

# The Most Recent Advances on the Teaching of English to Students with Autism Spectrum Disorder (ASD): A Basic Literature Review\*

[English version]

Los más recientes avances en la enseñanza de inglés a estudiantes con Trastorno del Espectro del Autismo (TEA): una revisión de literatura básica

Avanços recentes no ensino de inglês para alunos com Transtorno do Espectro Autista (TEA): uma revisão da literatura básica

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## Abstract

**Objective:** To identify the most recent advances including the research trends, government policies and classroom strategies in the teaching of the English language to students diagnosed with autism spectrum disorder (ASD). **Methodology:** Literature review based on 52 scientific articles and retrieved from academic databases through the VOSviewer software. Publications were searched using key words related to ASD and English teaching. Doxographic data sheets to log the information were created and recurring topics were categorized using theme coding. **Results:** The results reveal, in the last decade, various countries have developed initiatives to support students with ASD. The main advances are grouped into four areas: (1) predominant research approaches by country; (2) government policies and the use of technological tools to ease the work in inclusive classrooms facing social inequalities and (3) strategies to improve ASD students' English learning. **Conclusions:** Considering that inclusive contexts offer restrictive environments, the governments have implemented educational policies on treatment and prevention. Nonetheless, there is a clear contradictory discrepancies between educational policies and the reality of inclusive education. It is also necessary to balance social inequalities to meet the specific needs of ASD populations.

**Keywords:** Autism; Inclusive education; Teaching strategies; Foreign languages; English; Government policy (obtained from UNESCO Thesaurus).

## Resumen

**Objetivo:** identificar los avances más recientes, incluyendo las tendencias de investigación, políticas gubernamentales y estrategias de aula en la enseñanza del idioma inglés a estudiantes diagnosticados con trastorno del espectro autista (TEA). **Metodología:** revisión de literatura basada en 52 artículos científicos recuperados de bases de datos académicas mediante el software VOSviewer. Las publicaciones se buscaron utilizando palabras clave relacionadas con TEA y enseñanza de inglés. Se crearon fichas de datos

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doxográficos para registrar la información, y los temas recurrentes se categorizaron utilizando codificación temática. **Resultados:** los resultados revelan que, en la última década, varios países han desarrollado iniciativas para apoyar a estudiantes con TEA. Los principales avances se agrupan en cuatro áreas: (1) enfoques de investigación predominantes por país; (2) políticas gubernamentales y el uso de herramientas tecnológicas para facilitar el trabajo en aulas inclusivas que enfrentan desigualdades sociales y (3) estrategias para mejorar el aprendizaje de inglés de los estudiantes con TEA. **Conclusiones:** considerando que los contextos inclusivos ofrecen entornos restrictivos, los gobiernos han implementado políticas educativas sobre tratamiento y prevención. Sin embargo, existe una clara discrepancia contradictoria entre las políticas educativas y la realidad de las aulas inclusivas. También es necesario equilibrar las desigualdades sociales para satisfacer las necesidades específicas de las poblaciones con TEA.

**Palabras clave:** autismo; educación inclusiva; estrategias de enseñanza; lenguas extranjeras; inglés; política gubernamental (obtenidos del tesoro UNESCO).

## Resumo

**Objetivo:** identificar os avanços mais recentes, incluindo tendências de pesquisa, políticas governamentais e estratégias de sala de aula, no ensino da língua inglesa a estudantes diagnosticados com transtorno do espectro autista (TEA). **Metodologia:** revisão de literatura baseada em 52 artigos científicos recuperados de bases de dados acadêmicas por meio do software VOSviewer. As publicações foram buscadas utilizando palavras-chave relacionadas ao TEA e ao ensino de inglês. Foram criadas fichas de dados doxográficos para registrar as informações, e os temas recorrentes foram categorizados usando codificação temática. **Resultados:** os resultados revelam que, na última década, vários países desenvolveram iniciativas para apoiar estudantes com TEA. Os principais avanços são agrupados em quatro áreas: (1) abordagens de pesquisa predominantes por país; (2) políticas governamentais e o uso de ferramentas tecnológicas para facilitar o trabalho em salas de aula inclusivas que enfrentam desigualdades sociais e (3) estratégias para melhorar o aprendizado de inglês dos estudantes com TEA. **Conclusões:** considerando que os contextos inclusivos oferecem ambientes restritivos, os governos implementaram políticas educacionais sobre tratamento e prevenção. No entanto, há uma clara discrepância contraditória entre as políticas educacionais e a realidade das salas de aula inclusivas. Também é necessário equilibrar as desigualdades sociais para atender às necessidades específicas das populações com TEA.

**Palavras chaves:** autismo; educação inclusiva; estratégias de ensino; línguas estrangeiras; inglês; política governamental (obtidos do tesoro da UNESCO).

## Introduction

This paper entails a literature review around the issue of English linguistic competence of individuals with Autism Spectrum Disorder (ASD). The theoretical review was done during the diagnostic stage of a research Project carried out at a public university in Colombia. The review consisted of analyzing the effect of reasonable adjustments and Universal Design For Learning (UDL) on the improvement of English linguistic abilities of a group of 20 autistic students.

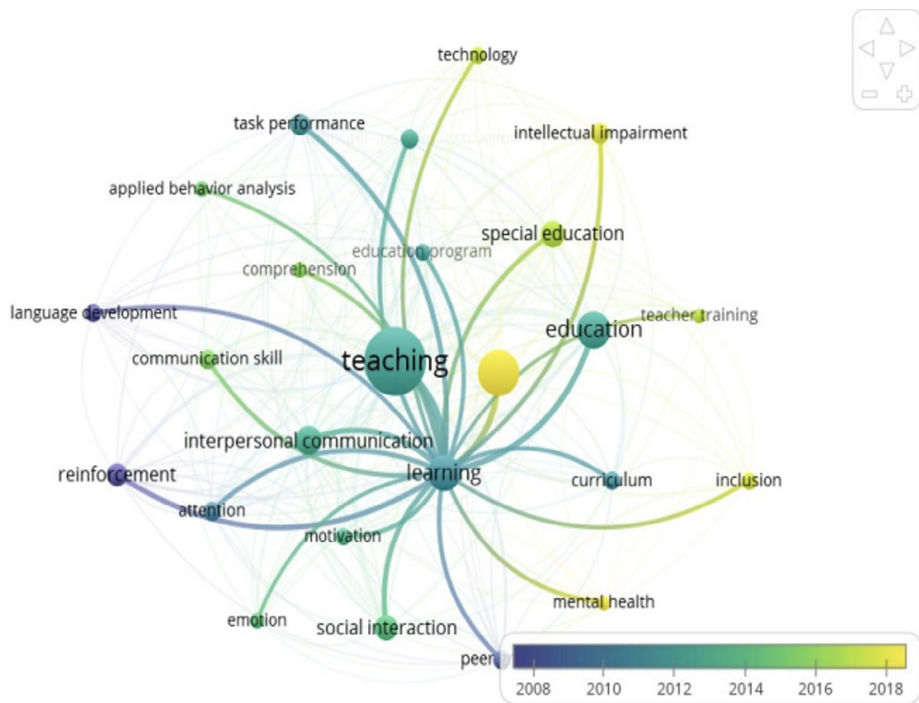
The diagnostic stage of this project was completed over a period of six months and it was paramount for us to scrutinize the existing literature surrounding education, training and language development of students with ASD. We also realized the importance of finding out what has been written about ASD in English education since we have discovered it is scarce.

From this perspective, we searched scientific articles containing some key words such as ASD, teaching English, training and learning. We looked for them in various databases using the VOSviewer software. Once an interesting number of articles was found, we created a doxographic data sheet with the information coming for the articles found. From this previous list, we coded the information by looking at the frequency of occurrence and then those codes became categories. Finally, those categories were classified according to themes and trends.

Our findings suggest that there is a scarce amount of articles that refer to teaching English to students with ASD taking into account the 52 articles found. Moreover, teachers lack training in the design of technological tools, effective teaching materials, and adequate pedagogical environments. More specialized programs need to be implemented and evaluated to ensure that this type of population is able to achieve apprenticeship as their numbers are progressively increasing. Although the World Health Organization (WHO, 2025), declared that one in fifty children have ASD, there are more current theories about the number rising. Additionally, new initiatives have emerged to support the increasing population with ASD in recent years. One of the most recent advances is the use of technological tools to ease the work in the classroom. However, teachers lack effective training to work with disabled populations as stated by (Al Jaffal, 2023). Concerning ASD, new publications have been focused on listening skills, comprehension, oral expression, conversational situations, among others. In line with state policies, the permanent barriers in inclusive classrooms need to be removed.

## Methodology

Within the framework of the objectives established in the literature review of various research reports, the need to identify, contrast, compare, and establish relationships among the bodies of knowledge that are interconnected, divergent, or complementary arose. This involved confronting theoretical, methodological, and instrumental aspects. Accordingly, a literature review process as emphasized by Henderson (2014) «must be intensified but, above all, systematized; it is not about assembling a puzzle with fragments of different theories, but rather about systematically selecting the key concepts that are relevant to our research» (p. 14), always guided by the predetermined descriptors.



**Figure 1.** Conceptual Network of the Teaching and Learning Process in Students with ASD.

Source: VOSviewer software.

In the first moment, VOSviewer was used as a tool to identify research gaps and trends related to English language teaching for individuals with autism. As shown in the figure, the analysis revealed that studies in this area are scarce.

Early publications, around 2008, mainly focused on reinforcement techniques and language development, while more recent studies—particularly after 2018—have shifted toward themes such as technology use and educational inclusion. Despite the limited number of publications specifically addressing this intersection, a more detailed manual search was conducted to identify relevant studies within the broader field.

Therefore, the research trajectory was organized into three phases, which enabled the identification of various research trends and the building of categories related to the main topic of study.

**First Phase:** Initially, a research problem was identified and central categories were selected to guide the literature review. The information review process was also defined. Subsequently, keywords and descriptors were established to conduct searches in specialized databases. The primary search terms used were autism and teaching English.

**Second Phase:** The literature review was carried out through several academic databases, including Scopus, ResearchGate, JSTOR, Redalyc, SciELO, Google Scholar, and Academia. However, only a limited number of relevant articles were retrieved. For instance, Scopus yielded only six articles using the initial descriptors. As a result, the search was broadened to include additional descriptors such as *teaching English*, *learning English*, and *ASD population*. Priority was given to publications in scientific journals, academic theses, books, and relevant legal frameworks. Ultimately, 52 research-based documents were reviewed.

The organization and processing of information were carried out using a customized doxographic data sheet. This sheet included fields for titles, year of publication, objectives, methodologies, theoretical frameworks, findings, conclusions, and additional observations.

**Third Phase:** Based on the review and analysis of each component recorded in the doxographic sheet, emerging trends were identified, highlighting both the strengths and weaknesses of the research documents analyzed. This analytical process was conducted internally within each category of the data sheet. Recurring and repetitive elements were identified and compiled into a concurrence table, while less frequent elements were also documented.

Finally, this phase included the formulation of critical perspectives on the findings, highlighting the needs and emerging trends in English language instruction and teaching for autistic learners as reflected in the reviewed literature. As a result of this analysis, three main categories were constructed, thoroughly developed with the support of the articles retrieved from all the consulted

databases: 1) Predominant research approaches developed in each country. 2) State policies on inclusive education, 3) Technological aids in English teaching with ASD students.

## Findings

### Predominant Research Approaches Developed in Each Country

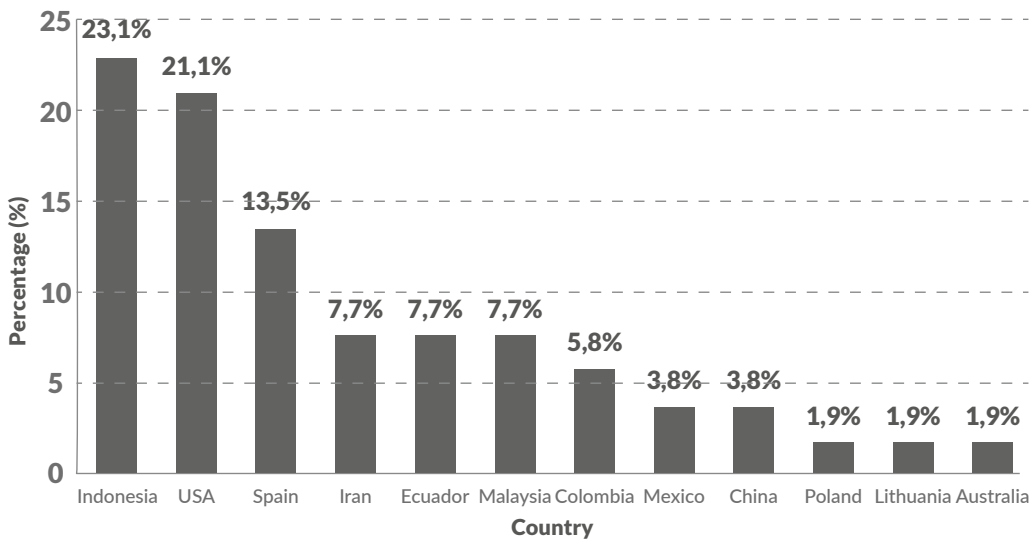
Once the different steps described in the methodology were carried out, the information was categorized by countries with their corresponding number of studies, dominant focus in publications, representative authors and evolutionary character in recent years, as shown in Table 1 and in the corresponding graphs.

**Table 1.** Dominant Research Approaches on ASD students by Countries.

Country	Number and Percentage of the reviewed studies	Dominant Research Approaches	Key Examples
Indonesia	12 23,1%	Action Research, Classroom Action Research, Qualitative Descriptive, Case Study (applied and pedagogical focus on interventions like visual aids, speech therapy, and language strategies)	Qualitative Applied (Adnyani et al., 2024); Qualitative Descriptive (Bidari & Yanti, 2021); Design Pedagogical (Fatmawaty et al., 2021); Descriptive Qualitative (Lasintia et al., 2021); Qualitative Applied Intervention (Asik & Humaerah, 2020); Classroom Action Research (Wahyuni, 2019); Case Study (Padmadewi & Artini, 2017); Descriptive Qualitative (Setiadi, 2017)
USA	11 21,1%	Literature Review, Experimental, Case Study, Mixed methods, Systematic reviews, Practical-adaptive interventions	Qualitative, Professional Development/Technology (Al Jaffal, 2023); Adapted Grammar Lessons (Nixon & Schweizer, 2020); Literature Review (Reppond, 2015); Case Study / Classroom Application of Visual Supports (Meadan et al., 2011)

Country	Number and Percentage of the reviewed studies	Dominant Research Approaches	Key Examples
Spain	7 13,5%	Literature Review + Didactic Proposal, Case Study, Systematic Review (theoretical-applied with practical strategies, ICT for ASD teaching)	Systematic Critical Review, TIC for ASD (Durán, 2021); Qualitative Descriptive (Moro-Ramos, 2021); Literature Review + Proposal (Cardona, 2020, 2021); Documentary analysis (Garrido & Carballo, 2021); Qualitative Descriptive (Herrera, 2017)
Iran	4 7,7%	Quasi-Experimental, Single-Subject Design, Qualitative Applied, Interdisciplinary (focus on EFL strategies, social skills, and vocabulary via PECS)	Single-Subject Experimental (Zohoorian <i>et al.</i> , 2024); Quasi-Experimental (Golshan <i>et al.</i> , 2019).
Ecuador	4 7,7%	Case Study/Action Research, Quantitative Correlational (focus on alternative methods and teacher knowledge)	Qualitative Observational (Cevallos & Villavicencio, 2024); Quantitative Correlational (Esparza-Choto <i>et al.</i> , 2021); Case Study/Action Research (Peña Chávez, 2016)
Malaysia	4 7,7%	Qualitative Inquiry, Exploratory, Scoping Review PRISMA-ScR, Systematic Review (emphasis on challenges, obstacles in vocabulary learning, and AR-enhanced interventions)	Qualitative Inquiry (Hashim <i>et al.</i> , 2022); Qualitative Exploratory (Hashim <i>et al.</i> , 2021).
Colombia	3 5,8%	Document Review and Descriptive-Analytical	Documentary Review + Case study (Figueroa, 2021); Case Study + Eclectic Intervention (Giraldo & Ramos, 2021).
Mexico	2 3,8%	Policy Analysis / Critical Review	Documentary Review (Bernal & Ramos, 2022); Policy Analysis / Critical Review (Tuman <i>et al.</i> , 2008)
China	2 3,8%	Mixed-Methods Experimental (focus on visual tools and ESL proficiency in international schools)	Mixed Quantitative/Qualitative (Luo <i>et al.</i> , 2023); Survey-Based Quantitative (Lu, Jiang & Huang, 2022)

Country	Number and Percentage of the reviewed studies	Dominant Research Approaches	Key Examples
Poland	1 1,9%	Qualitative Exploratory (interviews and literature review on teacher support and techniques)	Qualitative Study (Gałązka & Dick-Bursztyn, 2019); Survey-Based Mixed Methods (Hersh & Elley, 2019)
Lithuania	1 1,9%	Empirical Survey, Quantitative Descriptive Statistics (focus on individualization strategies for ASD)	Survey/Quantitative Analysis (Kaffemaniene & Kulese, 2021)
Australia	1 1,9%	Mixed-methods case study; video modeling for EFL vocabulary.	Approach oriented to design and technology for English vocabulary (Sarić, et al., 2014).



**Figure 2.** Research on English Teaching for ASD Population by Country.

The information provided in table 1 and its corresponding graph 2 show that 52 articles report research studies related to the teaching of a foreign language in populations with ASD and they came from 12 different countries. The 3 countries with the biggest number of publications are: Indonesia with 12 articles

which represent 23.1% of the total studies, United States with 11 reports which represent 21.1% and Spain with 7 reports that correspond to 13.5%. In the fourth place we can rank Iran, Ecuador and Malaysia with 3 reports that correspond to 7,7%. In fifth place we have Colombia with 3 studies representing 5,8%. In sixth place we can find Mexico and China with 2 studies which represent 3,8% each one. Finally, in this list we can find Poland, Lithuania and Australia with 1 study each representing 1,9%. This comparison highlights that most research is concentrated in Indonesia and the United States, with growing interest emerging in Latin America and Asia.

**Table 2.** *The most Recurrent Research Approaches by Country.*

Country	Number of Studies	Most Recurrent Approach	Percentage
Indonesia	12	Action Research	50,0%
USA	11	Literature Review	45,5%
Spain	7	Literature Review	57,1%
Iran	4	Quasi-Experimental	50,0%
Ecuador	4	Case Study	50,0%
Malaysia	4	Qualitative Inquiry	50,0%
Colombia	3	Document Review	33,3%
Australia	1	Mixed Methods	100,0%
China	2	Mixed-Methods Experimental	50,0%
Poland	1	Qualitative Review	100,0%
Lithuania	1	Empirical Survey	100,0%
Mexico	2	Policy Analysis	50,0%

### Most current research approaches by country

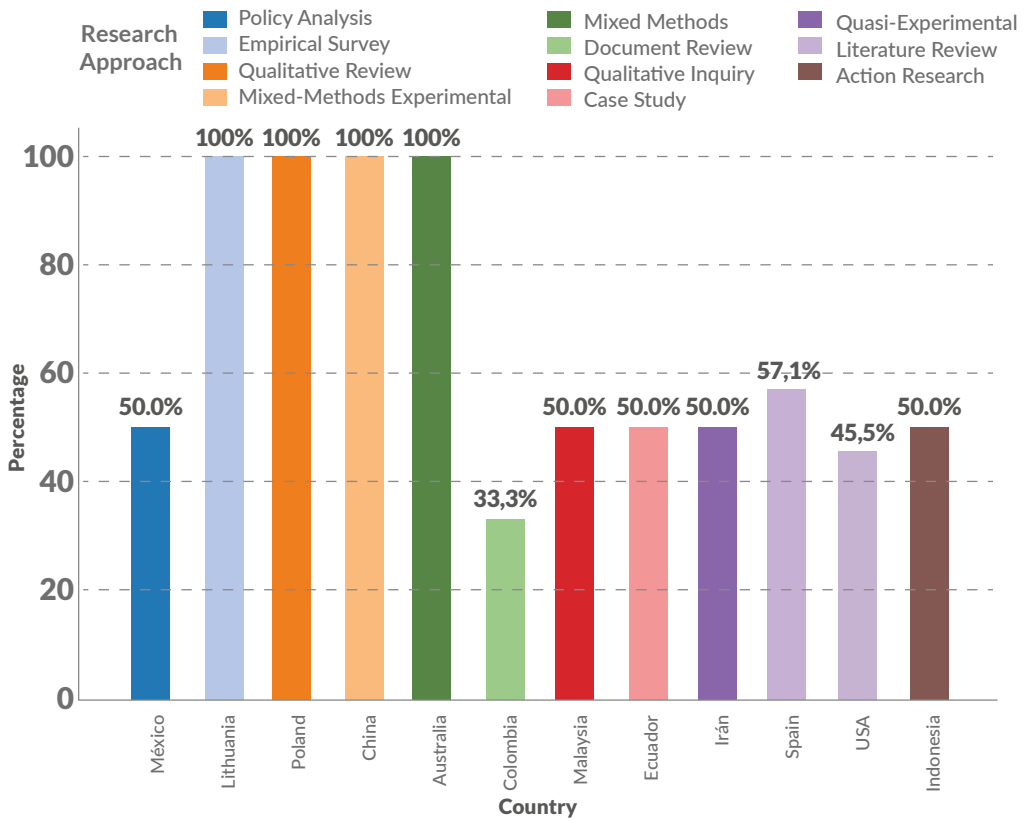


Figure 3. Research Approaches by Country.

In Graph 3 and table 2, it is possible to see how the predominant approaches used to research about the teaching of a foreign language to students with ASD are mainly the following: qualitative studies, quantitative studies, mixed approaches, action research, case studies, systematic literature reviews, discourse analysis and documentary analysis. Prominent among the research processes, the authors include data collection instruments such as surveys, structured and semi-structured interviews, mail and cell phone, questionnaires, standardized tests, direct and participant observation, evaluative studies, descriptive studies and documentary analysis.

The Graph 3 highlights that the most recent research approaches vary notably across the countries. Indonesia is dominated by Action Research (50%), and also shows a strong preference for case studies, classroom-based research among other qualitative methodologies. USA presents the most balanced

distribution among all countries. 45.5% emphasizes literature reviews and experimental methods. The remaining 55.5% is distributed among other possibilities such as mixed methods, practical interventions, and theoretical synthesis. Spain demonstrates preferences towards literature review with 57.1%. The remaining 42.9% is focused on case studies, qualitative and descriptive proposals, didactic interventions and theoretical frameworks. Iran has the highest proportion of Experimental / Quasi-Experimental research (50%), besides other studies related to single-Subject Design, Qualitative Applied, Interdisciplinary EFL strategies and social skills. Ecuador 50% Case Study and the remaining percentage is distributed among qualitative observational, quantitative correlational and systematic review. Malaysia balances experimental and qualitative perspectives, exploratory, systematic review, learning interventions, being qualitative inquiry 50%. Colombia offers 33.3% to Document Review.

Countries with only one or two studies appear with single-method dominance due to limited data. Australia (mixed method), Poland (qualitative review indicating a purely descriptive focus), Lithuania (empirical survey indicating a strong empirical focus) and Mexico (policy analysis).

The aforementioned data indicate that:

- Qualitative research is the most common approach overall, especially in Indonesia, Malaysia, and Poland, showing that many countries favor descriptive, exploratory designs.
- Systematic Reviews are highly present in the USA, Spain, Colombia, and Australia, showing that these countries contribute significantly to knowledge synthesis and evidence-based practice.
- Experimental approaches dominate in Iran and Lithuania, highlighting a more empirical tradition of research.
- Mixed Methods appear mainly in the USA and China, indicating interest in combining quantitative and qualitative perspectives but still not very widespread.
- Countries like the USA and Ecuador stand out for having the most methodologically diverse research, whereas Australia, Poland, and Lithuania rely entirely on one single approach.

## **Discrepancies Between State Policies and the Reality of Inclusive education**

Since the advent of the technological paradigm, education has gradually received direct and indirect effects, which have generated national, regional, and global debates on issues addressing digital literacy, productivity, innovation and undoubtedly, inclusion. As stated by Boyle *et al.* (2022), there is a significant number of contradictions about the real value of inclusive education. A positive point is the advantages of ICTs to balance social and educational inequalities inside and outside the classroom, which ensures equal opportunities including addressing diversity as an indicator of the quality of education in line with state policies, considering that strategies should be sought to address the phenomenon of diversity present in each of the educational institutions. In the words of Barragán *et al.* (2016), "adequate attention to diversity always takes into account that all students, regardless of their situation, can learn" (p. 27).

Over the past decades, the percentage of students with autism spectrum disorder (ASD) has increased worldwide (Al Jaffal, 2022; WHO, 2025). It can be argued that individuals with this disability enter educational institutions that offer restrictive environments that are not useful for their future performance. The conditions of a person with ASD have direct and indirect impacts on academic performance due to factors such as difficulty adapting to everyday school life. According to Al Jaffal (2022), students with ASD receive instruction with the insufficient resources available in the institution and with the same pedagogical methods that teachers use to teach in regular classrooms.

Thus, governments have implemented inclusive policies in key areas such as health, environment, and education to enhance the population's life quality. Classrooms have focused attention on the adoption of pedagogical models, update of curriculum designs, modernization of physical structures and improvement of the academic quality of teacher training programs. Kistoro *et al.* (2021) state that within other state policies, different countries prioritize special education, arguing that teachers play a fundamental role in the learning of children with autism. Therefore, teachers ought to have a high degree of creativity, an "open heart", and be supported with sufficient and adequate resources.

Educational policies propose changes in curriculum and learning materials, taking into account that these decisions vary significantly, depending on factors such as the interests and needs of institutional contexts, the economic possibilities of families, and the individual characteristics of each student. This becomes a challenge for teachers because there are no clear guidelines which, according to Al Jaffal (2022), constitutes a present and permanent barrier in classrooms.

Teachers observe and express contradictions between state policies and their application in the reality of school contexts. Cassidy (2011) and Cook &

McDuffie-Landrum (2020) report high levels of exasperation on the part of teachers, related to the amount of time required, adequacy of individual and group lesson plans, as well as some gaps in curriculum designs oriented both to students with and without this type of disability.

## **Technological Aids in Teaching and Learning English in ASD Populations**

Different studies reviewed by Durán (2021) from 2010 to 2019 serve as backgrounds that demonstrate the effectiveness of technological tools and their positive impact, with certain precautions, on the educational care of students with ASD. There are many uses of computers to improve academic processes as well as videos, audios, digital screens, computer tools, and other electronic devices which offer educational potential and reduce the possibility of errors in academic tasks. There is a variety of softwares, apps and online resources that help the development of emotional and social skills in line with motivation and individualization as stated by Gallardo *et al.* (2020), Gallardo & Rodríguez, (2024) and Saranani *et al.* (2018). Luque (2016) demonstrated in his study that any kind of multimedia resources have a really high educational value. Durán (2021) noted the emphasis on social and communicative skills, as it is a distinctive feature of ASD. Likewise, it is not possible to affirm that a single tool responds to all spectrums of autism. Moreover, some findings shared by Tárraga *et al.* (2019), suggest that the use of ICT is beneficial to students with ASD because when they interact with technology, they do not have to face social demands or to interpret and respond to social information that is present in other kinds of instruction.

The publications reveal that one of the most evident strategies in inclusive classrooms is the use, adaptation, and creation of technologies, taking into account that learning materials influence teaching methods and strategies. In this regard, the use of manipulative materials (Cardona, 2021), puppets (Wahyuni, 2019), word wall pictures (Asik & Humaerah, 2020), power cards (Spencer *et al.*, 2008), EDUcards (Meydianda *et al.*, 2018) or “arteterapia” (Esparza-Choto *et al.*, 2021) can also provide students with ASD a sense of security and confidence, which supports the internalization of the concepts to be learned .

However, Gómez-Marí *et al.* (2022) show that classroom teachers lack professional training related to technology and that they demand greater collaboration, professional advice and increased use of technology to achieve the expected goals (Mulholland & O'Connor, 2016), as established by national legislation.

From the research carried out by Kaffemaniene and Kulese (2021), it is claimed that involving a student with ASD in learning activities implies

analyzing several factors that favor or prevent adaptation to the educational program. According to the authors, the following elements must be taken into consideration: demographic data, gender, age, visual patterns, emotional factors, anxiety, repetitive behaviors, well-being, type of school, number of students, ways of structuring environments and places, sequencing of lessons, complexity of activities, type of materials acquired or designed by the teachers themselves among others.

Bearing in mind that students with ASD have different needs, Durán (2021) and Kistoro *et al.* (2021) refer to professional competencies related to the proper management of an extensive body of materials included in the curriculum. These are directly related to the topics to be taught, the methodological structure, and the expected learning outcomes. The use of materials includes organization, concepts, and principles that support the lessons. However, teachers of inclusive education have not yet gained recognition because they are tied to their experience and to the training they receive in their professional careers, where this area is not a priority. Through reflective actions around the leverage of the benefits of ICTs, they have gradually moved into developing skills to originate creative materials appropriately and permanently. It is considered that ICTs help to understand curricular content and also exercise communicative processes. Technologies are, therefore a useful factor in the development of pedagogical and social competencies.

According to the recent studies reviewed, new strategies have been implemented in the English language curriculum. In this regard, Lasintia *et al.* (2021), guided by a constructivist epistemology, present studies aimed at implementing strategies that work in language teaching, focusing on competencies for students with ASD to learn how to communicate.

This group of researchers remark the peer-assisted learning approach, mentoring strategies, cooperative learning, direct instruction, game-based strategies, learning construction strategies, varied methods in multicultural classrooms, and strategies for parents. The following strategies stand out among others:

Strategy 1. Learn to listen. The starting point is to foster a good listening attitude, which is essential for understanding what is being said and answering questions correctly. The use of sound-enhancing materials is very important to attract attention. Audio media such as recordings, video-beam presentations, songs, microphones, and YouTube are used.

Strategy 2. Development of oral comprehension. The didactic uses of visual and auditory media, such as objects, photos, images, songs, and comics, are effective in maintaining attention, increasing interest, deepening understanding, and strengthening communicative skills.

Strategy 3. Development of oral expression. Teachers and families understand and value verbal and nonverbal efforts in communicating with people with ASD. A computer or tape recorder is very helpful for practicing oral strategies which are complemented by written exercises.

Strategy 4. Conversational skills. The use of technologies facilitates the structuring of interesting opportunities. They stimulate communication, concentration, miming, and interaction through modeling, physical demonstrations, visual aids and permanent positive feedback.

Strategy 5. Echolalia. According to Lasintia *et al.* (2021), echolalia is one of the negative habits prevalent in people with autism. For weeks or months afterward, the student continues to mechanically repeat words or phrases he has heard. Although the language learner is able to repeatedly pronounce new vocabulary and linguistic structures, it is necessary to correct this habit by making good use of teaching resources and adapting the learning environment in a more creative and interesting way. Visual aids help answer questions instead of repeating them because they allow the stimuli to vary. Revisiting scenes from a film over and over again allows acquiring new vocabulary, reinforcing linguistic structures, and reducing repetition of the same words.

Strategy 6. Alternative or argumentative systems of communication. They are used in the classroom to reinforce or broaden what a person says. They are frequently used with nonverbal students or those who, although expressing themselves verbally, insinuate that they cannot speak functionally. Visual aids, either individually or in groups, make it easier for children with ASD to understand others. They are also a great help in expressing their thoughts and developing new examples from the basic ones provided by the teacher.

Valencia *et al.* (2019) emphasize the issue of social skills focused on the use of virtual reality. They also focus their attention on the degree of accessibility by children with ASD and game-based learning. The experimental work of Alzayer *et al.* (2019) emphasizes the use of tablets and iPads as devices to promote speech skills, express desires, and, in general, for social communication. However, these devices require high-tech handling that stimulates motor and cognitive skills not always within the reach of people with ASD.

## Discussion

Progress has been made in the concept of autism by health institutions and organizations such as WHO (2025) and the American Psychiatric Association (2014). The fundamental concepts refer to functional disability, autism spectrum

disorders -ASD (Demetriou *et al.*, 2018; Artigas-Pallares & Paula, 2012), and executive functions (Ellis *et al.*, 2018). Although, based on the significant progress reported, educational policies have promoted inclusive pedagogical strategies for serving students in classrooms, the levels of ASD have increased considering the data reported by the WHO. 240 million children are characterized with some type of disability worldwide; 49% are likely not to attend school; 1 in 36 children, 28%, have autistic disorder.

According to the results of the literature review, the scientific production of greatest impact concerning the most recent advances on the teaching of English to students with ASD is located in 12 countries, among which, the most productive are Indonesia with 23.1%, the United States with 21.1% and Spain with 13.5%. When analyzing the conclusions of the studies reviewed, the discrepancy between educational policies and their implementation in the real educational contexts of institutions that receive students with ASD is evident, even in the most advanced countries. This factor constitutes an academic challenge since creating innovative pedagogical strategies applicable to different classrooms and contexts requires interdisciplinary teams trained in the issues and problems specific to inclusive educational settings.

Based on the most up-to-date research works in line with educational policies, higher education institutions, as well as public and private schools, have begun to understand the scientific basis of disabilities in order to develop specific teaching materials, programs, and projects. Beyond offering courses, lectures, workshops, or providing bibliographies and manuals (Busby *et al.*, 2012) educational institutions need to increase the implementation of inclusive alternatives with greater impact in teacher training programs in the field of autism and other disabilities.

The literature review based on the 52 articles conducted by different researchers from 12 countries provided recent evidence on the current state of knowledge that will strengthen future research projects in this arena. The articles also mention exploratory studies, observational studies, focus groups, holistic and in-depth descriptions, phenomenological studies, and analytical studies. However, few institutions receive transforming actions directly in their real-life contexts, considering that 100% of countries use descriptive, experimental, observational case study, and systematic literature review approaches. Only two countries, Indonesia and China (3.8%), of the 52 countries develop action and experimental research aimed at real-life context transformations.

The results and conclusions of the accessed studies reveal the need to expand research leading to a better understanding of populations with disabilities, as well as the development of individualized learning strategies in inclusive classrooms, particularly those related to the autism spectrum. Beyond technological and methodological resources, it is necessary to delve deeper into a better

understanding of ASD, and channel attitudes towards the management of this problem in the educational field. Creating an inclusive learning environment requires teachers to listen to and validate preferences of students which can significantly improve participation and learning outcomes, taking into account their diverse learning profiles.

In addition to the lack of training, counseling, and follow-up regarding ASD, there are strong barriers identified by Al Jaffal (2022). This finding agrees with Cassady (2011) and Cook & McDuffie-Landrum (2020) who highlight the contradiction between state policies and the reality of school contexts. Likewise, it is critical for teachers to be familiar with specialized methodologies and techniques that support inclusive education. In particular, they should be familiar with frameworks such as Universal Design for Learning (UDL), which promotes flexible teaching approaches that adapt to diverse learning needs.

Although special education as a human right is constitutionally mandated and all educational institutions are obliged to include the ASD population, respecting their physical, emotional, mental, intellectual, and social characteristics, not all people have access to it. While governments are responsible for financing formal and non-formal programs aiming at enhancing the quality of education, this remains a pending debt.

## Conclusions

The most recent research advances related to the teaching and learning of the English language, affecting educational contexts serving students with ASD, have been identified in this paper.

Bearing in mind the 52 articles analyzed, it was possible to recognize how research is being conducted, what methods and tools are being used, and what paradigms illuminate the way in which researchers produce knowledge on educational contexts serving students with ASD, including those who are interested in the acquisition of a foreign language. The 52 studies reviewed shed light on methodological paths to understand experiences of teachers in educating children with autism. Depending on the chosen research approach, whether qualitative or quantitative, data collection instruments and techniques are designed, as well as data analysis procedures.

Different countries have taken government decisions aimed at including new and varied technologies as pedagogical mediators in inclusive schools, taking into account the characteristics of people diagnosed with ASD. It is undeniable that the creativity and the strengthening of competencies of teachers underpin

the high or low quality of technological resources in teaching and learning in both mainstream and inclusive classrooms. Taking advantage of the creative and innovative potential demanded by the technological era, educational institutions must design their own teaching materials, as the characteristics of traditional classrooms are restrictive and do not meet the needs of this population in the present times.

The results highlight that teacher training in specific strategies to support students with ASD is essential. Strong professional competencies enable the creation of inclusive classrooms where children learn under optimal conditions, and achieve meaningful progress in both English language learning and social integration. Considering that in inclusive contexts, students with ASD face a series of social, academic, communication, and behavioral challenges, the educational legislation establishes guidelines and requirements for specialized counseling on treatment and prevention.

The research results recommend strategic actions that focus on qualified professional training for the management of inclusive classrooms where children learn in optimal conditions, get involved in group activities, develop better language development of language, interact with their peers, and integrate into the demands of the intercultural world.

From the systematic review on the impact of ICTs, several initiatives have emerged that in recent years have served to support the population with ASD, which faces obstacles in the classroom. Teaching English to students with ASD demands pedagogical attitudes from educators, as well as from the state policies, authorities and institutions. Providing security and confidence is crucial for students to internalize concepts, develop autonomy, and strengthen social interaction within an educational framework that prioritizes both language learning and the students' overall well-being.

It is important to mention that ICTs offer great support to meet individual needs, interests, motivations, and learning rhythms. The possibilities of using technological tools in inclusive classrooms are varied and very useful in acquiring new knowledge from previous teachers and students' experiences. However, it is necessary to be aware of why, when, how, and for what purposes they are used. Technological tools are an even more attractive resource for students with ASD because of the visual stimuli accompanying access to information. They facilitate the organization of the environment for better interaction and development of autonomous responses in the times required by students with ASD.

Finally, regarding the different curriculum areas, the publications analyzed show skills that are intended to be improved with ASD students. These skills are transversal to pedagogical and didactic processes, but their greatest weight

lies in the area of language. The most common skills are: technological skills, social-communicative skills, academic-cognitive skills, emotional skills, and general skills. Nonetheless, understanding learning environments goes beyond the simple plans and state policies, it is a cultural and mental change involving innovation in practice and decision making in school management at all levels of the education system that hosts populations with ASD.

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