ARTICLE INFORMATIONS

Title: Autism Spectrum Disorder and Strategies for Teaching English as a Foreign Language

Science-Metric Classification Arts & Humanities.

Main topic: Teaching innovation and inclusion.

Main practical implications: This study addresses the need for information on clinical treatments and their effects on the performance of students with ASD. It focuses on identifying strategies used in teaching English to students with ASD. It presents a bibliometric analysis of publications available in Scopus regarding English language teaching to students with ASD.

Originality/value: It contributes to the improvement of teachers' work in teaching English as a foreign language through the analysis of publications that aim to design pedagogical strategies within the framework of inclusive education in Ibero-America.

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Title [EN]: Autism Spectrum Disorder and Strategies for Teaching English as a Foreign Language.
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Titulo [ES]: Trastorno del espectro autista y estrategias para la enseñanza del inglés como lengua extranjera..

ABSTRACT

Teachers need strategies to teach learners diagnosed with autism. The study aims to review specialized publications on teaching English to students diagnosed with autism spectrum disorder and to identify pathways that enhance teaching practices from pedagogical and clinical perspectives. The Prisma Method and hermeneutics were used to review 65 scientific articles from the Scopus, Web of Science, Scielo, PubMed, LILACS, ERIC, ProQuest, and Latindex databases during the period 2016–2025. In addition, a bibliometric analysis of publications in the Scopus database was conducted using the search terms Autism spectrum disorder, English language acquisition, and teaching strategies. The results allowed to identify the following teaching methodologies and strategies to work with students with Autism: visual supports, Social stories, Augmentative and Alternative Communication, Applied Behavior Analysis (ABA) adapted to EFL, Incidental/Natural Learning, Assistive Technology and Digital Applications, Peer-mediated Instruction, TEACCH Structured Method for EFL, Special Interest-Based Instruction, Instruction in Functional Communication Skills, Total Physical Response (TPR) Method and TPR-Storytelling, and Video Modeling. In addition, information regarding the clinical treatment of students with autism spectrum disorder is provided. It is concluded that the information found can improve the English teacher's instruction of students diagnosed with Autism.

Keywords: clinical treatment; educational innovations; English; pedagogy; special needs.

RESUMEN

Los docentes necesitan estrategias para enseñar a estudiantes con diagnóstico de autismo. Este estudio tiene como objetivo revisar publicaciones especializadas sobre la enseñanza del inglés a estudiantes con trastorno del espectro autista e identificar vías que mejoren las prácticas docentes desde perspectivas pedagógicas y clínicas. Se utilizó el método Prisma y la hermenéutica para revisar 65 artículos científicos de las bases de datos Scopus, Web of Science, Scielo, PubMed, LILACS, ERIC, ProQuest y Latindex durante el período 2016-2025. Además, se realizó un análisis bibliométrico de las publicaciones en la base de datos Scopus utilizando tres términos de búsqueda: trastorno del espectro autista, adquisición del idioma inglés y estrategias de enseñanza. Los resultados permitieron identificar las siguientes metodologías y estrategias de enseñanza para trabajar con estudiantes con TEA: apoyos visuales, historias sociales, comunicación aumentativa y alternativa, análisis conductual aplicado (ABA) adaptado al inglés como lengua extranjera (EFL), aprendizaje incidental/natural, tecnología de asistencia y aplicaciones digitales, instrucción entre pares, método estructurado TEACCH para EFL, instrucción basada en intereses especiales, instrucción en habilidades de comunicación funcional, método de respuesta física total (TPR) y TPR-Storytelling, y modelado en video. Además, se proporciona información sobre el tratamiento clínico de estudiantes con trastorno del espectro autista. Se concluye que la información encontrada puede mejorar la instrucción del profesor de inglés para estudiantes diagnosticados con TEA.

Palabras clave: tratamiento clínico; innovaciones educativas; inglés; pedagogía; necesidades especiales.

RESUMO

Professores precisam de estratégias para ensinar alunos diagnosticados com autismo. Este estudo visa revisar publicações especializadas sobre o ensino de inglês para alunos diagnosticados com transtorno do espectro autista e identificar caminhos que aprimorem as práticas de ensino sob perspectivas pedagógicas e clínicas. O Método PRISMA e a hermenêutica foram utilizados para revisar 65 artigos científicos das bases de dados Scopus, Web of Science, SciELO, PubMed, LILACS, ERIC, ProQuest e Latindex, publicados entre 2016 e 2025. Além disso, foi realizada uma análise bibliométrica das publicações na base de dados Scopus utilizando os termos de busca: Transtorno do Espectro Autista, Aquisição da Língua Inglesa e Estratégias de Ensino. Os resultados permitiram identificar as seguintes metodologias e estratégias de ensino para trabalhar com alunos com Transtorno do Espectro Autista (TEA): recursos visuais, histórias sociais, Comunicação Aumentativa e Alternativa (CAA), Análise do Comportamento Aplicada (ABA) adaptada ao ensino de inglês como língua estrangeira (EFL), aprendizagem incidental/natural, tecnologias assistivas e aplicativos digitais, instrução mediada por pares, método estruturado TEACCH para EFL, instrução baseada em interesses específicos, instrução em habilidades de comunicação funcional, método de Resposta Física Total (TPR) e TPR-Contação de Histórias, e modelagem em vídeo. Além disso, são fornecidas informações sobre o tratamento clínico de alunos com transtorno do espectro autista. Conclui-se que as informações encontradas podem aprimorar o ensino de inglês para alunos diagnosticados com TEA.

Palavras-chave: tratamento clínico; inovações educacionais; inglês; pedagogia; necessidades especiais.

INTRODUCTION

Teaching English as a Foreign Language (EFL) to elementary school students with autism spectrum disorder (ASD) in inclusive classrooms involves navigating the complex interplay between policy guidelines, practical teaching needs, and student learning challenges. The main argument explored here is that effective EFL instruction for students with ASD requires understanding and addressing tensions between these factors to promote truly inclusive and effective language education.

Knowledge of inclusive practice in Ibero America shows that, even with new rules for teaching English to students with ASD, big challenges remain. These include differences in how students think, communicate, and relate to others, as well as insufficient resources or teacher training. This shows the need to rethink how English is taught to students with ASD (Regional Network for Inclusive Education, 2020).

The main argument is that understanding the origins and impact of ASD on English language teaching for basic education students, especially in Ibero-America, is essential for designing effective communicative methodologies. This analysis critiques existing methods and barriers, highlights the rising prevalence of ASD as a neurodevelopmental disorder, and emphasizes that foreign language learning is a powerful tool for communicative, social, and cognitive development in this age group.

Educators need effective strategies and methods to support learners diagnosed with ASD and neurocognitive diversity (Celis Alcaláa & Ochoa Madrigal, 2022). Socioeconomic conditions, ages, and cultures should also be considered in the teaching process. This research further contributes to SDG 4 by

supporting the universal right to inclusive, quality education (UN Global Compact, 2025).

The research uses the Prisma method and hermeneutics to review publications on teaching methods in English for students with ASD. A bibliometric review is also done to find scientific work in the Scopus database. The research questions are:

1. What medication side effects in students with ASD can affect learning that teachers should know?
2. What are the most frequently used strategies in EFL instruction for teaching learners diagnosed with ASD?
3. Which strategies should EFL teachers be familiar with to enhance their practice when working with students diagnosed with ASD?

The study aims to review specialized publications and synthesize evidence on how EFL can be adapted for students diagnosed with ASD. The argument advanced is that identifying pathways for improvement, grounded in current research, will support both pedagogical and clinical advancements in teaching English to this population.

DEVELOPMENT

1. Definition of Autism Spectrum Disorder - ASD

The conceptualization of autism, from its etymological origins through clinical significance, highlights that autism spectrum disorder reflects unique interactions with the environment. These are seen in distinct communication, behavioral, and information-processing patterns. Celis Alcaláa & Ochoa Madrigal (2022) urge teachers to move beyond reductionist views that focus solely on withdrawal and to advocate for inclusive educational approaches that recognize neurocognitive diversity. In English language teaching, this means adapting methodologies to support students with ASD by differentiating instruction, incorporating visual aids, and offering clear routines.

Kanner (1951) highlighted the early diagnostic criteria for ASD, proposed by Hans Asperger and Leo Kanner. They are (a) inability to establish relationships, (b) impairments in language as a vehicle for social communication, (c) obsessive insistence on maintaining the environment unchanged, (d) special abilities, (e) good cognitive potential, limited to their areas of interest, (f) normal appearance and intelligent physiognomy, (g) appearance of the first symptoms from birth. These aspects center on difficulties with social interaction and the functional use of language for communication, among other factors. However, these criteria coexist with a cognitive potential channeled toward a specific interest, which crystallizes as part of neurodivergence. Therefore, it is imperative to rethink traditional educational models and promote inclusive pedagogical practices focused on English language teaching that recognize the cognitive strengths of students with ASD.

The changing definition of ASD is reflected in the Diagnostic and Statistical Manual of Mental Disorders. In DSM-I (1952), it was called childhood-type schizophrenic reaction. In DSM-II (1968), it was seen as a feature of childhood schizophrenia. According to DSM-III (1980), it became childhood autism. In the revised DSM-III-R (1987), the term used was autistic disorder. DSM-IV (1994) listed five types of autism: a) Autistic disorder, b) Asperger's disorder, c) Rett disorder, d) Childhood disintegrative disorder, and e) Pervasive developmental disorder not otherwise specified. In DSM-5 (2013), the name autism spectrum disorder was adopted to bring together the range of clinical features, which are influenced by neurobiological, genetic, and environmental factors.

Currently, ASD is understood as a neurodevelopmental condition characterized by a marked diversity of patterns, ranging from social interaction to behavior itself. Additionally, Celis Alcaláa & Ochoa Madrigal (2022) articulate that ASD manifests as a persistent difficulty in both verbal and nonverbal communication, transcending social reciprocity, and is manifested by repetitive behaviors and restricted interests. Furthermore, the DSM-5 (2013) confirms that symptoms can be modified or attenuated through compensatory mechanisms, but at a functional level, they persist and should be understood within the continuum of development.

When discussing the pathological origin of ASD, it is not possible to focus on a single factor, as several theories have been established over time. These theories do not invalidate one another; rather, they build on one another bridge the gap in pathogenesis and thus explain the true origin.

The pathogenesis of ASD is complex and multifactorial, involving converging alterations in neurobiology, neurophysiology, and other factors, with no single cause explaining its origin (Robinson et al., 2012).

Table 1. Pathogenic Bifurcation of ASD

Theories	Description

Neuroanatomical	Irregularities in the inferior frontal gyrus and cingulate cortex, orbitofrontal cortex, and amygdala. The functions of these structures are altered, manifesting clinically as characteristics not exclusive to autism, but all too common, such as a lack of empathy, inappropriate effect and cognition, and a failure to recognize facial and bodily expressions and emotions in others, which is fundamental for functional communication and sociability.
Neurobiological	Presence of alterations in connectivity, both at the functional and structural level.
Histopathological	Findings reveal radial and tangential disruptions in the fundamental organization of neurons and glia. Changes in cell density, dendritic orientation, reduced space, and altered microcolumn configurations have also been identified in certain parts of the frontal lobe.
Genetic and epigenetic basis	Approximately 35 genes related to neuronal migration and axonal pathway opening have been associated with this disorder. This demonstrates the association of the disorder with the genes encoding neurixin 1 and 3 (NRXN 1 and NRXN 3) as well as the GABA B3 receptor (GABARB3), and these changes can be grouped into single nucleotide polymorphisms.
Molecular level	Calcium channels have been implicated in the pathological mechanisms of autism.

Resources: Amaral et al. (2008); Hutsler et al. (2007); Just et al. (2007); Knudsen (2004); Kullmann (2010); Levitt (2003); Moreno-De-Luca et al. (2015); Shao et al. (2003).

2. Teaching English as a Foreign Language to Students with ASD

Irfan's (2024) perspective highlights the challenges of English language teaching in Latin American contexts with limited language exposure. This underscores the importance of inclusive pedagogical strategies responsive to these needs. Here, inclusion involves not only addressing diversity but also recognizing external barriers that some students face in accessing language, shaping the teaching-learning process.

Likewise, Freire & Barral (2020), in their work entitled -Communicative Approach in the Teaching-Learning Process of English as a Foreign Language- demonstrate that English as a Foreign Language (EFL) cannot be standardized within a homogeneous framework. Rather, it requires adaptation based on the socio-economic and cultural environment. Extrapolating to the context of inclusive education, this approach is essential because it recognizes that conditions of inequality, poverty, and exclusion directly impact the acquisition of linguistic competencies. In this context, the professional in charge of teaching must design communicative methodologies that connect with students' realities, mitigating the limitations imposed by governing educational policies (Garma Cardenas, 2021).

Chilito (2020) provides a comparative view of the progress of bilingual education policies across Latin American countries, underscoring differences and the need for alignment with local realities.

English teachers face many challenges. Mora Barahona (2022) notes these include scarce resources (Alvarado, 2025), overcrowded classrooms, and limited expertise (Francy, 2025; González & Milva, 2024). Additional obstacles, such as low student interest (Beleño Ospino, 2024), indiscipline, and learning difficulties (Abud, 2024), complicate their work.

The integration of new information and communication technologies into education aims to foster critical thinking and address the needs of 21st-century society. Consequently, English teachers are expected to lead educational innovation and respond to contemporary teaching demands. In response, gamification and other pedagogical strategies have emerged as effective approaches.

Inclusive education centers on social and cultural inclusion, as highlighted by Prais et al. (2018), who note its role in overcoming individual learning barriers and in ensuring that all students contribute to and benefit from collective culture and knowledge. In EFL, this requires promoting equitable access to a language that is both a tool for communication and a bridge to cultural contexts and social advancement. In addition, Ayala (2020) emphasizes the broad scope of inclusive education, which now displaces a reductionist view by integrating socioeconomic factors that impact educational processes. In teaching EFL (English as a Foreign Language), teachers must recognize that learning barriers extend beyond individual factors to encompass structural and community realities. This recognition prompts a rethinking of teaching methodologies under a social justice approach. Moreover, equity, empathy, and pedagogical flexibility are indispensable for addressing diversity.

Inclusive education has significantly evolved, as González (2024) highlights in "Challenges and Barriers in the Implementation of Inclusive Education: The Case of Ecuador." What began as adaptations for students with specific needs now forms a comprehensive model transforming how schools address diversity. This evolution is especially critical in English as a Foreign Language (EFL) teaching in Latin America, where diversity requires flexible, equitable, and sustainable pedagogical approaches.

Likewise, teaching methodology aimed at providing educational support to students with autism spectrum disorder (ASD) reflects the need for a flexible, inclusive, and student-centered pedagogical

approach that must address the cognitive and communicative diversity present in the classroom. In this sense, cooperative learning and differentiated instruction promote social interaction, increase active participation, and foster respect for different learning styles (Mosquera Valoyes & Ochoa Ocampo, 2020; Toledo & García, 2018). This contrasts with universal design for learning, which guarantees equitable access to knowledge through different forms of representation, expression, and motivation (Villegas Alvarez et al., 2026). Furthermore, the implementation of ICT in education, adapted to students, promotes autonomy and reduces barriers to access, especially in diverse educational contexts (Castro Villalobos et al., 2019). In addition, the cultural contextualization of content and ongoing teacher training are fundamental pillars on the path to inclusive education, helping consolidate pedagogical practices sensitive to students' sociocultural realities (Regional Network for Inclusive Education, 2020; Ramírez-Solórzano, 2023).

Even so, the implementation of inclusive education in English language teaching reveals limitations, including a scarcity of teaching materials, technology, and personalized support (González-Encalada et al., 2024). Furthermore, teacher training lacks expertise in specialized inclusive methodologies for teaching foreign languages (Ramírez-Solórzano, 2023). As a result, curricular rigidity prevents the creation of curricular adaptations to meet students' diverse needs (Suarez Solórzano et al., 2022). Additionally, stereotypes or prejudices towards students with disabilities or cultural diversity affect this process, which is further manifested by the lack of materials in indigenous languages (Regional Network for Inclusive Education, 2020). Finally, the digital divide also affects access for both students and teachers to the world of ICT (Martínez-Usarralde, 2021; Castro Villalobos et al., 2019).

3. Clinical Treatment of Students with ASD

Treatment for ASD prioritizes the improvement of social skills, as there is no pharmacological intervention directly targeting core symptoms.

Applied Behavior Analysis (ABA) leads psychotherapy for ASD, offering effective, evidence-based techniques, while other complementary approaches support behavioral and social skill development.

Table 2. Therapies, main approach, and target areas teachers should know to work with students diagnosed with TEA

Therapy	Main Approach	Target Areas	Typical Age	Format
ABA Applied Behavior Analysis	Structured reinforcement of desired behaviors; breaking skills into small steps.	Communication Daily living Adaptive skills	Early childhood – adults	Individual, intensive
CBT Cognitive Behavioral Therapy	Identifies unhelpful thought patterns and teaches coping and emotional regulation strategies.	Anxiety Depression Emotion regulation	School age – adults	Individual / group
EIBI Early Intensive Behavioral Intervention	Intensive ABA-based program during critical developmental window; 20–40 hrs/week.	Language Cognitive development Social skills	2 – 6 years	Individual, home/clinic
PECS Picture Exchange Communication System	Uses picture cards to teach functional communication through exchange interactions.	Functional communication Initiation	Toddlers – school age	Individual / classroom
Social Skills Training SST / PEERS	Teaches social rules, reading cues, conversation scripts, and friendship skills.	Peer relationships Conversation Social cognition	Children – young adults	Group (+ parent component)
DIR / Floortime Developmental, Individual-difference, Relationship-based	Child-led play interactions to promote emotional and relational development.	Emotional connection Play development Parent-child relationship	Toddlers – school age	Parent-mediated, home
RDI Relationship	Focuses on dynamic	Social motivation Flexible thinking	Children – teens	Family-based

Development Intervention	intelligence: flexible thinking, co-regulation, and guided participation with caregivers.	Family involvement		
Speech & Language Therapy	Builds expressive, receptive, and pragmatic language; includes AAC for non-verbal individuals.	Language comprehension Pragmatics AAC	All ages	Individual / school
Occupational Therapy OT / Sensory Integration	Addresses sensory processing, fine motor, self-care, and daily functioning.	Sensory regulation Motor skills Daily living	All ages	Individual, clinic/school
Mindfulness-Based MBSR / MYmind	Awareness and acceptance practices adapted for autistic individuals; often delivered in parallel to parents.	Anxiety Stress Wellbeing	Adolescents – adults	Group / parent-child dyad
Animal-Assisted Therapy AAT	Structured interactions with animals (especially dogs/horses) to reduce anxiety and promote social engagement.	Emotional regulation Social interaction Motivation	Children – adults	Individual / small group
Parent-Mediated Therapy PACT / JASPER	Trains caregivers to implement interaction strategies during everyday routines to promote communication and engagement.	Joint attention Play Parent-child interaction	Toddlers – school age	Parent training + home

Resources: Bondy, & Frost, 1994; de Bruin et al., 2015; Flippin, Reszka, & Watson, 2010; Frazier, Chetcuti, & Uljarevic, 2025; Ganz et al., 2012; Green et al., 2010; Green et al., 2022; Laugeson et al., 2012; Laugeson et al., 2015; Pajareya, & Nopmaneejumruslers, 2011; Reichow et al., 2018; Sandbank et al., 2020; Sharma et al., 2021; Wood et al., 2015; You et al., 2024.

On the clinical treatment of students with ASD, the psychotropic medications are authorized by the U.S. Food and Drug Administration (FDA) (Kirino, 2014). However, they produce the following adverse effects: weight gain, voracious appetite, hypertriglyceridemia, drowsiness, extrapyramidal symptoms, and electrocardiogram alterations (Wink et al., 2014).

Table 3. - Psychotropic drugs for treating students with ASD

Drug name	Description
Risperidone	In children under 12 years of age, a 1 mg/mL solution is recommended. In children over 12 years of age, therapy can be continued with 1 mg tablets, taken orally every 12 hours.
Aripiprazole	Used in severe cases of irritability and self- or other-directed aggression. In the first 12 years of life, the 1 mg/ml solution started with 1 ml twice a day, and the dose increased by 1-2 ml per week up to a total of 5 ml or 5 mg twice a day.

Resource: Wink et al. (2014)

Besides, non-stimulant medications such as norepinephrine reuptake inhibitors (NORIs) have been used. One such medication is atomoxetine, which can be started at 0.4 mg/kg once daily and gradually increased to 1.2 mg/kg once daily (Fiks et al., 2015). Furthermore, selective serotonin reuptake inhibitors

(SSRIs) are used, with fluoxetine being the primary drug. Fluoxetine is administered as a 4 mg/ml solution, and for anxiety and compulsions, treatment begins with 1 ml (4 mg) daily, increasing by 1 ml (4 mg) each week until reaching a maximum of 5 ml (20 mg) daily. For depression, start with 2 ml (8 mg) daily for one week, then increase to the standard dose of 5 ml (20 mg) daily (Williams et al., 2013; Mouti et al., 2014). Currently, we are discussing new pharmacological agents that modulate receptors and channels for neurotransmitters such as glutamate, glutamine, glycine, GABA, NMDA, nicotine, and opioids (Celis Alcaláa & Ochoa Madrigal, 2022).

Table 4.- New Pharmacological Agents for treating students with ASD

Drugs	Description
N-acetylcysteine	It is a glutamate modulator that can be administered orally at a dose of 900 mg 1-3 times daily. It reduces irritability associated with or independent of risperidone.
Memantine	At doses of 10-20 mg per day, plus behavioral therapy, it achieves an improvement in the core symptoms of the disorder.
D-cycloserine	It acts on NMDA receptors, with doses of 50 mg per day showing improvement in social response as well as in aberrant behavior.
Naltrexone	Doses of 0.5 mg/kg and 2 mg/kg improved hyperactivity but not nuclear symptoms.
Oxytocin	Increases socialization by improving social cognition and reciprocity. An intranasal dose of 0.4 IU/kg has been the most used; however, there is no established treatment guideline that recommends the use of this latter approach.

Resource : Anagnostou et al. (2014); Hardan et al. (2012); Nikoo et al. (2015); Posey et al. (2004); Rossignol & Frye (2014); Roy et al. (2015); Urbano, et al. (2014); Urbano et al. (2015); Young & Barrett (2015).

METHODS

The research uses a hermeneutic methodology, with the PRISMA method structuring the literature search, and a bibliometric analysis quantifying research trends. This combination is well-suited for understanding the complex context of teaching English to students with ASD (Sánchez Escobar, 2001), as it allows for an objective analysis of phenomena (Oñate, 2016).

The PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) methodology for selecting, organizing, and critically analyzing the collected publications (Urrútia & Bonfill, 2010; Hutton et al., 2016) related to teaching English to students with ASD. In this regard, Page et al. (2021) note that Prisma ensures the selection of literature from relevant, up-to-date sources with high scientific rigor through a process comprising phases of identification, screening, eligibility, and inclusion of studies. It ensures methodological rigor, transparency, and traceability during the systematic review of the collected information (Morales, 2022).

Furthermore, the research executes a bibliometric analysis to select a corpus of documents specialized in ASD, English language instruction, and teaching methodologies to describe their production, relevance, trend, and access (Morelli, 2023) through physical, physiological, and/or behavioral characteristics, which provides material for understanding neurocognitive diversity (Serratosa, 2008). Therefore, this method allows for the understanding of individual variety and the uniqueness of individuals' cognitive and behavioral profiles (Sánchez Gómez, 2020), paving the way for the objectivity of functional diversity, which recognizes that learning and communication processes are measured by unique neurobiological characteristics, thus providing descriptive precision and understanding of human variability (Gutiérrez Yánez, 2022).

Here, knowledge is seen as more than a simple explanation of events. It helps combine pre-comprehension, context, and the meaning of the phenomenon studied (Quintana & Hermida, 2019). It aims for a deep understanding of meanings found in human practices, discourses, and experiences (Muñoz, 2021). The methods are chosen because teaching English to students with ASD should be viewed through interpretive lenses within educational contexts, rather than solely through positivist analysis (Gama, 2021).

Bibliometric Analysis Procedure. - The bibliometric analysis requires a careful selection process. The selection criteria are: (1) Scientific articles from indexed journals, (2) Spanish or English language, (3) No publication period limit, (4) Scopus database. Exclusion criteria include: (a) documents not focused on educational inclusion, (b) repeated studies, and (c) studies without full-text access.

The bibliometric analysis identifies the main trends in scientific production on English Language Learning and Teaching Methodology for students with Autism, using indicators of scientific publications available in March 2026. To fulfill the study aims, three searches were performed on the Scopus database.

1. Selection of the corpus from the Scopus database using 3 searches

Search 1. - EFL OR ESL OR ELT AND TEACHING METHODOLOGY OR TEACHING STRATEGIES

Search 2. -TEA OR ASD AND LANGUAGE INSTRUCTION

Search 3. -TITLE-ABS-KEY ("TEA" OR "ASD" OR "AUTISM") AND TITLE-ABS-KEY ("EFL" OR "ESL" OR "ELT") AND TITLE-ABS-KEY ("TEACHING STRATEGIES" OR "TEACHING METHODOLOGY")

2. Identification of publication patterns, countries of origin, language, affiliations, most cited authors, and journals with the highest impact.

3. The publications were analyzed based on research questions.

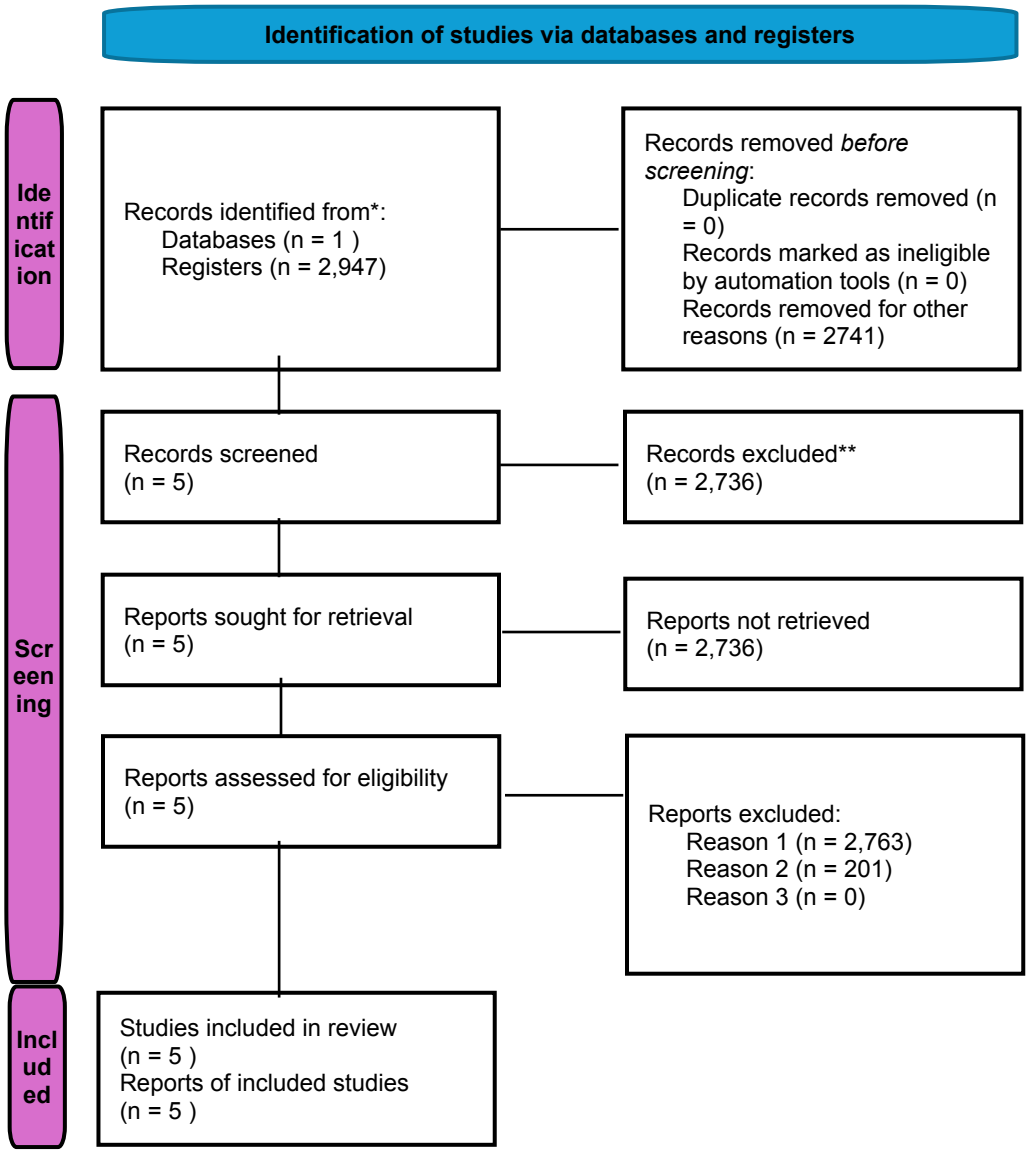

Figure 1. PRISMA diagram shows the corpus selection process.

RESULTS

1. Clinical treatment of children diagnosed with ASD

In answer to question 1: What should teachers know about the clinical treatment of children diagnosed with ASD?

Table 5 presents the effects of medication administered to students. These are effects that mitigate student performance. Therefore, teachers who work with students diagnosed with ASD must know this information, so as not to confuse the effects of drugs and not confuse their impacts with the disinterest, ignorance, or indiscipline of students.

Table 5. Side Effects of Medication in Students with ASD and Their Influence on their Learning

Process Side Effects	Behavioral / Cognitive Impact	Impact on Attention	Impact on Language & Communication	Impact on Social Interaction	Pedagogical Implications for EFL
Medication: Risperidone (Wink et al., 2014)					
Weight gain, voracious appetite, hypertriglyceridemia, drowsiness, extrapyramidal symptoms, ECG alterations	Drowsiness may impair alertness and cognitive processing; extrapyramidal symptoms may reduce physical expressiveness	Sedation can decrease sustained attention and task engagement in EFL lessons	Motor side effects may limit oral production; fatigue interferes with listening and reading comprehension activities	Reduced arousal may limit spontaneous social interaction in communicative tasks	Plan short, high-interest EFL activities; allow extended response time; monitor sedation levels before communicative tasks
Medication: Aripiprazole (Wink et al., 2014)					
Weight gain, nausea, fatigue, somnolence, akathisia, insomnia, and increased irritability in some patients	Akathisia (restlessness) may disrupt attention; insomnia leads to cognitive fatigue during lessons	Insomnia-related fatigue significantly impairs working memory and attention span needed for EFL processing	Restlessness may disrupt writing and reading tasks; fatigue reduces capacity for processing new vocabulary	Irritability side effects may hinder collaborative EFL speaking activities	Use movement-based EFL activities to manage akathisia; schedule language lessons in optimal energy windows; avoid long sitting tasks
Medication: Atomoxetine (NORI) (Fiks et al., 2015)					
Decreased appetite, nausea, abdominal pain, mood swings, increased heart rate, possible initial anxiety increase	Initial anxiety increase may trigger avoidance behavior in communicative language activities	Improves attention and executive function over time, benefiting task completion and instruction following	Enhanced attention may improve EFL reading and listening; appetite suppression may cause cognitive fatigue if nutrition is poor	Anxiety may increase social withdrawal during pair/group speaking activities	Introduce atomoxetine's benefits gradually in EFL planning; create low-anxiety speaking tasks (e.g., choral reading); monitor nutrition
Medication: Fluoxetine (SSRI) (Williams et al., 2013 ; Mouti et al., 2014)					
Nausea, insomnia, agitation, decreased appetite, headache; possible initial increase in anxiety or compulsive behavior	Initial agitation may disrupt focus; once stabilized, may reduce anxiety-driven avoidance of language production	Insomnia reduces sustained attention; stabilized therapy may improve engagement in structured EFL tasks	Compulsive repetition patterns may interfere with flexible language use; reduced anxiety supports greater willingness to communicate	Anxiety reduction over time supports more spontaneous social use of English	Allow adjustment period before introducing high-demand EFL tasks; use routines to manage compulsive tendencies; celebrate communicative attempts
Medication: N-Acetylcysteine (Hardan et al., 2012)					
Mild gastrointestinal discomfort, nausea, headache; generally well-tolerated	Reduction of irritability supports a calmer behavioral state for	Improved behavioral regulation may enhance attention and task	Reduced irritability supports longer engagement with listening and reading	Decreased irritability facilitates participation in interactive EFL tasks	Leverage improved behavioral regulation by introducing communicativ

	structured learning	persistence in EFL activities	texts		e activities that require turn-taking and sustained attention
Memantine (Anagnostou et al., 2014 ; Urbano et al., 2014)					
Dizziness, headache, fatigue, constipation; rare cognitive side effects at higher doses	Targets core ASD symptoms (social interaction, repetitive behaviors); may support cognitive flexibility	May improve working memory and processing speed relevant to EFL learning	Potential improvements in language acquisition and verbal communication when combined with behavioral therapy	Improvement in social reciprocity may enhance participation in communicative EFL tasks	Integrate with task-based language teaching (TBLT) to capitalize on improved social reciprocity; use dialogue-based activities
Medication: D-Cycloserine (Posey et al., 2004; Rossignol & Frye, 2014)					
Mild anxiety, nausea, dizziness; generally well-tolerated at low doses	Acts on NMDA receptors may improve social response and reduce aberrant behaviors	Improved social response may enhance engagement with EFL tasks requiring interaction	Enhanced social motivation may increase willingness to communicate in English	Demonstrated improvement in social response, supporting cooperative language learning	Use cooperative EFL tasks and role-plays to leverage improvements in social motivation and response
Medication: Naltrexone (Roy et al., 2015 ; Urbano et al., 2015)					
Nausea, abdominal pain, fatigue, possible mood changes; hepatotoxicity risk at high doses	Reduces hyperactivity but does not address core ASD symptoms; may cause fatigue	Decreased hyperactivity may improve ability to remain on-task during EFL lessons	Fatigue may reduce energy for active communication tasks; reduced hyperactivity supports seated activities	Limited effect on social skills; hyperactivity reduction may improve classroom participation	Use structured EFL seat-based activities; be aware of fatigue windows; do not expect social communication improvements from this drug alone
Medication: Oxytocin (Young & Barrett, 2015; Rossignol & Frye, 2014)					
Headache, mild flushing, nausea; no established pediatric treatment guideline; experimental use	Increases social cognition and reciprocity; may enhance motivation for social communication	Improved social motivation may increase voluntary engagement in EFL communicative activities	Enhanced social reciprocity directly supports conversational EFL skills and turn-taking	Most direct impact improves social cognition, reciprocity, and desire for social interaction	Design collaborative, socially oriented EFL tasks (information gaps, interviews, storytelling) to maximize oxytocin-related social gains

Note. EFL = English as a Foreign Language; ASD = autism spectrum disorder; NORI = Norepinephrine Reuptake Inhibitor; SSRI = Selective Serotonin Reuptake Inhibitor; NMDA = N-methyl-D-aspartate; ECG = Electrocardiogram. Pedagogical implications are grounded in the reported pharmacological side effects and their cognitive-behavioral consequences for language learning contexts.

2. Strategies most used for teaching English language to learners diagnosed with ASD

In answer to question 2: What are the most used EFL Strategies for teaching learners diagnosed with ASD? Table 5 shows the strategies most used by EFL teachers successfully that appear in the specialized bibliography. They are organized by seriousness and educational levels.

Table 6. - Most used EFL Strategies used for teaching EFL: Severity and Educational Levels

Description of the technique	Theoretical basis	ASD level 1	ASD level 2	ASD level 3	Basic education	Secondary education	Higher education
Teaching strategy 1: Visual Supports							
Use of pictograms, visual cards, graphic timetables, and visual organizers to present English vocabulary and structures.	Visual Processing Theory (Grandin, 1995); TEACCH (Schopler et al., 1995)	Very effective. Strengthens independent understanding. Reduces communication anxiety.	Effective with simplification. Combine with physical support and a predictable routine.	Essential. Replaces verbal instruction. Pictograms and PECS adapted to English.	Flashcards, vocabulary with pictures, morning routines in English with pictograms.	Graphic organizers, grammar diagrams, bilingual concept maps.	Academic infographics, process diagrams, multimedia resources with subtitles.
Evidence: Significant improvements in vocabulary comprehension (Quill, 1997; Knight et al., 2013; Aldabas, 2019)							
Teaching strategy 2: Social Stories							
Individualized narratives that describe social situations in English, with descriptive, perspective, and directive phrases to facilitate pragmatic understanding.	Gray's Model (1993); Theory of Mind (Baron-Cohen et al., 1985)	High effectiveness in developing pragmatics and contextualized vocabulary.	Adapted with simple language, illustrations, and guided reading. For repeated use.	Requires extreme adaptation with 1:1 support, dominant images, and minimal text.	Short stories about everyday school situations ('At school', 'My friends').	Adolescent situations: social interactions, interviews, group work.	Academic and professional settings: presentations, teamwork.
Evidence: Improvements in social and communication skills (Sansosti & Powell-Smith, 2006; Ali & Frederickson, 2012)							
Teaching strategy 3: Augmentative and Alternative Communication (AAC)							
Systems such as PECS, communication boards, voice-generating devices and technological applications (Proloquo2Go, LetMeTalk) programmed in English.	AAC models (Beukelman & Mirenda, 2013); Applied behavior ism (Skinner, 1957)	Complementary. Supports transition to spontaneous verbal communication in English.	Very useful. It provides an alternative channel for expression when spoken language fails.	Essential. Main communication channel. Prioritize functional vocabulary in English.	Thematic boards ('classroom', 'colors', 'numbers'). PECS with English phrases.	Portable devices with expanded academic and social vocabulary.	Specialized apps with academic, technical and professional vocabulary
Evidence: Significant increase in communicative initiations (Bondy & Frost, 2001; Ganz et al., 2012)							
Teaching strategy 4: Applied Behavior Analysis (ABA) adapted to EFL							
Systematic instruction of English through discrete trial (DTT), shaping, chaining of responses, and differential reinforcement of vocabulary and	Skinner (1957); Lovaas (1987); Cooper et al. (2020)	Effective for establishing lexical foundations. Combine with functional tasks for generalization.	High effectiveness. Structured sessions with DTT for acquiring basic vocabulary.	High effectiveness. Structured sessions with DTT for acquiring basic vocabulary.	Discreet practice for colors, numbers, greetings. Immediate and consistent reinforcement.	Linking sentence structures, step-by-step reading comprehension.	Self-instruction, self-monitoring of linguistic progress and academic goals.

grammatical structures.							
Evidence: Acquisition of documented functional vocabulary (Lovaas, 1987; Smith, 2001; Leaf & McEachin, 1999)							
Teaching strategy 5: Incidental/Natural Learning							
English language instruction embedded in everyday activities and natural play, following the student's motivation. Includes the Early Start Denver Model (ESDM).	Koegel & Koegel (1995); Rogers & Dawson (2010); McGee et al. (1999)	Highly effective for generalization. Promotes spontaneous communication in real-life contexts.	Effective environments with high environmental structure and additional visual supports.	Limited application; requires intensive adaptation and monitoring of specific interests.	Themed game in English, functional routines, names of classroom objects.	Personal interest projects conducted in English, simulations of real situations.	Immersion in simulated academic and work contexts in English.
Evidence: Greater generalization of language vs. structured instruction (Hancock & Kaiser, 2002; Yoder & Stone, 2006)							
Teaching strategy 6: Assistive Technology and Digital Applications							
Use of tablets, educational software (adapted Rosetta Stone, Duolingo), augmented reality, text-to-speech platforms, and language processing tools for teaching English.	Universal Design for Learning -UDL- (CAST, 2018); Input Hypothesis (Krashen, 1982)	High motivation. Personalized pace. Self-directed learning with immediate feedback.	Very effective. Predictable interfaces and learning controls reduce anxiety.	Adapt the interface. Apps with haptic feedback, minimal text, and high visual/auditory reward.	Tablets with gamified vocabulary apps (Endless Alphabet, Starfall).	Adaptive platforms, simplified podcasts, videos with bilingual subtitles.	Adapted MOOCs, writing assistants, academic speech synthesis tools.
Evidence: Improvements in vocabulary and motivation (Shane & Albert, 2008; Whalen et al., 2010; Chen, 2012)							
Teaching strategy 7: Peer-mediated Instruction							
Strategies in which typically developing peers facilitate the acquisition of English through guided interaction, cooperative play, and authentic language models.	Vygotsky (1978), Zone of Proximal Development; Kamps et al. (1994)	Very beneficial for pragmatics. Requires peer preparation and teacher monitoring.	Beneficial with a clear structure of each student's role and visual aids.	Limited and highly structured application. The pair requires intensive training.	Paired reading activities, bilingual board games, collaborative presentations.	Collaborative projects, guided debates, team presentations in English.	Study groups, joint research projects, academic exhibitions.
Evidence: Improvements in social interaction and functional language (Kamps et al., 1994; Harper et al., 2008)							
Teaching strategy 8: TEACCH Structured Method for EFL							
Organization of the English learning environment with predictable routines, clearly defined work areas,	Schopler et al. (1995); Mesibov et al. (2004)	It provides scaffolding. It allows for independent work with higher cognitive demands.	Highly recommended. Environmental structure reduces deregulation and	Essential. Predictability and visual structure are prerequisites for learning.	Themed English corners, workstations, sequenced activity boxes.	Bilingual visual schedules, coded classroom routines, individual work folders.	Visual planners, academic self-regulation strategies, structure

visually organized materials, and tasks with a start-finish structure.			increases productivity.				d portfolios.
Evidence: Reduction of disruptive behaviors and increase in time spent on tasks (Ozonoff & Cathcart, 1998; Hume & Odom, 2007)							
Teaching strategy 9: Special Interest-Based Instruction							
Integration of topics of preferential interest to the student (dinosaurs, trains, astronomy, etc.) as a vehicle for teaching vocabulary, grammar and communicative skills in English.	Affective Filter Hypothesis (Krashen, 1982); Self-Determination Theory (Deci & Ryan, 2000)	Highly effective. Maximizes intrinsic motivation and facilitates spontaneous acquisition.	Very effective. Special interest acts as a powerful linguistic and motivational bridge.	It may be the only way to start learning English. Highly recommended.	Books, flashcards, videos, and games on the topic of interest in English.	Research projects on the topic of interest conducted in English.	Academic production (essays, presentations) related to the student's area of interest.
Evidence: Increased motivation and participation (Winter-Messiers, 2007; Gunn & Delafield-Butt, 2016)							
Teaching strategy 10: Instruction in Functional Communication Skills							
Explicit and systematic teaching of basic communicative functions in English (asking, refusing, commenting, asking) as a functional alternative to problematic behaviors.	Carr & Durand (1985); Functional Communication (Functional Communication Training)	Useful for expanding pragmatic repertoire. Complements academic English instruction.	Highly recommended. It replaces maladaptive behaviors with functional communication in English.	Top priority. Replaces problem behaviors. Essential functional vocabulary in English.	Functional phrases ('I want', 'I need', 'I don't understand', 'Help me please').	Academic communicative functions: asking for clarification, expressing disagreement, requesting a turn.	Professional communication: emails, formal requests, oral presentations in English.
Evidence: Reduction of problem behavior and increase in functional communication (Carr et al., 1994; Tiger et al., 2008)							
Teaching strategy 11: Total Physical Response (TPR) Method and TPR-Storytelling							
Associating instructions and vocabulary in English with body movements and physical actions. TPR-Storytelling adds narrative and performance for contextualized understanding.	Asher (1977); Krashen & Terrell (1983); Blaine Ray (1990s)	Effective for action vocabulary. Combine with comprehensible input and gradual variation.	Very effective. Motor skills and routine provide cognitive anchoring for English vocabulary.	Highly recommended for beginners. Associates' language with concrete actions without the need for speech.	Songs with movement ('Head, Shoulders, Knees'), class orders, action games.	Dramatizations, physical role-plays, craft instructions in English.	Technical demonstrations, tutorials in English with a procedural component.
Evidence: Vocabulary acquisition without oral pressure (Asher, 1977; Tomlinson and Masuhara, 2009)							
Teaching strategy 12: Video Modeling							
Repeated viewing of video-recorded communicative	Bandura (1977); Video Modelin	Very effective. It allows for detailed	Highly recommended. The video	Useful with short fragments, visual	Animated story videos, education	Videos of everyday situations for	Adapted TED Talks, academi

situations in English, with peer models, adults or animated figures, to develop linguistic comprehension and production.	g for ASD (Sherer et al., 2001; Bellini & Akullian , 2007)	analysis of complex communicative interactions .	offers a consistent and repeatable model with no variability.	subtitles, and a focus on a single target behavior.	al programs ('Peppa Pig', 'Sesame Street') in English.	teenagers, educational YouTubers, short documentaries.	c outreach videos, professional presentations.

Evidence: Increase in target communicative behaviors (Bellini & Akullian, 2007; Mason et al., 2012)

Source : Anagnostou et al. (2014); Hardan et al. (2012); Nikoo et al. (2015); Posey et al. (2004); Rossignol & Frye (2014); Roy et al. (2015); Urbano, et al. (2014); Urbano et al. (2015); Young & Barrett (2015).

Teaching English to students with autism means thinking about several conditions that often appear with their main diagnosis and can affect how they learn a new language: (a) Unusual reactions to sounds or visuals, making it harder to understand English; (b) Trouble understanding what others mean, such as irony, jokes, or expressions in English; (c) Finding it hard to plan, remember, or switch tasks, which can make speaking and writing in English difficult; (d) Echoing speech, taking words literally, or having problems with English speech patterns; (e) Feeling anxious, which can get worse in English classes if not handled well; (f) Strong personal interests, which teachers can use to help motivate learning.

3. Bibliometric analysis of Scopus publications related to English instruction and ASD

In answer to question 3*:* What information is published in Scopus about strategies used to teach EFL to learners diagnosed with ASD?

The bibliometric analysis presents the following results: 2,947 works published from 1977 to 2026, 206 works from 1996 to 2026, and, using the terms “Autism”, “EFL”, and “teaching methodology” as inclusive criteria, 5 works from 1916 to 2026.

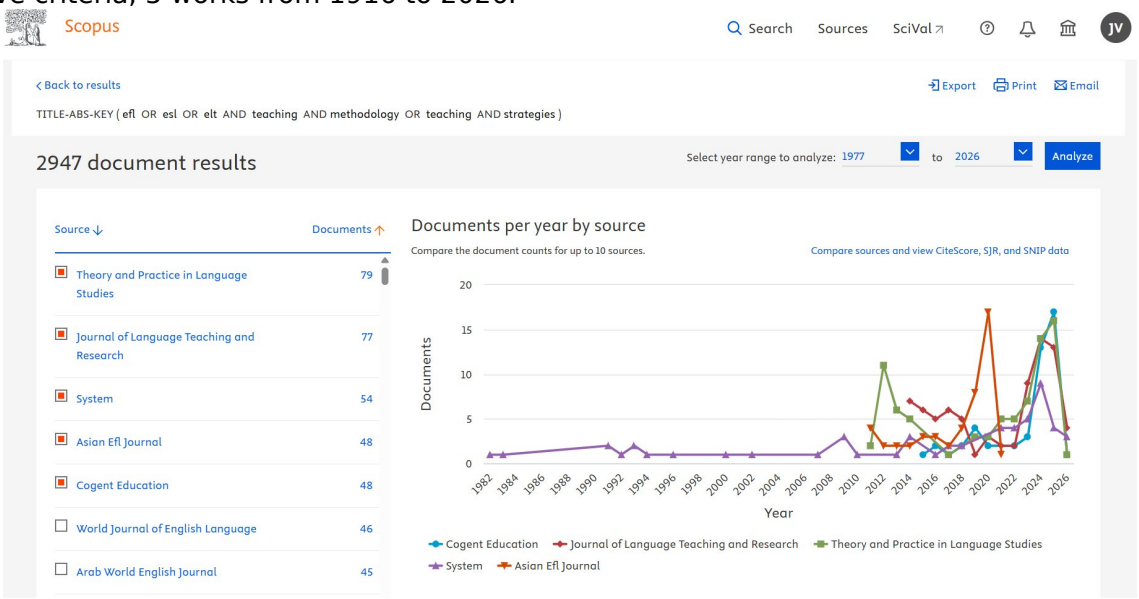

Figure 2. Publications production found in search 1

Results of research 1: EFL OR ESL OR ELT AND TEACHING METHODOLOGY OR TEACHING STRATEGIES

Scientific Productivity and Temporal Distribution. - There has been a steady increase in publications about English Language Learning and Teaching methodologies between 1977 and 2026. The key findings are as follows:

A total of 2,947 documents were published: 648 between 1977 and 2016 (22%), and 2,299 between 2017 and 2026 (78%). The peak year was 2025, with 562 documents (19% of total publications between 1977 and 2026).

Areas of study. -The predominant thematic areas of study in the publications are: Social Science (48,7%), Arts and Humanities (29,4%), Computer Science (6,3%), Psychology (4,8%), and Engineering (2,2%). Source type: journal 2,467 documents, book 246 documents, conference proceeding 135 documents, and book series 100 documents.

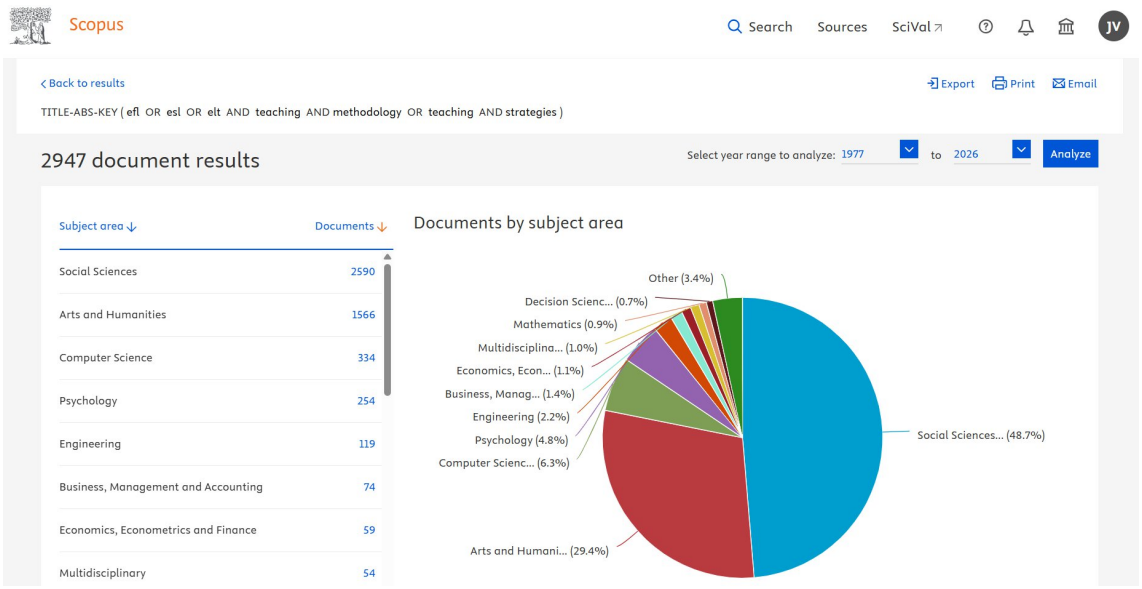

Figure 3. Subject areas of publications found in search 1

The journals of publication. - The most frequent journals publishing documents in the search are Theory and Practice in Language Studies (79 documents), Journal of Language Teaching and Research (77 documents), System (54 documents), Asian EFL Journal (48 documents), and Cogent Education (48 documents).

Access to publications. - All open access 1452 documents, Gold 1176 documents, Green 558 documents, Hybrid gold 152 documents, and Bronze 89 documents. The languages of publications are English (2922 documents), Spanish (16 documents), French (7 documents), Persian (5 documents), and Portuguese (4 documents).

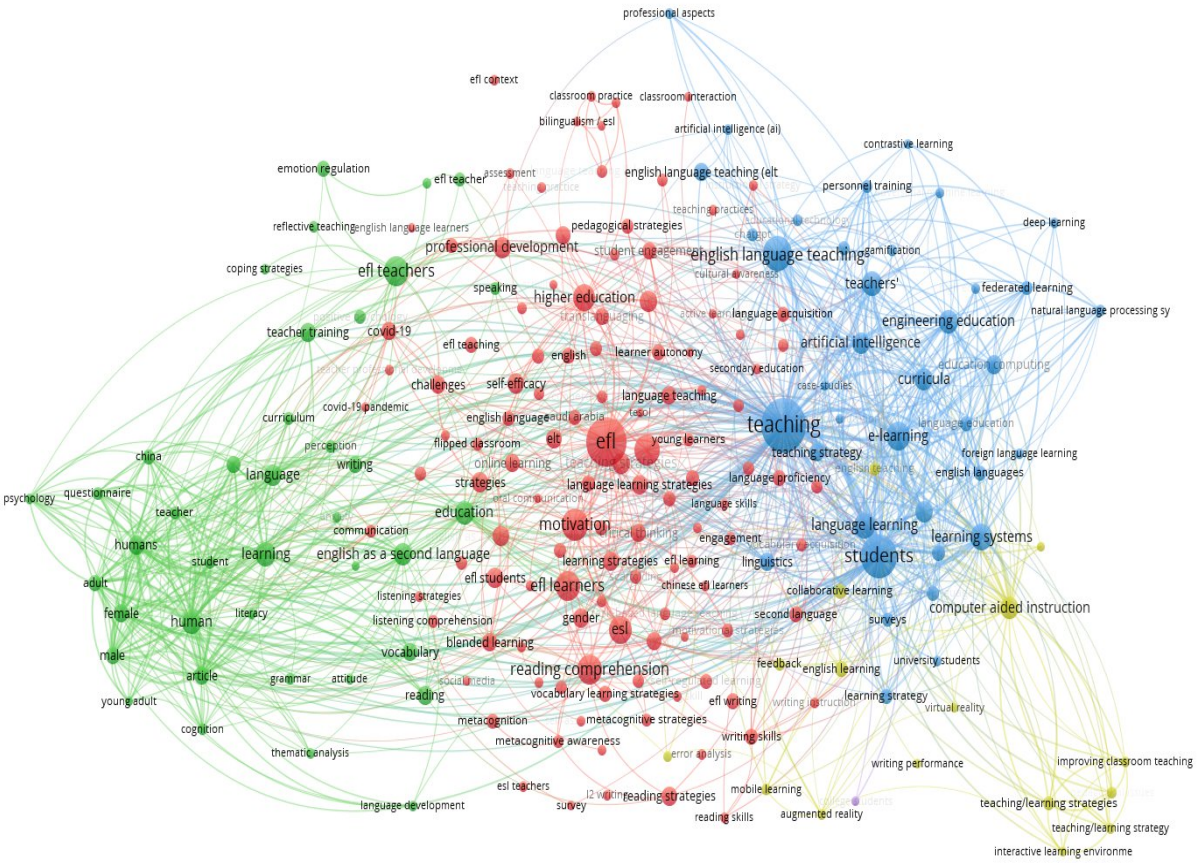

Figure 4. Thematic correlation of publications found in search 1

Most Relevant Authors and Affiliations. - Recurring authors on the topic were identified, with a notable concentration of researchers from China (340 documents), Iran (299 documents), Saudi Arabia (253 documents), Indonesia (239 documents), Malaysia (228 documents), and the United States (227 documents). The universities with the highest scientific output in this field were: Universiti Kebangsaan Malaysia (63 works); Prince Sattam Bin Abdulaziz University (41); Islamic Azad University (32); Universitas Negeri Malang (30); Universiti Putra Malaysia (27); and Universiti Malaya (26).

Impact and Citations. - 356 documents, 12% of the total of publications, have more than 20 citations in Scopus, indicating their relevance in the scientific community.
Key words used are Teaching 264, EFL 216, Students 173, English language teaching 112, and motivation 93.
Highest cited document. - It found 470 times that cited the work of:
Hu, G. (2002). Potential Cultural Resistance to Pedagogical Imports: The Case of Communicative Language Teaching in China. *Language, Culture and Curriculum*, *15*(2), 93–105. https://doi.org/10.1080/07908310208666636

Results of research 2: TEA OR ASD AND LANGUAGE INSTRUCTION
Scientific Productivity and Temporal Distribution. Between 1996 and 2026. - Publications on English Language Learning and Teaching methodologies show a moderate upward trend, with notable increases particularly during specific years. The most significant findings include:

Total of 206 documents published. 52 documents published between 1996 and 2016. It means 25% of total documents, and 154 documents published between 2017 and 2026, meaning 75% of total documents. 2025 is the year with the most publications, with 11 documents. It represents 5,3% of total documents published between 1996 and 2026.

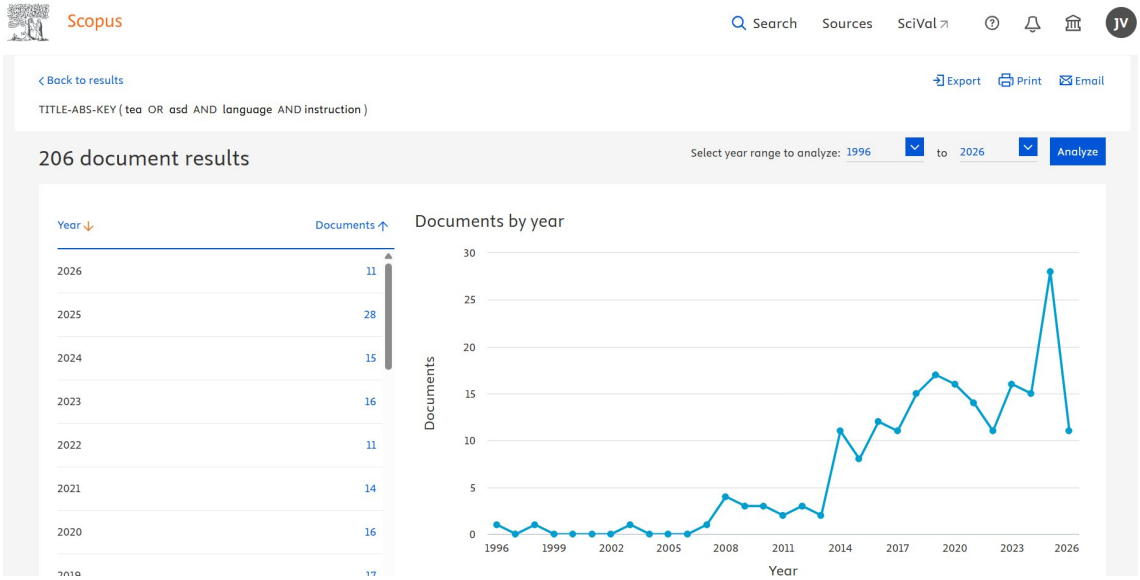

Figure 5. Publications production found in search 2

The journals of publication. - The most frequent journals publishing documents in the search are Journal of Autism and Developmental Disorders (11 documents), Focus on Autism and Other Developmental Disabilities (9 documents), American Journal of Speech-Language Pathology (5 documents), Behavioral Interventions (5 documents), and Evidence-Based Communication Assessment and Intervention (4 documents).

Areas of study. - The predominant thematic areas of study in the publications are Psychology (88 documents), Social Science (81 documents), Medicine (66 documents), Computer Science (39 documents), Health Pressions (32 documents), Arts and Humanities (28 documents), Neuroscience (27 documents), and Engineering (24 documents).
Regarding source types, there are 142 journal articles, 246 books, 31 conference papers, 20 reviews, 10 book chapters, 2 notes, and 1 retracted document.

Most Relevant Authors and Affiliations. - Recurring authors on the topic were identified, with a notable concentration of researchers from the United States (101 documents), China (21 documents), Spain (12 documents), the United Kingdom (8 documents), Australia (7 documents), Malaysia (7 documents), Japan (6 documents), and Canada (5 documents).
The university with the highest scientific output in this field is Purdue University, with 6 works.
as well as Texas A&M University (6 works), Florida State University (5 works), International Islamic University Malaysia (5 works), and the University of Virginia (5 works).

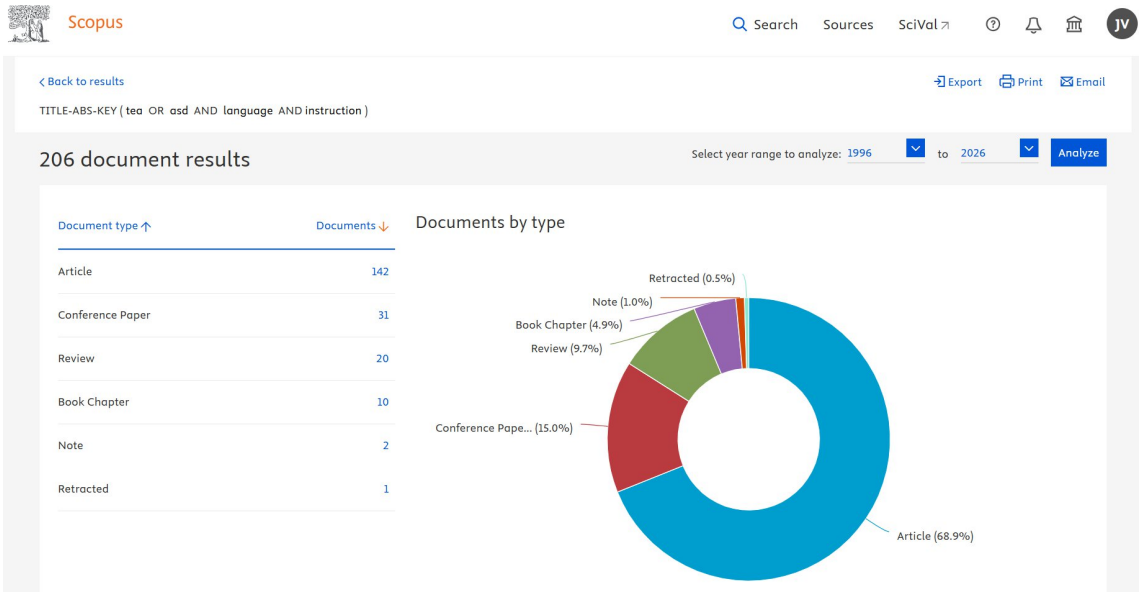

Figure 6. Type of publications found in search 2

Access to publications. - All open access: 63 documents; Gold: 41 documents; Green: 41 documents; Bronze: 10 documents; Hybrid: 5 documents. The languages of publications are: English (202 documents), Spanish (3 documents), Bosnian (1 document), Chinese (1 document), and Japanese (1 document).

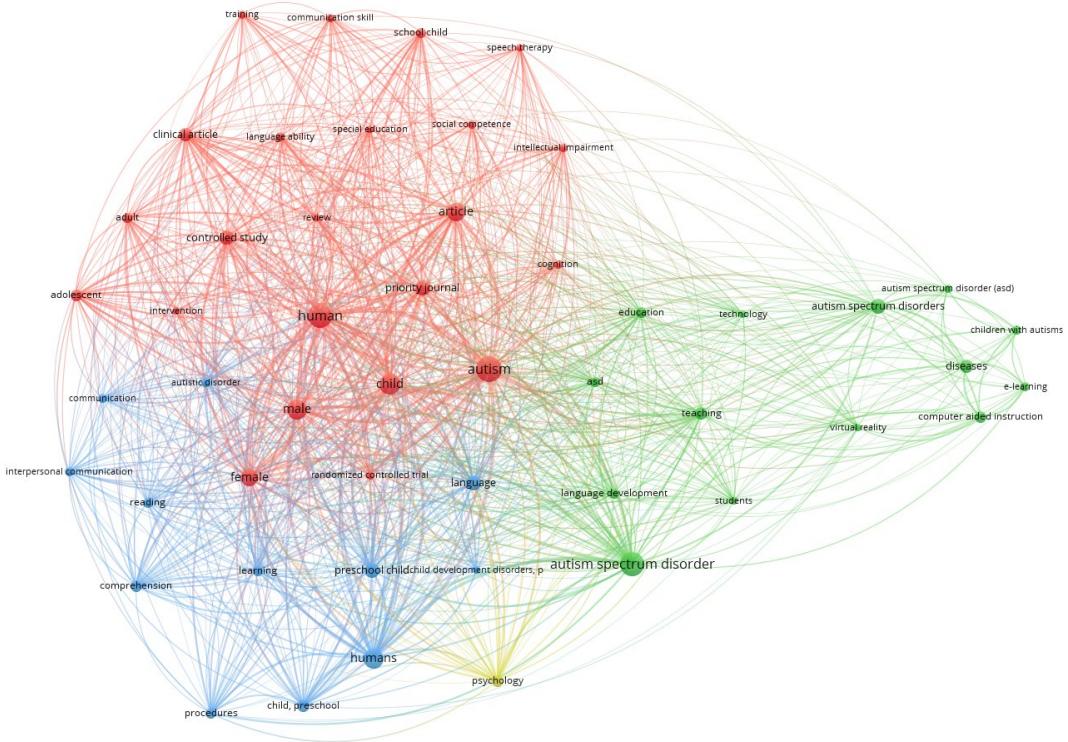

Figure 7. Thematic correlation of publications found in search 2

Impact and 34 documents. - 17% of the total publications have more than 20 citations in Scopus, indicating their relevance in the scientific community. The keywords used are Autism 103, Human 91, autism spectrum disorder 87, Child 67, Male 61.

Highest cited document. - It found 256 times cited the work of:
Ospina MB, Krebs Seida J, Clark B, Karkhaneh M, Hartling L, et al. (2008) Behavioral and Developmental Interventions for Autism Spectrum Disorder: A Clinical Systematic Review. PLoS ONE 3(11): e3755. doi:10.1371/journal.pone.0003755

Turning to the results of research 3, the following search terms were used: TITLE-ABS-KEY ("TEA" OR "ASD" OR "AUTISM") AND TITLE-ABS-KEY ("EFL" OR "ESL" OR "ELT") AND TITLE 2017 and 2026.

The search found 5 publications that matched all search terms between Applications according to all the search terms between 2017 and 2026. See table 7.

Table 7.- Articles found for the period 2017-2026

Article title	Authors	Citations
Empowering multilingualism in children with autism: Insights from parents and EFL teachers | Osnaživanje višejezičnih sposobnosti kod dece sa poremećajem autističnog spektra: Uvidi roditelja i nastavnika o podučavanju engleskog kao drugog jezika	Mohamed, A.M., Shaaban, T.S., Jmaiel, H.A. (2024) Specijalna Edukacija I Rehabilitacija, 23(4), pp. 341–360	3
Autism Spectrum Disorder: Developing ESL Proficiency via Visual Teaching Tools in International Schools of China	Haifa, L., Grigoryan, G., Karapetyan, L., Huichun, N. (2023), Arab World English Journal, 14(4), pp. 252–268	1
Parental involvement in children's (0–6-year-olds) EFL learning: Outlining practical proposals for improvement as part of student teachers' training	Estrada-Chichón, J.L. (2022). Porta Linguarum, 2022-January(Special issue), pp. 83–97	3
English morphosyntactic performance of a high-functioning asd child: Implications on elt	Yusoff, Y.M., Salehuddin, K., Abdullah, I.H., Toran, H. (2019). Malaysian Journal of Learning and Instruction, 16(1), pp. 155–179	5
Project work management addressing the needs of BVI learners of EFL	Makarova, T.S., Matveeva, E.E., Molchanova, M.A., Morozova, E.A., Burenina, N.V. (2017). Integration of Education, 21(4), pp. 609–622	3

CONCLUSIONS

The authors declare that the study objective was fully achieved: to review specialized publications on teaching English to students diagnosed with autism spectrum disorder and to identify ways to improve teaching practices from pedagogical and clinical perspectives. Since its emergence, autism spectrum disorder has been the subject of numerous attempts to explain its exact cause. However, research indicates a fragmented nature, making it difficult to determine a precise pathogenesis. Theories facilitate interaction and understanding among people regarding this neurodevelopmental disorder, especially in the educational context. When discussing inclusive education for students with autism spectrum disorder (ASD) in the teaching of English as a foreign language, a landscape fraught with barriers hinders quality and supportive education. This is because professionals lack the necessary experience to address these special educational needs associated with the disability, due to the complexity of this condition, which hinders the full integration of students into the educational system. English language teaching in the Ibero-American context faces a landscape of challenges that encompasses all aspects of the installed capacity of educational institutions. This capacity negatively impacts student learning. Even so, legislation has been enacted to strengthen language acquisition, while new teaching strategies are being developed to equip students with skills useful in a society that demand competence, as well as new learning methodologies relevant to the realities of the student population. The most cited works on teaching English to students with Autism Spectrum Disorder (ASD) address the morphosyntactic performance in English of children with ASD, the management of students with ASD's work in projects, parental involvement in children's English as a Foreign Language (EFL) learning, the empowerment of multilingualism in children with autism, and the development of English as a Second Language (ESL) competence through visual teaching tools. The most frequently used techniques for teaching English as a Foreign Language (EFL) to students with ASD identified in this study are: visual supports, social stories, augmentative and alternative communication (AAC), applied behavior analysis (ABA) adapted to EFL, incidental/natural learning, assistive technology and digital applications, peer-mediated instruction, the TEACCH structured method for EFL, special interest-based instruction, instruction in functional communication skills, the Total Physical Response (TPR) method and TPR-Storytelling, and video modeling. The results of this study can be used by decision-makers, curriculum designers, researchers, and teachers who teach English to students with autism. The study's weakness lies in its need to be compared with the realities of schools. The proposed line of research aims to validate effective English-teaching techniques for working with students with ASD from a social-emotional learning perspective in the Ibero-American context.

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