this process

Traditionally, in the past, students within these needs were assigned to a Special Education program. It was fundamentally based on a medical-rehabilitative and segregation model, where students with disabilities, including those with autism spectrum disorder were placed in classrooms or special schools separate from the regular system. The focus was on correcting or normalizing behaviors and remedying deficiencies, rather than on enhancing abilities; the pensum were standardized and very limited, with few individualized pedagogical adaptations. Students did not participate in the typical curriculum or share spaces with their non-disabled students, which promoted stigmatization and hindered the development of social skills in disabled students.

On the other hand, currently, education of students with diverse needs uses a different approach called Inclusive education which is a pedagogical approach that seeks to ensure that all students, regardless of each culture, ethnicity, or disability, actively participate in educational activities. It is based on the idea that all children and teenagers have the right to access quality education within a diverse educational environment, where differences are valued, and appropriate adjustments are made to the curriculum, methodologies, and resources so that everyone can reach their full potential.

Inclusion through a path where it will go through various stages until full inclusion is achieved, it allowed us to get out of the situation in which regular schools could not receive different children, raising the need to create the conditions conducive to receiving them. Somewhat deficient at the beginning, but a beginning for a better inclusion nowadays (Fuentes et. Al. 2024)

According to the National Directorate of Specialized and Inclusive Education (2019), inclusive education involves not only the physical presence of students in a common classroom, but also it involves active participation in the common curriculum. This approach makes the curriculum more flexible, providing multiple forms of adapted participation to ensure educational equity in students. It means that each student may need a different needs support to succeed, because inclusive education never means that a human affected by thought processes, perception of reality, emotions, or disturbed behavior is incapable of learning.

Although not specifically focused on language teaching, Hardan (2013) highlights that children with autism spectrum disorder benefit from structured environments and supportive relationships, which contribute to emotional self-regulation and social interaction. It is achievable by using socio-affective strategies designed for this purpose. Socio-affective strategies are techniques that manage the emotional dimension, and social interactions are key to optimizing language learning in students with ASD, including interpersonal interactions designed to facilitate language learning while simultaneously managing the emotional dimension inherent in this process. These include practices such as requesting clarification, reducing stress, group collaboration, and maintaining own motivation. Analyzing some inclusive approaches, we define conceptually three fundamental skills.

Communicative Language Teaching -CLT, or communicative approach, is an integrative perspective of language learning theories, based on meaningful language content than written texts, should be used instead of the traditional based-grammar approach. Also, it focuses on real and meaningful communication, prioritizes fluency over grammatical accuracy in the initial stages and promotes language use in real-life social

contexts. (Alshalan,2019). It allows for the use of visual and narrative context, such as that provided by comics or scenes. It adapts well to the functional use of language, ideal for people with neurodivergences.

Universal Design for Learning (UDL) proposes offering multiple means of engagement, representation, and action to ensure all students feel motivated and secure. In its socio-affective dimension, UDL recommends incorporating personal choices into tasks, setting clear goals, and offering positive and consistent feedback so that each student builds confidence and autonomy.

Moreover, TEACCH -Treatment and Education of Autistic and Related Communication Handicapped Children- also has been widely used in other countries in educational, clinical and community settings and has been shown to be effective in improving the functioning and quality of life of people with autism. This model emphasizes visual supports, clear routines, spatial organization, and predictable tasks, elements central to the proposal presented. Adapting the program to local classrooms with proper strategies to satisfy individual needs could represent a significant step forward for inclusive education in our country (Virués-Ortega et al., 2013).

Communicative Orientation of Language Teaching- COLT -An observation scheme used to analyze classroom interaction, focusing on communicative features like student initiative, authentic use of language, and function-based tasks. It helps evaluate the degree of communicative interaction in real classrooms. This framework was initially designed to observe the language classroom, considering dimensions such as student participation, type of tasks, use of the target language, and interaction between peers and the teacher. (Spada and Fröhlich, 1995)

1.2 Theoretical background

Many famous authors in educational science developed theories about how language is acquired and learned. This research is relevant for students with disabilities and special needs, among the most relevant to this study are:

Innatism approach – Noam Chomsky-: Proposes that humans have an innate capacity to learn languages through a LAD- Language Acquisition Device. It supports the

idea of adapting teaching to the autistic brain, rather than forcing standard methods. However, autistic individuals generally do not develop language spontaneously or at the same time as their neurotypical peers (Assaiqeli, 2013).

Cognitivist approach -Jean Piaget-: Considers language learning as part of general cognitive development, where the creation of structured and supportive learning environments influences language acquisition and use, which achieve the reduction of cognitive overload and enhance comprehension, as well as how cognition load and facilitate text comprehension and language acquisition. (Alshalan, 2019)

Sociocultural approach -Lev Vygotsky—This theory emphasizes the importance of social interaction and cultural context in language development. It is relevant in autism education, as it observes social difficulties and requires pedagogical mediation that is aware of the differences in social participation.

Empathizing - Systemising approach – Simon Baron Cohen (2009) explains how people with autism often show a greater ability to systemize rules and weaker empathize skills, which influences educational strategies, focusing on identifying rules and patterns, instead of comprehending and addressing emotions, would achieve better results in students with higher support needs (Baron-Cohen, S. 2009).

Behaviorist approach – Skinner, Pavlov-: Based on stimulus-response and reinforcement, repetition and imitation play a key role, helping to learn in controlled activities. While it promotes the establishment of routines, it is not ideal as a main theoretical approach when looking for an inclusive, communicative, visual, and special interest-centered intervention. However, when we use an Applied Behavior Analysis - ABA- for structured interventions aimed at imparting new skills and mitigating challenging behaviors, it is widely recognized as an effective intervention for improving social and adaptive skills in individuals with autism. (Lord et al., 2018).

As a result of comparing these diverse perspectives, Assaiqeli (2013) concluded that non-alone theory explains the process of language acquisition, binding innatism, interactionism, cognitivism and others is necessary. This combination forms the foundation of communicative approach, which promotes the functional use of language in

authentic social contexts. According to Alshalan (2019), communicative approaches promote meaningful language learning, as students not only acquire linguistic structures but also develop the ability to use language for real-life and social purposes.

In connection with the topic, Bruner (1973) posits the Discovery Learning theory emphasizes learning through active exploration, experimentation and problem-solving, rather than passive reception of information. This approach encourages students to construct knowledge independently by engaging with materials. This type of representation is especially useful for understanding relationships, classifications, and spatial or sequential concepts. According to Suphi & Yaratana, (2016) this model becomes effective Parents and teachers can help improve a child's reading skills by using visual aids and structured guidance, which help reduce confusion and cognitive overload. In this context, both teachers and parents play a vital role in supporting reading development by implementing concrete strategies, for instance providing breaks, using a bigger Capital letters, playing games to boost auditory attention, looking ahead to upcoming lessons, developing routines, providing attention prompts, streamlining communication, and establishing eye contact and inserting pauses to allow time for sorting information (Gurian & Schwartz, 2020).

Moreover, Bruner (1973) said that cognitive development involves different modes of representation, scrutiny should be a visual mode of thinking. Knowledge is represented through images, diagrams, schemes, visual objects, or graphic metaphors, rather than words or actions. For students with autism, this approach is especially relevant, as it promotes the use of cognitive scaffolding and narrative structures that allow them to connect content to their world.

Teaching English reading skills to adolescents with Autism Spectrum Disorder ASD requires an interdisciplinary understanding of human language system, learning strategies, and inclusive pedagogy.

The human language system encompasses communication structures: phonology, morphology, syntax, semantics, and pragmatics. These components enable effective communication, and the appropriate study of linguistics provides educators with the tools

to adapt teaching methods to accommodate the diverse linguistic profiles of autistic students.

Pragmatics, frequently misunderstood and misinterpreted in individuals with ASD, refers to the appropriate use of language in social contexts. This difficulty can affect both oral interaction and the understanding of intentions, inferences, and implicit meanings in written texts. Pragmatics develops a dynamic relationship among language, speakers and communicative situations. Thus, requiring a specialized approach who involves activities that explicitly teach them to recognize contextual clues to understand the overall meaning, to support its development within the context of learning English as a foreign language (Fuentes Moncayo et al., 2024).

Learning strategies can be separated into two main categories strategies As per Seng et al. (2023): direct strategies and indirect strategies: Direct strategies are which affect learning, such as memory strategies, cognitive strategies, and compensation strategies; Indirect strategies are which affect learning according Ungureanu & Georgescu (2012), including such as metacognitive, affective, and social strategies.

Direct strategies such as memory strategies allow students to organize new vocabulary using techniques such as image-word association, grouping similar elements, or active repetition. For autistic adolescents, these types of strategies can be especially effective when accompanied by engaging visual materials, which remain student interest and retention of the new vocabulary. (Seng et al. 2023). On the other hand, Cognitive strategies include practices such as categorizing vocabulary, highlighting grammatical patterns, or breaking down reading tasks into smaller steps; to enhance comprehension and retention, at the same time reducing anxiety related to ASD students (Ungureanu & Georgescu, 2012).

Moreover, compensatory strategies include guessing meanings from context, using synonyms or gestures, and switching to the first language when necessary. It is useful for beginners in language learning which express themselves effectively through communication barriers and gradually improve their language proficiency over time. Unfortunately, it could not be appropriate with students with low intellectual levels or

Severe autism, who may face significant challenges in learning a second language, although they would show understanding of some linguistic structures (Seng et al. 2023)8

Indirect strategies involve the use of alternative skills. Metacognitive strategies, such as planned reading or setting goals, in an individual manner, assessing personal comprehension, promote the development of reading autonomy (Seng et al. 2023). Social inclusion promotes the integration of diverse student populations into study groups, which assesses the likelihood of students engaged in duties to seek approval and avoid rejection. Students can work with other students beyond the assistance of the teachers and staff members (Suphi Et. al, 2016)—social strategies. Teachers must be sensitive to individual needs, be trained to identify signs of emotional dysregulation, and use differentiated strategies with these kinds of students.

Inclusive pedagogies for young people with autism should consider individual differences in learning styles within autism. Alshalan (2019) argues that language learning should be meaningful and tailored to both the students' needs and their cognitive development, which is consistent with the principles of inclusive education. Unlike traditional special education, which often segregates students with disabilities, inclusive education promotes collaborative learning in regular classrooms, using support and adaptations that foster active participation for all. Within this framework, teaching reading comprehension in English to autistic adolescents involves not only adapting materials but also creating rich and motivating learning contexts that recognize diversity as a pedagogical resource.

On the other hand, the use of COLT, developed by Spada and Fröhlich (1995), could provide an additionally a systematic tool for analyzing the communicative orientation of our language class, COLT dimensions are relevant in project application with autistic adolescents could allow us to observe key aspects such as the use of authentic language, the types of questions used, and the communicative function of responses

1.3 Research Background.

Research on autism in the education of ELLS encompasses a broad range of topics. The next paragraphs will explain relevant studies and their corresponding pertinence to

our topical research. Educational experiences are explained, analyzed, and forecasted to describe how education acts in the relationship between teacher and student.

Past research, such as that of Bradley (2019), offers a valuable pedagogical reference on what is necessary to document the experience of a university student with Asperger's Syndrome over two years in specialized English courses. The study highlights that, although these students demonstrate aptitude in formal linguistic components, such as vocabulary and grammar, they face difficulties when applying the language in broader communicative contexts. Furthermore, she points out the lack of specific teacher training to address their needs, proposing the implementation of individual tutorials, visual aids, and structured tasks.

The adoption of CEFR in Ecuador seeks to train creative professionals aligned with international standards, adapt the framework to the country's sociocultural needs, and facilitate language teaching and assessment. It means not only using its descriptors, but also requires teachers to incorporate local cultural elements, ensuring that students develop communicative skills applicable to everyday and professional life. According to Education First (2023), countries that consistently perform well on the EPI typically invest in teacher training, early language instruction, and technological integration. In contrast, Ecuador's adoption of the CEFR has not translated into significant improvements in language outcomes.

Learners struggle, especially in reading comprehension, one of the most essential skills for academic and professional development. To address this problem other professionals beyond teachers are involved in language and autism education. Alongside them, the educational psychologist or special education specialist assesses the student's individual needs and suggests curricular and methodological adjustments (Mesibov et al., 2021). The speech therapist or speech therapist focuses on the development of functional language and communication skills, while the educational or clinical psychologist provides emotional support and works on behavioral self-regulation (Hardan, 2013).

The teaching assistant, for their part, provides direct support to the student in the classroom, facilitating their active participation. The family also plays a key role,

providing valuable information about the adolescent's routines, interests, and needs, and providing support from the home environment (Bogdashina, 2006). Likewise, school administrators are responsible for implementing inclusive institutional policies and ensuring the necessary conditions for diverse education (Villafuerte & Mosquera, 2020). Finally, digital resource specialists provide multimedia promotes student understanding and motivation (Alshalan, 2019).

Beyond a lack of research in inclusive education, the training received by teachers to work with people with autism has been limited and ambiguous in the context of English classes at high schools. There is a strong need for more research and training to provide better management of these students. However, the lack of monetary resources to finance research or prepare teachers is a severe issue in education. A tool that could be implemented with few resources is ASSET- Autism Self-Efficacy Scale for Teachers, an instrument designed to standardize the assessment of students with autism, Class Planning, intervention, behavior, inclusion, and social participation (Ruble et.al., 2013).

1.4 Legal and Policy Framework

Ecuador as a country has ratified the United Nations Convention on the Rights of Persons with Disabilities -CRPD-, which aims to ensure the full and equal participation of people with disabilities in all aspects of life. To achieve this, Ecuador has enacted laws and policies to protect the rights of individuals with disabilities, which involves tailoring inclusive education programs over special education programs. Despite these efforts, challenges and instances of discrimination persist. Some common issues include inadequate educational opportunities, and limited employment opportunities for people with disabilities.

The legal basis supporting this research is grounded on various national and international instruments that promote the right to inclusive education. First, Article 47 of the Constitution of the Republic of Ecuador (2008) establishes the right of persons with disabilities to an education that considers specific needs. Furthermore, the Organic Law on Intercultural Education LOEI promotes inclusion and curricular adaptation policies. At the regulatory level, the Ministry of Education, through the National Directorate of

Specialized and Inclusive Education (2019), establishes specific guidelines for addressing diversity, stating that students with disabilities must receive differentiated pedagogical support. This regulation requires teachers to understand and apply universal design principles for inclusive learning in line with national and international legislation inclusive education, as considered the most effective way to guarantee the right to an equitable education adapted to individual needs (Mendo-Lázaro et al., 2022).

Disability policies in Ecuador involve using additional pedagogues to cover special educational needs -SEN- of students in the classroom and/or specialized classrooms to promote students' learning process. The type of classroom is selected, depending on whether students with many disabilities can be integrated into an ordinary school education establishment with familiar students when their condition makes it possible; or it should be referred to special classes when their disability is severe to maintain traditional education. Hence, we can differentiate the first as Inclusive education, which is the preferred educational model for children with special educational needs, because it seeks to guarantee the full and equitable participation of students with disabilities in regular classrooms, recognizing diversity as a strength and eliminating pedagogical, physical, and attitudinal barriers (Fuentes Moncayo et al., 2024), promoting collaboration between students, teachers, and the educational community. On the other hand, special education, although necessary to provide specific support, tends to segregate students into separate environments, limiting their opportunities for integration and full social participation.

Villafuerte and Mosquera (2020) underscored specific concerns about the adequacy of policies regarding English as a Foreign Language EFL instruction for students with Special Educational Needs. They concluded in their research that the purpose of enhancing Ecuadorian government policies is to better support EFL instruction for learners with SEN since governmental policies do not accurately cover ELLs. Goodwill to improve conditions is exhibited by policymakers; however, the lack of accurate teacher training for inclusion hurts the process with students with these needs.

Ecuadorian society has historically faced terrible experiences during the learning process between students with disabilities and teachers. In the past, these students were usually excluded from the regular school system, and currently they have found a route through inclusive education classes, which can help to overcome pragmatic barriers within the educational system, such as interaction with classmates, teachers and the educational community (Hardan 2013)

1.5 Reading Learning Strategies

Reading comprehension is an active process that requires the application of various strategies to facilitate the extraction and construction of meaning from a text. Among the most recognized general reading strategies are skimming and scanning, which are essential techniques for addressing different types of texts and reading objectives. Skimming involves rapid reading to grasp the general idea or main topic of the text, without dwelling on specific details. On the other hand, scanning involves searching for concrete and specific information within the text, such as dates, names, or numbers. A reader who needs to find a definition or a precise fact for a school project will use scanning to quickly locate the required information without reading the entire content.

The use of adapted texts could be useful to increase comprehension when teaching English reading to students with disabilities. These materials reduce language complexity, include visual support, and follow predictable and structured formats, which help minimize anxiety and overload. They could rely on visual aids or pauses to better process the information. For instance, a teenager with autism spectrum disorder working with normal texts may need to read intensively to understand task instructions or the meaning of a specific paragraph, constantly checking their understanding comprehension while reading (Bogdashina, 2006).

Moreover, special interests' texts, such as the Marvel universe, which capture students' interest, will turn reading into an emotionally positive experience. At the same time, introducing functional vocabulary related to everyday tools or situations helps connect the reading activity to a common topic. Furthermore, it is essential to provide comprehensible input, that is, clear, visual, and level-appropriate language exposure,

using visual aids, predictable routines, and multisensory activities. In this type of approach, rotation stations allow for adapting to each student's learning pace and style and fostering autonomy. As Stephen Krashen argues, language acquisition occurs when input is comprehensible and meaningful, not when learning is consciously forced. Likewise, it is necessary to create opportunities for output, that is, for students to produce language with a real communicative purpose, even if initially through gestures, pictograms, or model phrases. This "forced output," tailored to their abilities, promotes linguistic development, especially when accompanied by respectful and structured feedback. (Lessard, 2018)

Within the instructional design framework proposed by Gagné et al. (1992), reading comprehension is conceived as a complex cognitive skill that must be carefully structured according to a learning hierarchy. According to this approach, before achieving meaningful reading comprehension, students must master prior skills such as word recognition, functional vocabulary knowledge, and understanding of basic syntactic structures.

1.6 Disability Learning Strategies.

Educational intervention for autistic students should be organized considering the socio-effective strategies such as CLT, COLT, TEACCH and UDL. Expanding the last one, it is promoted by the Directorate of Special Education (2019), with Ministry of Education as mandatory to follow in public and private basic and bachillerato level education. Its policy establishes eliminating attitude barriers to learning, teacher diversified planning and participation as a priority. UDL- advocates for incorporating multiple means of representation, expression, and engagement (Ghani, Jamian, & Abdul Jobar, 2022).

Gagné (1992) identifies nine instructional events that guide the teacher from capturing attention to facilitating the transfer of learning. In the context of autistic adolescents, this approach is especially valuable, as it allows for the structure of clear, multisensory educational experiences that favor content comprehension and retention. Applying these principles to the use of Marvel comics visual and narrative materials

allows for the design of teaching sequences that activate prior knowledge, present relevant topics, offer continuous scaffolding and feedback, and promote language generalization in functional contexts.

Syllabus creation should focus on the specific content of a course, and more narrowly on file selection and gradation of contents; According to Candlin (1984), syllabuses are social constructions, produced interdependently in classrooms by teachers and learners, as a statement of the plan for any part of the curriculum, excluding the element of curriculum evaluation itself.

English Specific purpose -ESP- theories can be applied as our students get extra classes for other subjects in their first language that is Spanish. Because the goal is using English as a second or foreign language in a practical, real-life tasks, which are useful for autistic students. Assaiqeli (2013) remarks -ESP- distillates mainly on language in context than on traditional language structures and grammar, boring and less interesting for our students which already are taking language classes to get support in regular subjects. ESP courses are not usually neurodiversity-aware, so materials may need to be adapted leveraging objectives in a inclusive-based learning method as taught in mathematics, science and programming, in this case

Golshan et al. (2019) show that a well-structured English pedagogy, combining individualized tutorial sessions with partner activities, generates substantial benefits in social skills and willingness to communicate -WTC- in students with ASD. This finding shows that language learning must include a motivating environment and collaborative support to promote not only reading comprehension, but also functional interaction in English. Thus, incorporating the reading of adapted comics with structured interaction activities would not only enrich text comprehension, but also strengthen communication and social inclusion of adolescents with ASD in regular classrooms.

On the other hand, Mesibov et al. (2021) suggested that TEACCH may fulfill all the request in individuals with autism, with stronger effects observed in social behavior and maladaptive behavior compared to perceptual, motor, verbal, and cognitive skills. In a reading class a teacher could use a visual schedule at the beginning of the session

indicating the activities step by step. For example, the student could be provided with cards with images and English words such as "apple," "chair," "book" organized in a tray divided by category, and with a visual guide that tells them: 1) Take a card, 2) Say it out loud, 3) Place it in the box. Results vary according to the intervention area to better understand the effectiveness of TEACCH, and the application of this approach in the essay can create more evidence for future research.

According to Virués-Ortega (2013), interventions based on the TEACCH model have proven effective in improving autonomy, attention, and communication skills in students with autism. These principles, centered on visual structuring and adapting the learning environment, are especially valuable when designing accessible reading environments. In this project, these contributions are taken up to organize structured, visually supported reading sessions based on specific interests with the aim of facilitating reading comprehension and text motivation.

1.7 Inclusive Pedagogical Approaches

The importance of designing specific educational strategies for students with disabilities is crucial to ensure inclusive and effective inclusive education. Arends et al. (2012) suggest that teacher professional development is key. This coincides with the need to train educators in the use of pedagogical tools adapted to neurodiversity. They also highlight the fundamental role of teachers as facilitators of change, especially in contexts where students face emotional, social, or learning challenges.

Understanding autism requires adopting biological, cognitive, and experiential. Perspectives:

Biological individuals with autism often experience atypical sensory and neurological processing, which affects how they receive, organize, and respond to information.

Cognitive: Many students develop adequate decoding skills, but they often have difficulty understanding text in depth, which hinders the comprehensive integration of textual information.

Experiential: As Bogdashina (2006) points out, difficulties in educational contexts result from the imposition of traditional approaches that fail to consider the internal perspective of the autistic student.

It is essential that, as teachers, we view our students not simply as non-native speakers, but as -ELLS- we should recognize their multilingual capacity and the value their native language brings to the learning process. This perspective is critical when working with autistic teens, who not only face language barriers but also challenges in social communication, cognitive flexibility, and sensory processing. In these cases, English teaching must go far beyond traditional methods and focus on inclusive, meaningful, structured strategies. This perspective invites us to understand that when learning English, students are not starting from scratch but rather adding skills to their linguistic that they already possess, thus developing what is known as "multicompetence." understanding that second language learners need to develop different linguistic and cognitive skills, valuing the interaction between their native language and the additional language (Burns & Griffin, 2015).

Applying educational theories such as cooperative, meaningful, and discovery learning is ideal.

Cooperative learning is an instructional method where students collaborate in small groups to obtain a mutual goal. Students assume responsibility for their learning, avoiding distractors while contributing to their peers' learning, including classmates, teachers, and parents. A typical autistic child is not used to communicating bullying and harassment from other individuals, exhibiting lonely behavior (Mendo-Lázaro et al., 2022). While many students find it easy to assimilate cooperative learning, those with special education needs -SEN- as in the current case often encounter challenges in gaining acceptance. As a result, they engage less frequently in group activities and grapple with social exclusion from classmates (Klang et al., 2020). Therefore, including students with SEN through training properly with shadow teachers and teachers can help to relieve the problem. Those additional teachers will facilitate the relationship and link between the

teachers of the educational institution and the District Inclusion Support Unit (Dirección Nacional de Educación Especializada e Inclusiva, 2019).

Meaningful Learning expresses the idea of students learning when they link new knowledge with prior information. Thus, when combining them, they integrate information effectively. It can be used using concept maps and collaborative work in different scenarios, encouraging critical thinking and problem skills development. (Vallori, 2014). In English language classes, the integration of meaningful learning is achievable. To illustrate, Vallori (2014) suggests a strategy where, prior to commencing a reading activity, teachers facilitate a workshop allowing students to engage in discussions about related content in a controlled scenario without the pressure of providing a correct answer, treating it as a preliminary draft. Additionally, challenges arise when students come from backgrounds where their parents have low educational levels, making the implementation of such a system challenging.

Finally, in the current section we need to present the variables applicable to Inclusive Pedagogical Approaches, whose we will advance in the survey design in Chapter two. The selection of the variables responds to the need to assess learning domains in adolescents with ASD. First variable, reading comprehension allows students to improve reading comprehension in texts, and provide a vocabulary development impulse (Alshalan, 2019). The second variable, student participation, quantifies the number and quality of oral interventions (Suphi & Yaratan, 2016). The third variable, reaction to visual and adapted materials, analyses how students respond to visual resources such as comics and adapted texts (Mesibov et al., 2021). Fourth variable, special interest, study the effect of integrating content related to the student's interests, such as the Marvel universe (Ungureanu & Georgescu, 2012).

CHAPTER 2 RESEARCH METHODOLOGY.

2.1 Conceptualization and Operationalization of Main Categories.

The second chapter begins with explaining the operationalization matrix. To transform these concepts into observable and quantifiable variables with corresponding dimensions and indicators, it is necessary to define and organize data categories' conceptualization and operationalization accurately. (Annex 3) depicts graphically the variables, their dimensions, and indicators developed to facilitate an accurate analysis in this study.

A variable is any characteristic, property, or condition that can be observed, measured, or modified to understand a problem better or evaluate an intervention's impact. Variants can be classified as independent, dependent, or intervening depending on their role in the study. In this topic, research was conceptually created based on relevant literature and the specific context of this research in teaching English reading to adolescents with autism spectrum disorder.

Dimensions explain diverse facets such as reading fluency, vocabulary accuracy, and comprehension. Accurate educational care achieved using teacher training is key for effectively implementing these strategies, allowing educators to identify specific needs and adapt pedagogical interventions. (Arends et al., 2012). Optimistically, authentic inclusion is achieved when individuals with autism reduce their difficulties in understanding other people's thoughts and feelings. (Fuentes Moncayo et al., 2024).

Indicators are specific, observable elements that allow us to measure whether the approach has helped the researcher to what extent the objectives are being met. Each indicator allows a more precise evaluation, using qualitative or quantitative data, depending on the type of study and the instruments used. (Annex 4)

Then, appropriately in this section, a breakdown of each of the components assigned for the project is presented:

Independent Variable: Effectiveness of an adapted teaching method.

It is the primary variable in this project. Many autistic learners have strong interests, and using these in class can support learning by using visual narrative materials

adapted to special interests. This refers to using a teaching sequence based on simplified stories from Marvel comics that include visual elements. Dimensions include Content adequacy and connection to student interests. The indicator is whether the objective and subjective assessments affect dependent variables, and the inclusive pedagogical approach promotes learning.

Dependent variable 1. English reading comprehension

It refers to how well students can read and understand texts in English, including vocabulary development and Comprehension Skills sections. The goal is to see if their reading level improves after using the adapted materials and inclusive teaching strategies. Dimensions include reading fluency, accurate vocabulary recognition, comprehension of literal information, and the ability to make inferences from the text. The indicator is a questionnaire with multiple-choice questions and the option to return to the previous screen during tests.

Dependent variable 2: Student engagement

It shows how focused, motivated, and involved in class. We will observe if students are paying attention, joining in group work, and enjoying the activities. Students are more likely to engage actively when the content is interesting and adapted to their needs. Dimensions include the student's level of attention during sessions, their motivation regarding the materials used, and their willingness to participate actively in individual or group tasks. The indicator evaluated the level of attention during reading tasks, active participation in class discussions, and the frequency of spontaneous activity involvement. A higher frequency of participation reflects stronger engagement with the learning process.

Dependent Variable 3. Response to Visual and Adapted Materials

It looks at how students with autism react to using visual and adapted materials as visual support. These materials can reduce stress and make reading easier and more enjoyable, ensuring that they understand the text better with visual aids. Dimensions involve students responding to adapted materials, especially those with visual content such as comics. It is key to adapting the materials to the needs of the autistic profile. Indicators

enhance preference for comics over boring traditional texts, the perceived difficulty when reading adapted content, and visible signs of interest or enjoyment during the activity.

2.2 Research Approach.

This study follows a mixed-method research design to improve reading comprehension in English among young students, solving a real educational problem so that the results can be directly applied in the classroom. Therefore, the project employs quantitative components measured through the administration of pre-test and post-test assessments to evaluate outcomes in reading comprehension; both tests should have the same reading subcategories, although questions should vary to compare results obtained before and after the intervention. Moreover, the qualitative components are manifested in classroom observations such as motivation, level of engagement, and feedback from participants and teacher reflections during the teaching process, which were obtained subjectively and later tabulated in an Excel sheet.

A quantitative data analysis compares intervention with pre-test and post-test scores using statistical descriptive tests like mean, average, range, and trend. In contrast, Qualitative data from student surveys will be analyzed to reinforce results regarding the effectiveness of the intervention program. It is an important variable that influences the study to ensure the results are valid. Each variable is developed in this section.

2.3 Scope of the study:

The research is focused on intervening in English class education for Autistic students aged between 13 and 17 years old in high schools, who have social learning difficulties and are eager to improve their learning skills.

The study's cross-sectional approach responds to the need to capture a timely overview of their reading and behavioral skills before and after the planned intervention without extending the study beyond the planned stages (Annex 3)

The experiment will be implemented under neurodiversity support institutions like the Sendero Azul NGO. It will be validated through pre- and post-intervention assessment tools and systematic observations of session participation.

Sendero Azul NGO ² is a non-profit organization founded in 2018 in Guayaquil, by parents of children with autism spectrum disorder, committed to providing comprehensive support and promoting inclusion for individuals with ASD and their families in Guayaquil and across Ecuador. Its mission includes family counselling, training for educators and health professionals, and raising public awareness to break down barriers to inclusion. Among its activities, they assist young people with personal educational issues, such as enrollment at schools and discrimination.

Reading skills can be improved by using various strategies such as keeping instructions simple and pausing frequently, providing breaks, playing games, looking ahead to upcoming lessons, developing routines, providing attention prompts, establishing eye contact, (Gurian & Schwartz, 2020). A better understanding of the topic could be achieved if the public understands reading troubles in people with autism, which could include low English proficiency, low reading achievement, risk factors as school socioeconomic status, and linguistic and cultural differences.

This study has some limitations. It does not assess other English language skills, such as writing, listening, or speaking, in detail. Also, the materials and strategies were not adapted to other audiences, such as parents or high school teachers. The reason is that not all instructors are familiar with a diverse learning strategy. Some have ideas, but other staff members must be progressive with the difficulty of adapting classes to different levels of neurodevelopmental needs.

Accordingly, they may need adjustments for other learners because the results are based on a small sample and cannot be generalized to all learners. The intervention was applied over a short period of time and may need to run through the full academic year.

2.4 Type of Research.

This study is conceived as applied research, since it seeks to propose a concrete solution to an educational need: improving reading comprehension in English in adolescents with autism, using adapted materials. In addition, it is bibliographic and field

² ONG Sendero Azul website <https://fundacionsenderoazul.org/>

research. The bibliographic phase supports the theoretical and legal framework using specialized sources in autism, reading, and pedagogical strategies; At the same time, observations allow for collecting empirical data directly from adolescents with ASD.

The depth of this research is descriptive, as it seeks to observe and document the characteristics of the students' learning process without directly modifying the variables of the educational environment.

It is also exploratory because the intervention integrates adapted Marvel comic materials, visual support, and inclusive teaching strategies for people with autism, based on frameworks such as Universal Design for Learning (UDL), TEACCH, and communicative approaches.

The research's purpose is to respond to the need to adapt an inclusive approach for English students with autism, respecting their pace, ways of processing information, and ways of expressing understanding, seeking to strengthen their motivation to learn English as a foreign language. Thus, ASD students avoid attitude barriers against them in our society, such as ideas that students are lazy and uninterested in learning.

2.5 Methods Employed.

The research requires the tenors to complete a questionnaire to obtain data for analysis. The answers obtained from the questionnaire offer educators a valuable tool for assessing performance, specifically to determine which students grasp the material and accomplish the English curricular adaptation.

The intervention areas aim to increase reading comprehension. To achieve this goal, targeted instructional strategies are required, such as assertive communication, identification of key ideas through scanning, and strategic use of skimming techniques. These actions allow students to decode words and construct meaning from the text, which is essential when working with learners who present neurodevelopmental differences such as ASD.

This research uses two main assessment instruments: a qualitative observation rubric and a quantitative rubric based on structured questionnaires. A qualitative rubric is designed to record the behavior and participation of students with autism during reading

sessions, assessing indicators such as attention level, emotional reaction to the comics, connection with the content, and active participation in activities. This instrument assesses attitudinal and social dimensions through a four-level Likert scale.

On the other hand, the quantitative rubric is based on a Google Forms questionnaire with open- and multiple-choice questions administered before and after the intervention. It aims to objectively measure reading comprehension in English and assesses specific skills such as identifying main ideas, contextual inferences, and the logical sequencing of events.

2.6 Instruments and identification of Population and sample:

Several instruments could be used to collect data; in our case, a Google Forms-based questionnaire is used to collect personal data. This choice was made to reduce costs and structure the data analysis process. At the same time, it would have been possible to use pre-printed paper questionnaires and administer them individually at students' homes, which would have significantly increased the logistical and financial burden, and later uploading all the information into a digital database. Relevant concepts are analyzed in the following paragraphs:

Population: High school students with a mental disability in Ecuador. Nevertheless, besides ASD, other mental conditions such as schizophrenia and psychosis, among others, are unmatched in similarity criteria to assess in an educational classroom setting like this research.

Sampling Technique: Selected students accomplish all the requirements: an equal representation of men and women, ASD diagnosis, the same age range, and current exposure to English instruction ensure fair representation.

Sample: A randomly chosen subset of autistic students from this population. Those students are sent by Fundacion Sendero Azul. In total four teenagers ended the program; research participants should have basic reading skills in English and demonstrate interest in comics or cartoons content.

TEST TO GATHER PERSONAL INFORMATION.:

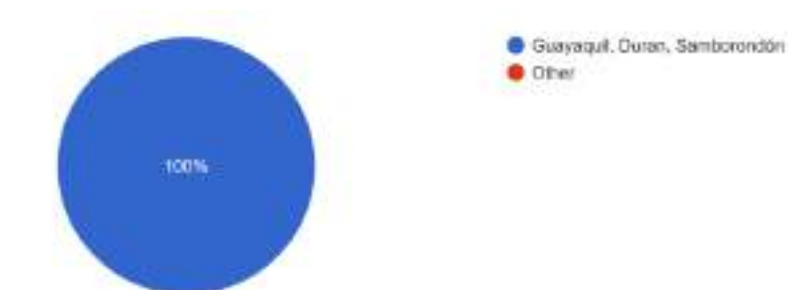
Question 1

What is your full name?

This information consisting of four names is reserved. However, it can be disclosed.

Question 2

Which city do you live in?



The one hundred percent are from Guayaquil: Which includes metropolitan Region which involves Guayaquil, Duran and Samborombon or Zone 8. No student came from cities such as Quito and Cuenca.

Question 3

Please provide a contact phone number

This information consisting of four numbers is reserved. However, it can be disclosed.

Question 4

Full name of the legal guardian and relationship to the student

This information consisting of four names is reserved. However, it can be disclosed.

Question 5

Is the school where the student studies public, or private, semi-public (other)?

4 responses

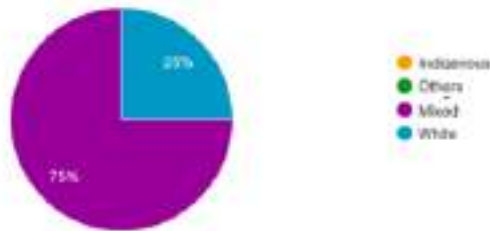


Sixty percent are from private schools called 'particular', Forty percent are from public schools called fiscal and none from semi-private schools called 'fiscomisional'.

Question 6

How does the student self-identify in terms of ethnicity or cultural background

4 responses

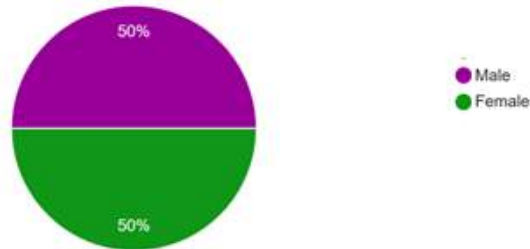


Eighty percent are from an auto perceived mixed ethnic school called Mestizo, and twenty percent are from an auto perceived white ethnic school called Blanco.

Question 7

Student gender

4 responses



Fifty percent of the subjects are male and the other halve are female.

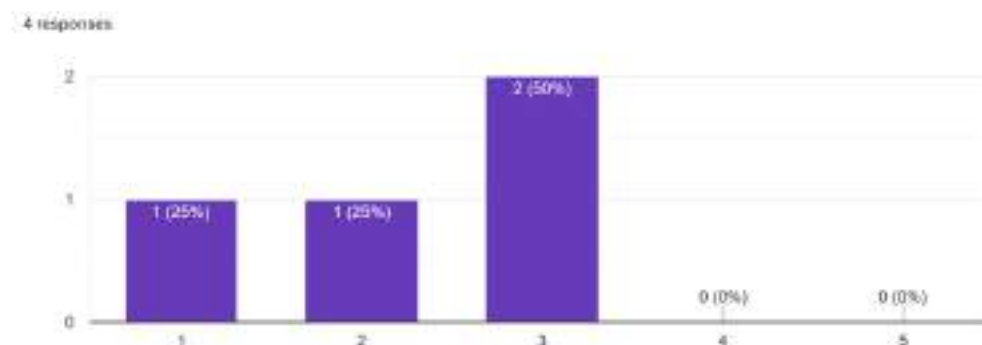
Question 8

Weekly hours of English at school

Student 1= 4, Student 2 and Student 3=2, Student 4=1.

Question 9

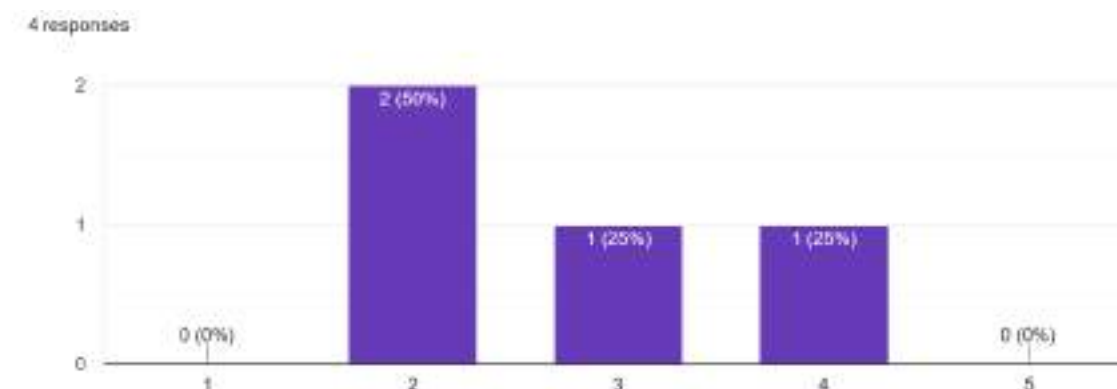
Please rate the quality of English instruction at your school. (5 stars best, 1 star low)



Any student marked his/her English teaching process at school as 5 stars or excellent or 1 star the worst. 2,3 means regular and okay.

Question 10

Rate the quality of the instruction provided by the thesis teacher (5 stars best, 1 star low)



Any student marked instructor as 5 stars or excellent or 1 star the worst. 2,3 means regular and okay.

2.7 Stages of the Research Process.

This study follows six sequential stages aligned with the ADDIE -Analysis, Design, Development, Implementation, Evaluation model of Instructional Design, that builds a rigorous and coherent research flow. Analysis phase encompasses both the Theoretical Review and the Initial Diagnostic, ensuring a solid understanding of learner needs; the Design and Development phases guide the Design of the Intervention;

Implementation is reflected in the Pilot Implementation stage; and the Evaluation component is realized through the Validation and Final Refinement stages.

First stage: Theoretical Review and Conceptualization

Foundational concepts such as cognitive framework and visual representation are developed and explained, and targeted interventions for younger people with ASD are based on Bruner (1973).

Second stage: Initial Diagnosis

A pre-test of reading comprehension and structured classroom observations are conducted using sensory protocols (Hardan et al., 2013). This assessment identifies each student's baseline abilities and sensory preferences.

Third Phase: Design and Modelling of the Proposal

Customized visual activities, such as readings and pictures, are created to be used in class to tailor to inclusion needs.

Fourth phase: Implementation and Testing

The intervention is tested with a small group to assess feasibility and student engagement (Rowe & Levine, 2018). Observations from teachers and families inform immediate adjustments.

Fifth Validation and Evaluation

Pre- and post-test results are compared, and interviews and rubric assessments to measure impact are carried out (Ungureanu & Georgescu, 2012). The designed methods are evaluated based on quantitative and qualitative feedback.

2.8 Presentation, Analysis, and Interpretation of Diagnostic Results.

Diagnostic testing consists of elaborate pretests. It is crucial in any educational research. The reason is to assess the level of a group of individuals before any intervention, as it takes a picture for comparison after an intervention.

The pretest presents the following results.

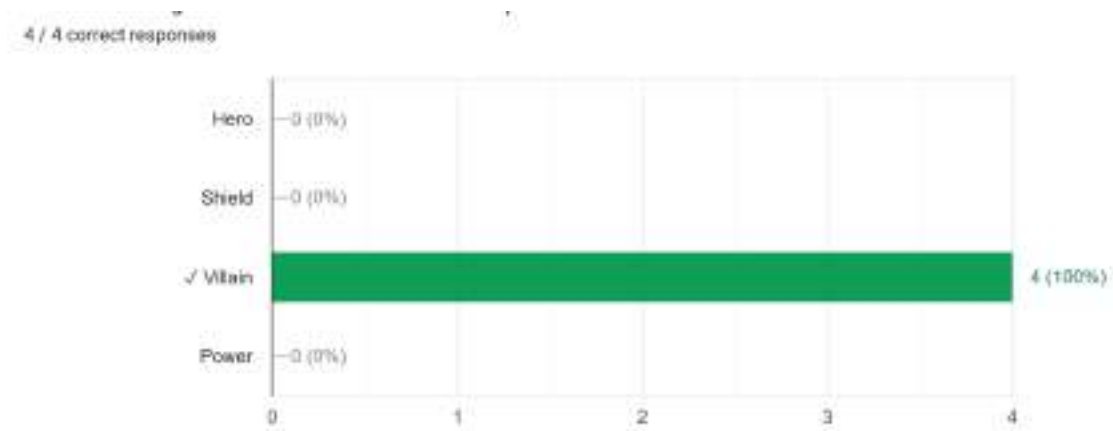
Section Vocabulary Development

Question 1

Word meaning: Match words to their concepts.

Definition	Hero	Shield	Villain	Power
A person who never has a good reason for their actions	☐	☐	☐	☐
Someone who always follows the rules	☐	☐	☐	☐
A tool used for protection and attacking enemies from a distance.	☐	☐	☐	☐
A special strength or ability	☐	☐	☐	☐

Answer 1



Interpretation 1

The level of students is higher than A1, because they understand that question. Hence, all get 4 points.

Question 2

Context Clues: Complete the sentences using the words in parentheses.

Captain America uses his _____ (hammer/shield) to fight villains.

Thanos is a _____ (team/villain) Wants to wipe out half of all life.

Spider-Man's _____ (power/hero) is climbing walls and swinging with webs.

Answer 2

Student A	Hammer, team, power
Student B	Hammer, team, power
Student C	Hammer, team, hero
Student D	Hammer, team, power

Interpretation 2

Student A, B, and D get 2 points, wrong answering the second sentence with team instead of villain, and Student C gets 1 point, failing the third sentence with hero instead of power.

Question 3

Word Association: Ask students to think of one word or phrase that comes to mind for each word. _____ SUPERHERO _____

Answer 3

- Student A Power, Amazing, Good.
- Student B Teacher: what do you think
- Student C The Superman hero
- Student D Power, force and brave

Interpretation 3

All students except student B understood the question and get 1 point.

Question 4

Vocabulary Usage. Write 3-4 sentences to answer the question below.

If you were a superhero, what power would you have, and how would you use it?

Answer 4

- Student A I would have the power to be invisible. I would use to hide from other people. I would have the power to fly
- Student B I don't know.
- Student C the power of speed for good benefits
- Student D Teleportation

Interpretation 4

Some students made arguments as 'I don't know..' but i would like to have telepathy, when I ask three and four sentences.

Section Comprehension Skills

Construction tools help people build houses, roads, and bridges. These tools make it easier to cut, measure, and connect materials like wood and metal. Without tools, it would be very hard to build strong buildings.

One common tool is the hammer. A hammer is used to hit nails into wood or metal. It can also pull nails out when needed. Hammers are essential in building.

Another important tool is the drill. A drill makes holes in walls, wood, or other materials. These holes are used for screws or to run wires and pipes. Drills can use electricity or batteries to work.

Saws are tools for cutting. Hand saws are small and use the worker's strength. Power saws are bigger and faster, cutting through wood or metal easily. Both types of saws help workers shape materials.

Measuring tools, like tape measures, help workers check the size of materials. Levels make sure walls and floors are straight. These tools are important because they make buildings safe and strong.

Construction workers also wear safety equipment, like helmets and gloves, to protect themselves. This gear keeps them safe while they work.

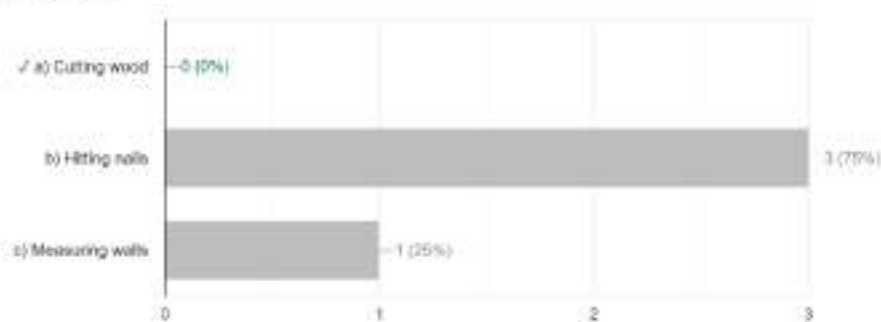
Tools are very important in construction because they make the work faster, safer, and better.

Question 5

What is a saw used for? a) Cutting wood b) Hitting nails c) Measuring walls

Answer 5

6 / 4 correct responses



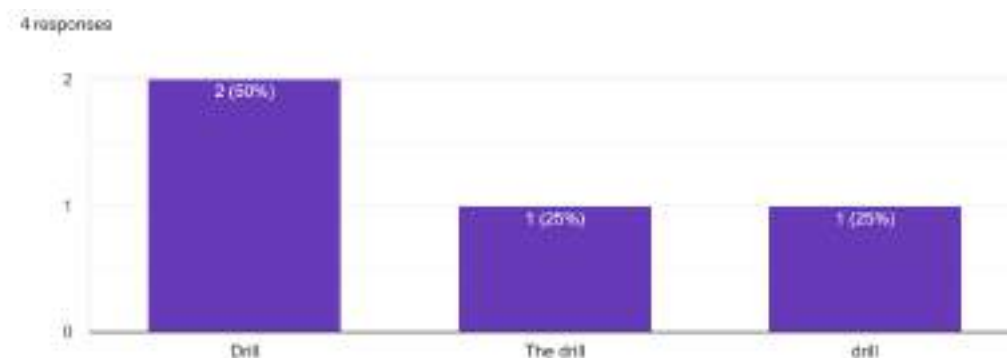
Interpretation 5

All the students get 0 points because the correct answer was a) cutting word.

Question 6

What tool is used to make holes?

Answer 6



Interpretation 6

All the students get 1 point. No matter how they write that work

Question 7

Why are measuring tools important?

Answer 7

Student A	Because they make buildings safe
Student B	They make the buildings safe.
Student C	Helps workers check the size
Student D	Hepl workers check the size.

Interpretation 7

The idea behind this question is for students to summarize the reading in one sentence.

All students get 1 point.

Question 8

Name two tools that workers can use to hit a material. _____ and _____

Answer 8

Student A	Helmets, gloves
Student B	Helmet and gloves
Student C	helmets and gloves
Student D	drill and hammer

Interpretation 8

Students A, B, and C answered Helmet and gloves and got 0 points. Student D answered the drill and hammer and got 2 points.

Question 9

What is the main idea of this passage?

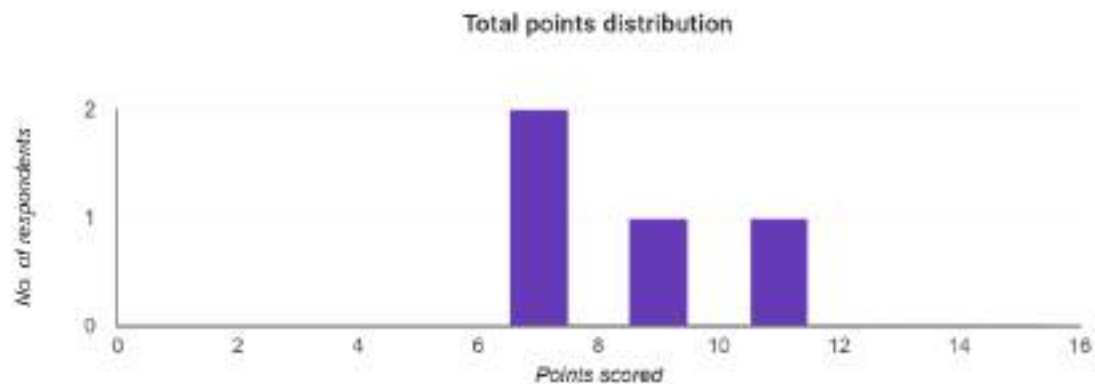
Answer 9

Student A	The main idea is about the tools
Student B	I could say about aborto
Student C	The need to know what it takes to build a building.
Student D	Learn some vocabulary.

Interpretation 9

Students A and C get 1 point because they understand the activity clearly. Students B and D get 0 because they write about something they did not ask.

DATA ANALYSIS



The mean was 8.5 points out of 15; however, the median was 7, indicating a balanced distribution without extreme bias. The observed range was 7 to 11 points, indicating that half the students scored at or below this value. This demonstrates a certain asymmetry in the distribution, which shows little dispersion between the results and suggests relatively homogeneous performance among the students tested.

CHAPTER 3 PRESENTATION AND VALIDATION OF THE PROPOSAL

3.1 Presentation of the Intervention Proposal.

In chapter 3, we will present and validate the pedagogical proposal discussed in the two prior chapters. We propose a personalized education approach to teaching English as L2 to young students with ASD.

This proposal is grounded on the principles of inclusive education and incorporates strategies focused on students' special interests to strengthen the English reading skills of adolescents with autism spectrum disorder (ASD). To achieve this, a methodology based on adapted and highly motivating visual materials is implemented, specifically comics with thematic content from the Marvel universe, whose narrative structure and visual appeal facilitate reading comprehension and promote active participation. In the case of autistic adolescents, this sequencing is especially relevant, as it allows the reading task to be broken down into more accessible steps, aligned with their cognitive processing style.

This approach allows students to connect vocabulary and grammatical structures with real-life situations that are meaningful to them. The activity uses visual support, easier language, and stories that match the students' interests to help them feel more emotionally involved. This variable is part of the lesson plan and is recorded during the strategy's application.

Applying Gagné's instructional design model in this project allows for structuring English reading instruction in a progressive, clear manner adapted to the cognitive characteristics of autistic adolescents. Through its nine instructional events, the student is guided from activating prior knowledge to transferring new learning. For example, by using Marvel comics as the base material, initial attention is captured, and the practice of new vocabulary is promoted through meaningful activities, optimizing the reading comprehension process.

This structured approach ensures that abstract constructions like adaptive learning strategies and motivation based on special interests like Marvel are rigorously assessed, providing relevant information aligned with the research objectives.

3.2 Fundamentals of the proposal.

Based on the initial diagnosis, the proposed pedagogical intervention uses structured methodologies suitable for students with autism, as discussed in the literature review. These approaches should explain the progress students have made in implementing the inclusive EFL program, addressing their unique neurodevelopmental challenges.

The foundation of this proposal is based on theoretical, methodological, and didactic principles that respond to both the characteristics of learning to read in English as a foreign language. In the case of autistic students, Bruner (1973) points out the importance of using iconic representations, that is, images, diagrams, and visual objects that facilitate knowledge construction. Marvel comics respond to this need, as these materials present a strong visual narrative, with identifiable characters, coherent plots, and engaging content.

It is important to recognize that individuals with autism spectrum disorder have different needs. Unlike blind, deaf, or people with physical disability, educational strategies should be tailored to meet their precise requirements, as they face distraction and low verbal development. Hence, every student has a diverse reaction to the intervention program.

In this case, reading skills are measured. Teachers should develop specific goals and instructions to meet individual needs and plan curriculum and instructional strategies accordingly. Later, teachers can Conduct observations of student behaviour and involvement during reading sessions, taking notes of all the different changes in student participation and keeping a video record to support annotations for results.

The project uses a teaching sequence designed around Marvel comic narratives, Mursic (2023) explains, as comics provide a visual and narrative context that facilitates English comprehension by presenting authentic language. Marvel Comics, a division of Disney Media, is widely popular and recognized among teenagers with autism. Thus, familiarity with characters and stories provides an emotional connection that promotes active participation and communicative practice, supporting the development of reading

comprehension and vocabulary development. Using Marvel Comics exclusively, instead of other companies as DC Comics, helps reduce cognitive load and increase motivation.

TEACCH model, developed by Mesibov et al. (2021), supports the need to set a structured learning environment to facilitate the participation of students with ASD. The sequence incorporates visual schedules, simplified language, adapted tasks, and peer-interaction strategies, allowing for a structured and supportive learning environment. This aligns with the recommendations of TEACCH, which emphasizes predictable routines, visual support, and individualized instruction as essential components of successful interventions (Mesibov et al., 2021)

For students with autism, applying a COLT-based methodology allows us to observe and adjust the learning environment to promote activities that foster reading comprehension through authentic tasks, mediated interactions, and materials tailored to their needs.

On the other hand, the UDL approach proposes eliminating barriers through multiple forms of representation, expression, and engagement (Ghani, Jamian, & Abdul Jobar, 2022). This is especially relevant to ensure that English-language content adapts to the diverse types of students, thus promoting their effective inclusion.

The proposal also draws on the theory of meaningful learning, which, according to Vallori (2014), allows knowledge to be related to the learner's prior structures, making it durable and functional. According to Suphi & Yaratan (2016), guided discovery enhances students' cognitive autonomy, allowing them to explore the content at their own pace. Cooperative learning, as Jacobs & Seow (2015) pointed out, encourages social interaction and the development of communication skills, crucial aspects for adolescents with ASD.

3.3 General and specific objectives of the proposal.

General Objective is to improve reading comprehension in English among adolescents with ASD using adapted visual materials based on special interests and inclusive strategies in A2 students to become them in B1 students.

For this reason, we developed this research as a guide for designing and applying strategies that we will replicate with many other students with neurodevelopmental disabilities.

Several specific objectives were defined to achieve this research's primary goal, which will be combined into three specific objectives:

First, the study aims to improve the reading comprehension in a sample of selected students. The initial step is to check the reading comprehension and vocabulary development level before intervention. Then, it proposes to create and apply a reading plan using adapted Marvel comic materials and visual supports. Later, reading comprehension is achieved using didactic practices, including visual aids, predictable structures, clear routines, and motivating and contextualized materials. This objective is directly connected to the null hypothesis, which states that there will be no significant improvement in reading comprehension after the intervention. By testing this hypothesis, the study seeks to determine whether the proposed strategy has a measurable and positive impact on the reading performance of the target group, thus validating or rejecting the effectiveness of the instructional model.

Second, the project explores and analyses students' emotional and motivational responses to the materials, focusing on the impact of special interests. It uses questionnaires to explore how students with ASD react emotionally and stay motivated when using those materials. The information gathered from the questionnaire can be employed by educators to evaluate performance, specifically whether students are learning meaningfully. Educators should convey to students the importance of collecting the information derived from applying learning strategies for future improvement.

Third, the research examines how students participate in class, especially during reading activities, using an observation rubric as instrumental validation. The ideal subjective assessment is designed to be unbiased and analyzes the evolution of students with ASD's active participation in the classroom throughout the strategy implementation process. For instance, the number and quality of verbal interventions by students with

ASD in oral activities during the intervention should be measured to demonstrate topic attention.

3.4 Proposal modelling

The proposed intervention is organized through a Rotation Station Model, in which students engage in reading activities differentiated by time and objectives within each station. The activities are designed to strengthen Reading Comprehension through pre-, during-, and post-reading strategies, using predictable routines and tasks contextualized in superhero stories.

Pretest data guides educators in selecting evidence-based interventions and approaches, ensuring that instruction is grounded in research and effectively supports students' learning.

Later, with the questions discussed in the introduction and the content developed until now, we can formulate the following Hypotheses:

First or Null Hypothesis. Comic-based reading materials significantly improve the English reading skills of adolescents with autism spectrum disorder compared to their performance before the intervention.

Alternative Hypothesis. Students with ASD will not show increased engagement, attention, and emotional responsiveness during English reading sessions that use comic-based content compared to traditional reading materials.

These hypotheses can be tested through:

H1: Pre/post reading assessments and Observational checklists and video analysis.

H₀: There is no significant improvement in the reading comprehension of adolescents with ASD after the implementation of the methodological and technological intervention using adapted Marvel-based materials.

3.5 Characteristics of the proposals.

The proposal combines approaches based on neurodiversity, meaningful and visual learning, educational inclusion, and motivation through special interests such as Marvel. Likewise, the proposal is based on the principles of discovery learning and cooperation

Online cooperative learning principles can enrich interaction, create teach collaborative skills, as not all students are naturally suited to teamwork. Likewise encourage maximum peer interaction, creating constant opportunities for friendship, mutual support, and the joint construction of knowledge. To ensure balanced participation, equal opportunities must be ensured, with each member having a voice and space to contribute. Implanting cooperation as a virtue helps consolidate a culture of collaborative work, respect, and mutual support, improving academic learning and students' social development (Jacobs & Seow, 2015).

Google Meet is justified primarily due to its cost-effectiveness compared to traditional face-to-face classes. Online sessions reduce or eliminate transportation costs, classroom rental fees, printed materials, and other logistical expenses associated with physical attendance. Moreover, Google Meet offers free access compared with Zoom, where a subscription is required to record and run classes longer than 40 minutes. Compatibility across devices such as Android and iOS makes it a practical platform, especially for students from low-income backgrounds (Annex 8)

The syllabus adapted for people with disabilities should be organized around language functions, based on the specific needs of students. A functional mini syllabus for the short-duration course is pertinent. Activities should focus on what language does in real-life scenarios, on understanding how language works in context, not just grammar.

3.6 Structure and dynamics of the proposal

The sessions are designed as interactive, due to allowing real-time participation, guided practice, and immediate feedback from the educator. The dynamic includes individual and pair activities, as well as the integration of visual aids, breakout discussions, and the support after class of the teacher or assistant when necessary to facilitate participation and comprehension.

Each session has been designed with a clear pedagogical sequence that includes warm-up, guided reading with visual support, vocabulary development, and comprehension activities. Students execute activities to improve scores and English program satisfaction while feeling an authentic inclusion perception from their teachers.

Adapted didactic materials are used online, considering good educational care from their teachers, and are associated with Marvel comic narratives, which are familiar and engaging for the students. These materials support the development of reading comprehension and vocabulary acquisition through emotionally meaningful and visually supported contexts.

Moreover, each intervention class involves assisting students in creating causal connections as the gist of the story. Causal connections were made to build background knowledge, conduct picture thoughts before reading, and use reciprocal questioning.

At the end of the intervention, Posttest delivers a Google Forms summative assessment at the end of the instructional period, where every student must answer questions to proceed. The structure allowed students to navigate backward to check prior answers if they wanted to review or change answers. This is consistent with the pretest summative assessment, as it is assessed at a similar level of comprehension.

3.7 Requirements for implementation.

The proposed intervention is structured around four eighty-minute sessions, delivered in an online learning environment through the Google Meet platform. This virtual setup was selected to ensure accessibility and flexibility for the participating students, particularly considering their individual learning needs and schedules.

The target population consists of ASD teenagers aged between 13 and 17 years old, whose initial level of English ranges from pre-intermediate to intermediate. This proficiency level allows for introducing and reinforcing basic reading skills in English, without exceeding the expected English level. All students need the use of a laptop and a fixed home internet connection. Prior to participation, consent will be obtained from the parents or guardians of autistic students involved in the study. Ensuring the confidentiality of student information throughout the research process is possible by adhering to ethical guidelines and standards outlined by relevant institutional review boards and regulatory bodies. (Annex 7)

Participants were recruited as volunteers because they wanted to participate in the program to improve their grades in high school. For this reason, we have to adapt the

program to the spaces available for teachers and students. For example, the classes run from 8 p.m. each Thursday. Due to the class timetable and homework during the morning and afternoon, they usually go outside with family on Friday. Hence, Friday evening is the only scheduled space available to meet.

3.8 Validation of the proposal.

The reading level exhibited by autistic students can be demonstrated through a score table derived from the comprehension questions and vocabulary development intervention. It will show a clearer interpretation of their progress before and after the intervention and likelihood of students with the program.

To validate the independent Variable, the results of the dependent variable could help decide whether the program is successful or not.

For Variable 1: Reading Comprehension, a Google Forms questionnaire with correct and incorrect answers, like pretest and post-test, is quantitative. It compares before-and-after results using descriptive statistics, including mean, median, and range. Analyzing: Using a table and Google-generated graphs to visualize progress by student. The indicator is the percentage of correct answers.

For Variable 2: Student Participation, the assessment is an observation of a rubric during oral activities, with criteria such as the number of oral interventions, the relevance of the intervention, and the use of learned vocabulary. Evaluation: The teacher can complete it through a forensic analysis of sessions.

For Variable 3: Reaction to Visual and Special Interest Materials. Assessment: Student survey with a Likert scale. The dimension is the Motivation and Emotional Response when using visual materials. The Indicators are the Responses would be used to determine their personal opinions regarding the use of resources such as comics, images, and content related to their interests, used during English classes.

Independent Variable. Effectiveness of an adapted teaching method

To check the validation, we check whether the four online sessions of 80 minutes each were done. Also, as these sessions included Marvel comics that were adapted with visual help, easy words, and communicative activities. The application of the proposal

was shown through class plans, materials made by the teacher, and video recordings of student participation. The effect of the comics was not measured directly. However, we could see their impact through improvements in the other variables: reading comprehension, student participation, and reaction to the visual content. Also, students' scores, opinions, and observations helped show that our research was helpful for students.

Dependent Variable 1. Reading comprehension

An objective assessment compares the pre-test and post-test sections of Vocabulary development and Comprehension Skills. Both sections have the same structural questions, 15/15. The scoring is similar, except for question one, which is worth 5 points post-test, from 4 points. Question eight's worth is decreased from 2 to 1 point to compensate.

Table 1: Grading system for variable 1

Question/ Answers score	Pre-test	Post-test
Vocabulary development		
1	4	5
2	3	3
3	1	1
4	1	1
5	1	1
Comprehension Skills		
6	1	1
7	1	1
8	2	1
9	1	1
TOTAL	15	15

Dependent Variable 2: Student participation

This is a subjective assessment in which the teacher measures the degree of active engagement in the learning process and the student's willingness to communicate in

English in a meaningful setting. It is especially useful for determining whether the program improves reading with the approach selected.

Each of the six questions responds to a distinct criterion, and the grading responds to an observable behavior recorded in the video class. According to the scale, four means always paying attention to class; hence, it is positive; thus, scale one means students are uninterested in the class.

Table 2: Grading system for variable 2

Questions		Observable Behaviour	Score (1–4)
1. Positive emotional reaction		The student smiles, laughs, or shows enjoyment when interacting with content.	
2. Spontaneous personal connection		The student makes unprompted remarks showing an interest in the content.	
3. Functional attention		The student remains involved and follows the activity throughout the task.	
4. Increased participation when visual content is used		The student participates more actively when comics or interest-based materials are involved.	
5. Use of related vocabulary		The student uses words, names, or expressions related to comics, characters, or lesson vocabulary.	
6. Willingness to collaborate in visual-based tasks		The student is more willing to engage or cooperate during activities using visual materials.	
Score		Description	
1		Never	
2		Rarely	
3		Often	
4		Always	

Dependent Variable 3: Reaction to visual and special interest materials

A subjective assessment where students were given a set of questions to respond in a form about their personal beliefs after the program about the real support of the program in their lives. Each student receives a brief explanation of the purpose of the activity. It was emphasized that there were no right or wrong answers, and the only important thing was honesty. According to the scale, a Yes is worth 3 points, A little is worth 2 points, and 1 means No effect in education.

Table 3: Grading system for variable 3

Question	3 (Yes)	2(A little)	1 (No)
1. I liked reading the Marvel comics.	☐	☐	☐
2. The pictures helped me understand the story.	☐	☐	☐
3. I learned new English words.	☐	☐	☐
4. I understood the comic stories.	☐	☐	☐
5. I liked to speak or write about the comics in class.	☐	☐	☐
6. I want to use comics again in English class.	☐	☐	☐

3.9 Validation results.

In this section, each variable will be depicted that we previously analyzed with the post-test and the data analysis Likert.

VARIABLE 1

READING COMPREHENSION

The Post test presents the following results after the Google Forms survey is answered by each student.

VOCABULARY DEVELOPMENT.

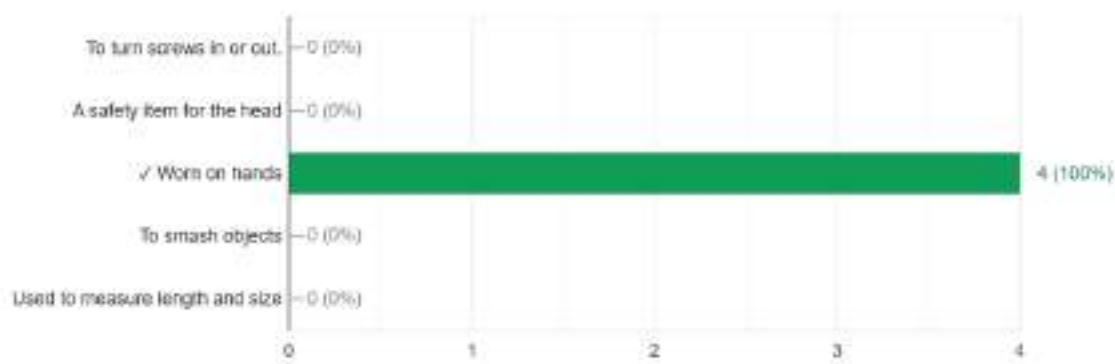
Question 1.

Word Association: Match each tool with its correct definition.

Definition	To turn screws in or out.	A safety item for the head	Worn on hands	To smash objects	Used to measure length and size
Gloves	☐	☐	☐	☐	☐
Screwdriver	☐	☐	☐	☐	☐
Hammer	☐	☐	☐	☐	☐
Helmet	☐	☐	☐	☐	☐
Measuring tape	☐	☐	☐	☐	☐

Answer 1

4 / 4 correct responses



Interpretation 1

All the students answered this question correctly and get 1 point.

Question 2

Fill-in-the-Blank: Complete the sentences using the words in parentheses.

Before cutting the wood, always use a _____ (hammer/measuring tape) to check the size.

A _____ (screw/ladder) is useful for reaching high places.

To fix a leaking pipe, you might need a _____ (wrench/helmet).

Answer 2

Student A 1=measuring tape 2=ladder 3=wrench

Student B Measuring tape, ladder, wrench

Student C Measuring tape. Ladder. Wrench

Student D Measuring tape, ladder, wrench.

Interpretation 2

All the students answered this question correctly and get 3 points.

Question 3

Grammar: Choose the correct verb form

Last year, the Avengers _____ a small base

- ☐ build (present)
- ☐ built (past)
- ☐ building (present continuous)

Answer 3

4 / 4 correct responses



Interpretation 3

All the students answered this question correctly and get 1 point.

Question 4

Vocabulary Usage: Write sentences using one past, one present, and one future tense

Answer 4

Student A Present: I build a small table Past: I built a small table Future: I will build a small table

Student B I built it for storage. Now, I am assembling it. Tomorrow, I Will use it.

Student C I will measure the length of the materials with the measuring tape, cutting the wood with a saw, and i used a screwdriver to attach all the parts.

Student D I will Buy the wood and nails I have a white paint I'm missing a brush.

Interpretation 4

All the students get 3 points because they answered all the questions well.

COMPREHENSION SKILLS

Carlos is a carpenter. Every day, he uses different tools to fix and build things. In the morning, he measures wood with a tape measure. Then, he cut the wood with a saw. After that, he hits nails into the wood with a hammer.

Last week, Carlos built a new table for a client. First, he checked the materials. Then, he used a drill to make holes. After that, he inserted the screws with a screwdriver.

Next month, Carlos will work on a big project. He will use a wrench to fix pipes and a ladder to reach high places. To stay safe, he will wear a helmet and gloves.

Question 5

What is Carlos's job?

- ☐ a) He is an electrician.
- ☐ b) He is a plumber.
- ☐ c) He is a carpenter.
- ☐ d) He is a mechanic.

Answer 5

3 / 4 correct responses



Interpretation 5

Students B, C, and D each received one point for answering well. Student A received 0 points for answering incorrectly.

Question 6

Imagine you are building a small table. Explain how you will do?

Answer 6

- | | |
|-----------|--|
| Student A | Present: I build a small table Past: I built a small table Future: I will build a small table |
| Student B | I built it for storage. Now, I am assembling it. Tomorrow, I Will use it. |
| Student C | I will measure the length of the materials with the measuring tape, cutting the wood with a saw, and i used a screwdriver to attach all the parts. |
| Student D | I will Buy the wood and nails I have a white paint I'm missing a brush |

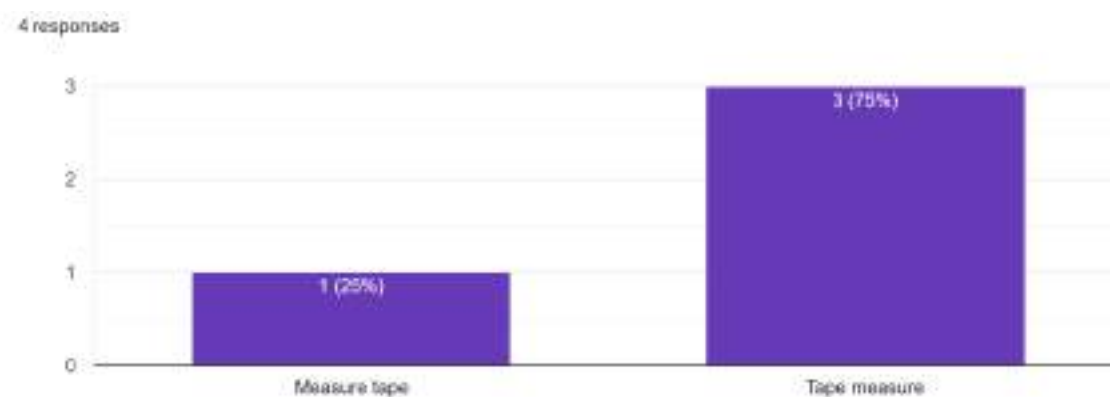
Interpretation 6

All the students selected the option and got 1 point.

Question 7

Which tool did he use to measure wood?

Answer 7



Interpretation 7

All the students wrote down the correct tool and got 1 point. However, the words used were not grammatically correct.

Question 8

Why does he use a ladder?

Answer 8

Student A	To reach high places.
Student B	To reach high places
Student C	Reach high places
Student D	To reach high places

Interpretation

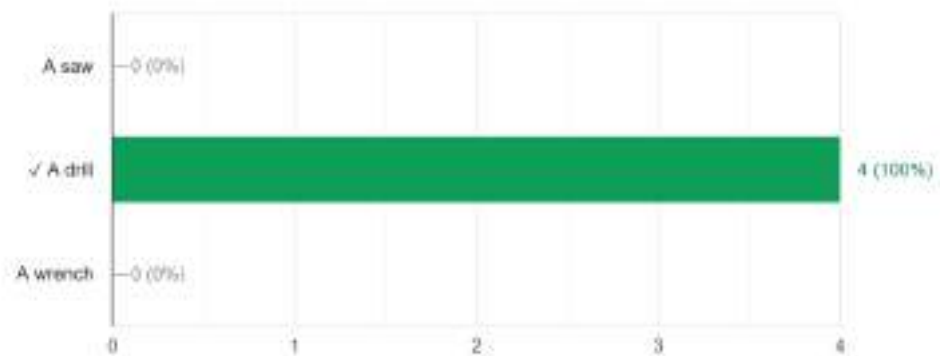
All the students selected the option and get 1 point.

Question 9

What tool did Carlos use to make holes last week?

Answer 9

4 / 4 correct responses



Interpretation 9

All the students selected the option and get 1 point.

Question 10

What is the main idea of this passage?

Answer 10

Student A	The passage describes Carlos's daily work as a carpenter and the tools he uses to perform his tasks.
Student B	0

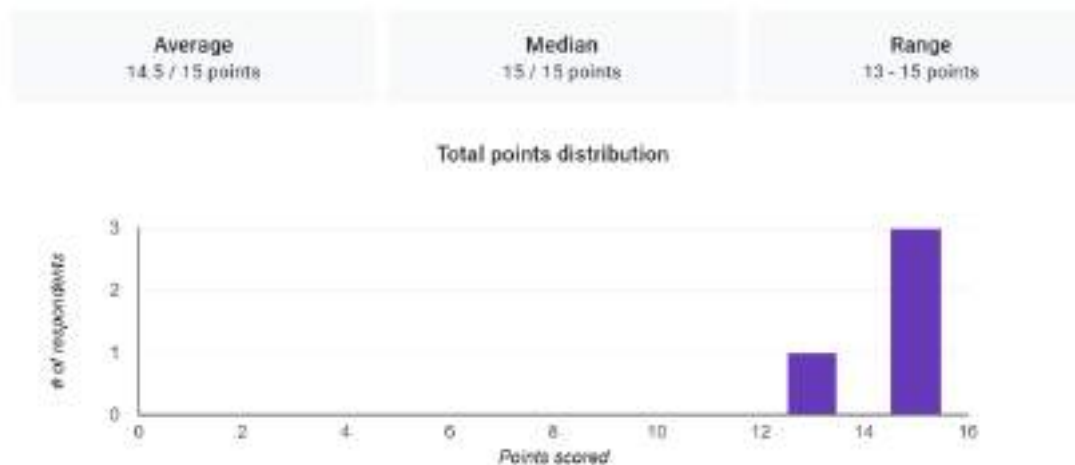
Student C Knowing about Carlos's life as a carpenter

Student D How to use the tools

Interpretation 10

Student A and C get 1 point, Student B and D got 0 point.

Insights



Scores explained detailed.

Table 4 Results presented in this section

Letter Student	Pre-test	Post-test
Student A	7	14
Student B	9	15
Student C	11	15
Student D	7	13

The post-test shows remarkably high student performance. The mean average was 14.25 points out of 15, indicating an excellent understanding of the assessed content. The median, also 14 points, confirms that at least half of the students achieved this score or higher, supporting consistent performance. The score range was between 13 and 15 points, revealing very limited dispersion. The visual distribution shows that most students scored

14 or 15 points, while only one achieved 13, reflecting an improvement in reading comprehension after the intervention.

This performance suggests that the educational intervention based on adapted materials, such as comics and visual content focused on special interests, had a positive impact on the reading comprehension of adolescents with autism.

DEPENDENT VARIABLE 2

Student participation

Table 5 Results presented in this section

	Student 1	Student 2	Student 3	Student 4	Avg / Total
Question 1	3	2	2	3	2.50
Question 2	2	3	3	3	2.75
Question 3	1	3	1	2	1.75
Question 4	2	3	3	3	2.75
Question 5	3	2	3	3	2.75
Question 6	2	2	3	3	2.50

The results of the student survey show that most students liked the comic-based English classes. The highest scores were in questions about understanding the story, enjoying the pictures, and participating in class. This means that using Marvel comics helped students feel more interested and involved. The lowest score was in the question about learning new words, which suggests that some students did not clearly notice new vocabulary. Student 4 gave the highest ratings, while Student 1 gave the lowest.

DEPENDENT VARIABLE 3

Reaction to visual and special interest materials

Table 6 Results presented in this section

	Student 1	Student 2	Student 3	Student 4
Question 1	5	4	5	3
Question 2	4	5	5	5
Question 3	4	4	4	2
Question 4	4	5	4	4
Question 5	3	4	4	4
Question 6	4	4	4	5

In the recordings observed, a good level of response to the visual and thematic proposal was evident from all four students. Student 3 showed consistently high performance, especially in questions 1 and 2, related to emotional reaction and spontaneous participation, obtaining the maximum score in both. Student 2 also stood out with high and consistent scores, demonstrating coherence and use of vocabulary. On the other hand, Student 4 showed some variations, with a lower score in character identification Question 3, but a notable improvement in overall motivation Question 6. Student 1 maintained solid performance, with a slight decrease in attention on Question 5.

CONCLUSIONS:

In conclusion, the proposal effectively improved reading comprehension. It supported vocabulary development in English teenagers with autism spectrum disorder (ASD), as evidenced by the score increase between pre-test and post-test. Likewise, frequent student participation and a positive response to the use of visual materials and personal interest were observed.

These findings contribute to our society because they confirm that the research objectives were met, consolidating the viability of an intervention based on motivating content, adapted material, cost-effectiveness, and inclusive pedagogical support. Thus, they are covered within the Inclusive Teaching and Learning Methodologies research lines.

Furthermore, the mixed approach (quantitative and qualitative) allowed us to understand the numerical results and the students' experiences and perceptions. Thus, emotional connection with the selected materials reduced attitudinal barriers, improving academic performance and the emotional climate during classes.

Moreover, this proposal can be replicated and adapted to similar broader school contexts and new in-person or rural scenarios. Although the study was conducted with a limited sample and in a virtual environment, the results suggest that this strategy could be applied to build more equitable, motivating, and effective educational environments for all students.

Overall, the research aims to create an inclusive and effective learning environment by integrating innovative teaching methods explained in the literature review, using research methodology to accommodate diverse learning needs, and testing our theories, considering subjective and objective evaluations to prove our hypothesis, and using accessible and economical online programs to deliver the approach. Therefore, the research discovered that personal interests could become powerful tools for motivating and facilitating learning, especially in contexts of diversity such as autism.

RECOMMENDATIONS:

Based on the research findings, different recommendations can be made to develop an effective policy with the approach applied. In a country like Ecuador, where inclusion is needed, a good idea is to convey the research results widely to reach many tenors with the autism spectrum condition. (ASD)

It is suggested that the research methodology should be applied to a broader and more diverse sample of students with neurodevelopment disorders, considering different ages, English levels, and other educational contexts such as in-person and rural classes.

It is recommended that the systematic opinion of other tenors, such as shadow teachers or educational psychological support staff, be incorporated as a future variable through interviews or specific questionnaires that assess the proposal's applicability and perception.

It is endorsed that new research could explore oral and listening skills in English, using special interests, and inclusive methodologies. It encompasses designing a program, data collection, and technological integration of all the ADDIE phases, as in the current study.

It is desired that other sophisticated adaptive educational resources be developed based on specific interests, such as other trending topics in pop culture or franchises like DC Comics. The intervention decision should follow an appropriate implementation of the ethical and practical constraints of working with this material in inclusive educational settings, because all students should benefit from adapted instruction.

Together, these actions strengthen the current approach and expand new lines of research to create more equitable educational environments and a better future for all students with neurodevelopmental needs, especially those related with autism spectrum disorder.

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Annex 2: Research plan.

RESEARCH TOPIC: A Comprehensive Inclusive Approach to Enhance Reading skills in People with Vulnerabilities Level A2

1. Brief analysis and description of the situation that justifies the presentation of this proposal.

In Ecuador people with autism or disabilities face discrimination can manifest in various forms, including social, economic, and institutional barriers that limit the full participation and inclusion in society. Ecuadorian Society has failures in the learning process between students and teachers. Commonly, students have a poor inclusion because diversity projects are not settled commonly when they learn a L2 Foreign Languages, consequently students have a harsh progression

2. Statement of the problem to be investigated.

Implementing an inclusive approach to enhance English reading skills in an autistic teenagers, due to individuals with autism use to have low scores in classes, resulting from difficulties in understanding other people's thoughts and feelings. Whether students who experience a challenging learning trajectory in reading due to ASD, can overcome those challenges through an intervention-based approach. Thus, they could achieve a better future.

3. Justification of the research

It's important to recognize that individuals with autism spectrum disorder (ASD) have a wide range of strengths and challenges, and educational strategies should be addressed to meet their specific requirements in a class environment. The most important thing is to plan accurately as possible.

4. Description of the relationship between the proposal and the research lines of the university.

My research will be methodological within the area of Pedagogy, Didactics, And Management of Education, encompassing topics of Inclusive Teaching and Learning Methodologies.

This proposal aligns with the university's research lines in education and inclusion, as it promotes innovative teaching practices, supports students with special educational needs, and contributes to the development of equitable and accessible learning environments for diverse populations.

5. Object of the research

People who know English has a key to success because English language opens doors widely to any area of knowledge from Accounting to Zoology to anyone in the world with another L1 language. By examining effective teaching strategies, adapting materials, and incorporating assistive technologies, the research seeks to create a holistic and empowering learning environment for this marginalized group.

6. General objective (one)

General Objective is to improve reading comprehension in English among adolescents with ASD using adapted visual materials based on special interests and inclusive strategies in A2 students to become them in B1 students.

7. Specific objectives (three)

To evaluate the improvement in English reading comprehension among students with ASD through the implementation of a teaching strategy based on adapted and visual materials.

To observe and analyze students' oral and academic participation during the implemented activities, using an observation rubric as an assessment tool.

To identify the emotional and motivational response of students with ASD to the use of visual and thematic materials related to special interests, such as Marvel.

Authentic inclusion, Didactic practices, and Educative care

8. Description of the variables of the study (independent & dependent)

The independent variable would be the teaching method implemented with our methodology.

Dependent variables are three reading comprehension, student participation, and reaction to the materials.

Reading comprehension is achieving collecting students scores and success caused as an effect of the implementation of tests variable.

Student participation is measured with an observation rubric, considering dimensions such as the number of participations, the relevance of the interventions, and the use of vocabulary worked on in class.

Reaction to the materials assesses emotions, motivations, and behavior from student responses to the use of visual materials tailored to special interests, and the development activity with enjoyment and appeasement

9. Description of the research approaches, methods, data collection

Research approaches Authentic inclusion for autistic people sometimes is poorly accomplished since special education measures are focused in physical, blind, deaf, or impaired disabilities instead of mental. Didactic practices include the special material and procedures to follow with the purpose to get positive outcomes with students. Educative care involves in kids and other students' medical treatment including physiological and physiatrist practitioners, shadow teachers and Departments of wellbeing staff. Furthermore, we learn in class two types of research a methodological proposal which refers to a plan of design, data collection and analysis; and technological proposal which involves the use of technologies in classrooms. Conducting research involves several essential steps. We already selected a research topic aligned with your interests and academic goals, followed by a comprehensive literature review to identify

gaps and questions, formulate clear research hypotheses, and proceed with data collection using appropriate methods. Analyze the data, interpret the results, and organize the findings.

10. Description of the beneficiaries and their main characteristics.

The beneficiaries of a proposal are individuals with autism spectrum disorder (ASD). Students have several issues with concentration, lack of social skills, and low vocabulary. The educational program addresses their unique learning needs, enhances their social and communication skills, and supports their overall development. By tailoring educational strategies to accommodate diverse abilities and providing a supportive learning environment, the program directly benefits individuals with autism.

11. Description of the practical contributions of the proposal.

The proposal offers practical contributions by providing teachers with adaptable instructional strategies, visual and interest-based materials, and inclusive digital tools that can be immediately applied in real classroom settings to enhance reading comprehension and student engagement among adolescents with Autism Spectrum Disorder.

It is important to point out that the research beyond a literature review involves the use technology platforms as zoom to deliver class with real students that probably are not socially active. Data collection is made carefully through surveys, tests, and video performance analysis.

12. Importance of the proposal from the following perspectives: Professional, methodological, technological, and social need.

Professional: strengthens the role of educators by providing inclusive strategies tailored to the needs of students

Methodological. Create a structured and evidence-based methodology to improve reading comprehension among neurodiverse learners.

Technological. Incorporating digital tools, to promotes accessible and cost-effective learning environments.

Social. Research in autistic students, addresses a pressing social need, because it reduces barriers to learning and participation.



Signature 1: Ricardo Andres Sanchez Carrillo

Id. Number: ____0927708297____

Annex 3: Operationalization Matrix.

OPERACIONALIZATION MATRIZ – ROTATION STATION					
INDEPENDENT VARIABLES	CONCEPTUAL DEFINITION	OPERATIONAL DEFINITION	DIMENSIONS	INDICATORS	SCALES
Application of tailored learning strategies to improve reading in autistic students.	Program employ to enhance proficiency in learning English as a second language.	Students learning a second language (L2) face challenges due to insufficient inclusion, as diversity is not implemented.	Before Reading: Build Background Knowledge	Visual Support Presenting information related to the text	Results of the dependent variables
			During Reading: Make Connections	Creation of visual representation of the story.	
			After Reading: Engage in Consistent Discussions	Story Recall, students create causal connections and causal chains	
			Summarize Understanding	Teacher opinions about class progress	
DEPENDENT VARIABLES	CONCEPTUAL DEFINITION	OPERATIONAL DEFINITION	DIMENSIONS	INDICATORS	SCALES
Reading comprehension	The ability to understand, written English texts.	Measured through a pre-test and post-test with multiple questions	Pretest for students	Pre teaching Vocabulary and key terms	1-15
			Post-test for students.	Post teaching Vocabulary and key terms	
Student participation	The degree of active involvement in classroom	Measured through a student survey with Likert scale and teacher	Active classroom engagement	Incorporation of Marvel stories	1-3
			Evaluated through an observation rubric with Likert	Follows instructions	
			Number of participation in class	Interacts with teacher or peers	

	activities, including verbal and non-verbal	observations. during sessions	Self-perception		
Reaction to visual and special interest materials	The emotional and behavioral response of students with ASD to adapted content based on their personal interests	Evaluated through an observation rubric with Likert scale during English reading sessions	Eye Attention	Camera on students face	Always Often Almost Never
			Willingness to participate	Time on task	
			Enthusiasm	Positive reactions (smiles, verbalizations	
			Interaction	Voluntary participation per station	

Annex 4: Validation instruments.



CERTIFICADO DE VALIDACIÓN DE LOS INSTRUMENTOS DE MEDICIÓN A TRAVÉS DE JUICIO DE EXPERTOS

TITULO DE LA INVESTIGACION: Implementing an inclusive approach to enhance English reading skills in vulnerable students A2

AUTOR (ES): Ricardo Andrés Sanchez Carrillo

CERTIFICADO DE VALIDEZ DE CONTENIDO DEL INSTRUMENTO QUE MIDE DEPENDENT VARIABLE

Nº	DIMENSIONES / ítems	Pertinencia ^{a1}		Relevancia ^{a2}		Claridad ³		Sugerencias
		Si	No	Si	No	Si	No	
1	Functional reading comprehension							
2	Active classroom participation	X		X		X		
3	Emotional and motivational response	X		X		X		
4	Pre-test Post-test	X		X		X		
5	Likert scale	X		X		X		
6	Participation in class	X		X		X		

--	--	--	--	--	--	--	--	--

Observaciones (precisar si hay suficiencia): _____

Opinión de aplicabilidad: **Aplicable** [] **Aplicable después de corregir** [] **No aplicable** []

Apellidos y nombres del juez validador. Dr/ MSc: Carmen Letamendi Laso **C.I.:...** 0920214459.....

Especialidad del validador:

¹**Pertinencia:** El ítem corresponde al concepto teórico formulado.

²**Relevancia:** El ítem es apropiado para representar al componente o dimensión específica del constructo

³**Claridad:** Se entiende sin dificultad alguna el enunciado del ítem, es conciso, exacto y directo

.....de.....del 20.....

Firma del Experto Informante.



CERTIFICADO DE VALIDACIÓN DE LOS INSTRUMENTOS DE MEDICIÓN A TRAVÉS DE JUICIO DE EXPERTOS

TITULO DE LA INVESTIGACION: Implementing an inclusive approach to enhance English reading skills in vulnerable students A2

AUTOR (ES): Ricardo Andrés Sanchez Carrillo

CERTIFICADO DE VALIDEZ DE CONTENIDO DEL INSTRUMENTO QUE MIDE INDEPENDENT VARIABLE

Nº	DIMENSIONES / ítems	Pertinencia ^{a1}		Relevancia ^{a2}		Claridad ³		Sugerencias
		Si	No	Si	No	Si	No	
1	Use of visual materials adapted to student needs							
2	Integration of special interest content (e.g., Marvel comics)	X		X		X		
3	Authentic inclusion perception	X		X		X		
4	Didactic Practices	X		X		X		
5	Educational care	X		X		X		

--	--	--	--	--	--	--	--	--

Observaciones (precisar si hay suficiencia): _____

Opinión de aplicabilidad: **Aplicable** [] **Aplicable después de corregir** [] **No aplicable** []

Apellidos y nombres del juez validador. Dr/ MSc: Carmen Letamendi Laso **C.I.:...** 0920214459.....

Especialidad del validador:

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³**Claridad:** Se entiende sin dificultad alguna el enunciado del ítem, es conciso, exacto y directo

.....de.....del 20.....

Firma del Experto Informante.

English Reading Intervention Program Evaluation Questionnaire

During the program students and parents will provided data to evaluate the program in

Thank you for participating in this survey. Your feedback is valuable for assessing the effectiveness of the English reading intervention program

for students with autism at A1 level. Please answer the following questions honestly and to the best of your ability.

Student Information:

Name (Optional): _____

Grade/Class: _____

Section A: Pre-Intervention Assessment

Before participating in the reading intervention program, how would you rate your English reading skills?

Excellent

Good

Fair

Poor

Section B: Post-Intervention Assessment

How do you feel your English reading skills have improved since participating in the intervention program?

Improved

No change

Declined

Annex 5: Lesson Plan.

Lesson Plan: Reading		
Date	TIME	LEVEL
15/1/2025	40–50 minutes	A2
TOPIC: Understanding Tools through Comic's Stories		
OBJECTIVES:		
To improve reading comprehension through adapted Marvel content. Encouraging social interaction and communication through cooperative activities.		
ASSESSMENT:		
Observation, group participation, vocabulary matching in-class worksheet		
MATERIALS:		
Adapted Marvel story (print/audio), flashcards (emotions/actions), worksheets, visual supports.		
STAGE	PROCEDURE	SUCCESS INDICATORS
1. Welcome and agenda (5 min)	Teacher presents a visual schedule and greets each student by name.	Students show engagement and readiness.
2. Situation (Presentation) (5 min)	Introduction of the topic with flashcards or real objects: “This is a hammer”, etc.	Students respond to character or story with interest.
3. Lead-in (Socratic questioning) (10 min)	Teacher asks guided questions: “How does the character feel?”, “What is he doing?”	Students answer using visual cues or words, showing basic understanding.
4. Main activity (10 min)	Students match emotions/actions flashcards to scenes in the story, then work in pairs to describe one.	Students correctly identify and describe emotions/actions.
5. Controlled practice (10 min)	Vocabulary worksheet or simple comic-strip creation using speech bubbles (guided).	Students complete the worksheet or task with support.
6. Feedback and closure (5 min)	Review key vocabulary, allow students to share their favorite part, and end with a positive comment.	Students participate in sharing or repeating learned words.