

# **COLLABORATIVE TEACHING: PERSPECTIVES, POSSIBILITIES, AND CONTRIBUTIONS TO THE INCLUSION OF STUDENTS WITH AUTISM SPECTRUM DISORDER**

## **ENSINO COLABORATIVO: PERSPECTIVAS, POSSIBILIDADES E CONTRIBUIÇÕES PARA A INCLUSÃO DE ALUNOS COM TRANSTORNO DO ESPECTRO AUTISTA**

## **ENSEÑANZA COLABORATIVA: PERSPECTIVAS, POSIBILIDADES Y CONTRIBUCIONES A LA INCLUSIÓN DE ESTUDIANTES CON TRASTORNO DEL ESPECTRO AUTISTA**



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### **ABSTRACT**

Considering the advancements in inclusive education policies and the significant growth in enrollment of students with Autism Spectrum Disorder (ASD) in basic education, challenges persist regarding the effective implementation of collaborative pedagogical practices between the regular classroom teacher and the special education teacher, justifying this study. The research aimed to analyze, through a literature review, the perspectives, possibilities, and contributions of collaborative teaching to the inclusion of students with ASD in basic education. To this end, a qualitative research study was conducted, specifically a bibliographic review, analyzing national and international scientific publications selected from the Scielo, Google Scholar, and CAPES Periodicals Portal databases, using descriptors related to inclusive education, collaborative teaching, and ASD. Thus, it is observed that collaborative teaching is configured as a relevant pedagogical strategy for improving the teaching and learning process, favoring the participation, academic and social development of students with ASD, in addition to promoting teacher co-responsibility and the articulation between mainstream education and Specialized Educational Services. This leads to the

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conclusion that the effectiveness of collaborative teaching depends on institutional conditions, collective planning, ongoing teacher training, and the integration of pedagogical practices into the school's Political-Pedagogical Project.

**Keywords:** Inclusive Education. Autism Spectrum Disorder. Collaborative Teaching. Special Education.

## RESUMO

Considerando os avanços das políticas de educação inclusiva e o crescimento expressivo das matrículas de estudantes com Transtorno do Espectro Autista (TEA) na educação básica, persistem desafios relacionados à efetivação de práticas pedagógicas colaborativas entre o professor da sala comum e o professor da Educação Especial, o que justifica a realização deste estudo. A pesquisa teve objetivo analisar, a partir de uma revisão da literatura, as perspectivas, possibilidades e contribuições do ensino colaborativo para a inclusão de estudantes com TEA na educação básica. Para tanto, procede-se a uma pesquisa de natureza qualitativa, do tipo revisão bibliográfica, com análise de produções científicas nacionais e internacionais, selecionadas nas bases de dados Scielo, Google Acadêmico e Portal de Periódicos CAPES, utilizando descritores relacionados à educação inclusiva, ensino colaborativo e TEA. Desse modo, observa-se que o ensino colaborativo se configura como uma estratégia pedagógica relevante para a qualificação do processo de ensino e aprendizagem, favorecendo a participação, o desenvolvimento acadêmico e social dos estudantes com TEA, além de promover a corresponsabilização docente e a articulação entre o ensino comum e o Atendimento Educacional Especializado. O que permite concluir que a efetivação do ensino colaborativo depende de condições institucionais, planejamento coletivo, formação continuada dos professores e integração das práticas pedagógicas ao Projeto Político-Pedagógico da escola.

**Palavras-chave:** Educação Inclusiva. Transtorno do Espectro Autista. Ensino Colaborativo. Educação Especial.

## RESUMEN

Considerando los avances en las políticas de educación inclusiva y el crecimiento significativo de la matrícula de estudiantes con Trastorno del Espectro Autista (TEA) en la educación básica, persisten desafíos en cuanto a la implementación efectiva de prácticas pedagógicas colaborativas entre el docente de aula regular y el docente de educación especial, lo que justifica este estudio. La investigación tuvo como objetivo analizar, mediante una revisión bibliográfica, las perspectivas, posibilidades y contribuciones de la enseñanza colaborativa a la inclusión de estudiantes con TEA en la educación básica. Para ello, se realizó una investigación cualitativa, específicamente una revisión bibliográfica, analizando publicaciones científicas nacionales e internacionales seleccionadas de las bases de datos de Scielo, Google Académico y el Portal de Periódicos CAPES, utilizando descriptores relacionados con la educación inclusiva, la enseñanza colaborativa y el TEA. Así, se observa que la enseñanza colaborativa se configura como una estrategia pedagógica relevante para mejorar el proceso de enseñanza y aprendizaje, favoreciendo la participación, el desarrollo académico y social del alumnado con TEA, además de promover la corresponsabilidad docente y la articulación entre la educación regular y los Servicios Educativos Especializados. Esto lleva a la conclusión de que la eficacia de la enseñanza colaborativa depende de las condiciones institucionales, la planificación colectiva, la formación docente continua y la integración de las prácticas pedagógicas en el Proyecto Político-Pedagógico de la escuela.



**Palabras clave:** Educación Inclusiva. Trastorno del Espectro Autista. Enseñanza Colaborativa. Educación Especial.

## 1 INTRODUCTION

The consolidation of inclusive education in Brazil has required significant transformations in public policies, in the organization of educational institutions and, above all, in the pedagogical practices developed in everyday school life. Based on the principles of the right to education, access, permanence and learning, the school is now called upon to attend to the diversity of its students, recognizing their singularities and potentialities. In this context, the schooling of students with Autism Spectrum Disorder (ASD) has become one of the great contemporary challenges for educational systems.

ASD is characterized by persistent deficits in communication and social interaction, associated with restricted and repetitive patterns of behavior, interests, and activities, which can directly impact teaching and learning processes. In view of these specificities, it is essential that schools develop pedagogical strategies that promote not only these students' access to regular education, but also their effective participation and the development of meaningful learning. Thus, inclusive education demands practices that overcome segregating models and punctual interventions, moving towards collaborative and integrated pedagogical proposals.

In this scenario, collaborative teaching, also called co-teaching, has been pointed out in the national and international literature as a promising strategy for the inclusion of students who are the target audience of Special Education, especially those with ASD. This approach is based on the partnership between the common room teacher and the Special Education teacher, who share responsibilities in the planning, execution and evaluation of pedagogical activities, working together in the same educational space. By promoting teacher co-responsibility, collaborative teaching contributes to the reorganization of pedagogical practices and to the construction of a more inclusive school environment.

In the context of Brazilian educational policies, normative advances have reinforced the need for articulated and collaborative pedagogical practices. The current legislation establishes that instruments such as the Specialized Educational Service Plan (PAEE) and the Individualized Educational Plan (PEI) must be integrated into the school's Political-Pedagogical Project (PPP), guiding the work developed in the common room, in the Specialized Educational Service (AEE) and in collaborative activities. This normative perspective shows that school inclusion must be understood as an institutional commitment, which involves the entire school community.

Despite legal and theoretical advances, the implementation of collaborative teaching still faces challenges related to teacher training, the organization of pedagogical work and school culture, which highlights the need to deepen discussions about this approach.

In view of this, this article aims to analyze, through a literature review, the contributions of collaborative teaching to the inclusion of students with ASD in basic education, identifying its contributions, its foundations and possibilities, in the light of the scientific literature and the legal frameworks of inclusive education in Brazil.

## 2 THEORETICAL FRAMEWORK

### 2.1 AUTISM SPECTRUM DISORDER (ASD)

According to Castro (2020, p.19) the word autism comes "from the Greek autos, which means of oneself turned inwards, associated with the suffix ism, which means belonging to something". This was the name created by Eugen Bleuler in 1908. In the course of research and study, in 2013 autism was renamed Autism Spectrum Disorder (ASD), according to the Statistical Diagnostic Manual of Mental Disorders-DSM 5 (APA, 2013).

A key milestone in autism studies occurred in 1943, when psychiatrist Leo Kanner published pioneering research describing a group of children who had significant difficulties in social interaction and communication. These observations were important because they allowed the identification of behavioral characteristics that, until then, were not clearly understood or differentiated from other conditions of child development (Kanner, 1943).

With the advancement of clinical observation over the years and the deepening of research, the understanding of autism has been expanded. It has come to be recognized that these characteristics do not manifest themselves in a single or homogeneous way, but vary significantly from individual to individual. In this way, autism is no longer understood as a single and restricted condition and is now conceptualized as a spectrum disorder, that is, a set of diverse manifestations that can present different levels of severity, support needs, and forms of expression.

Autism Spectrum Disorder (ASD) is not configured as a closed or fully delimited concept. There is, to date, no scientific consensus regarding its definition or its etiology. This lack of definition stems, to a large extent, from the fact that the exact origin of autism is not yet known, or even if it is possible to attribute it to a specific cause.

The causes of ASD are not unique or simple, as the disorder results from several factors acting together, and not from a single origin. These factors mainly include genetic components, such as hereditary alterations or predispositions, and environmental factors, which can influence neurological development before, during, or after birth. (Velarde; Cárdenas, 2022)

In ASD, there is a wide diversity of manifestations within the spectrum, which involves different interpretations of their possible origins, clinical characteristics, comorbidities,



diagnostic processes, therapeutic approaches, and other related aspects. In view of this plurality, it becomes complex to construct a single and precise definition of Autism Spectrum Disorder. According to Arvigo and Schwartzman, 2020, p. 15, ASD is characterized:

[...] persistent deficits in communication and social interaction, associated with restricted and repetitive patterns of behavior, interests and/or activities. Its symptoms often overlap with those of other conditions, being easily confused with Developmental Language Disorder (LDD), Attention Deficit Hyperactivity Disorder (ADHD), in addition to numerous genetic syndromes such as Rett Syndrome and other conditions that lead to impairments in social, linguistic, motor and/or cognitive behaviors (Arvigo; Schwartzman, 2020, p. 15).

ASD is a neurodevelopmental condition marked mainly by continuous difficulties in communication and social interaction, such as problems expressing oneself, understanding social rules, or establishing interpersonal relationships. In addition, it involves restricted and repetitive behaviors, interests, or activities, such as repetitive movements, rigidity to change, or very specific interests. The signs of the disorder may resemble those of other conditions, which makes the diagnosis more complex. Some genetic syndromes also have similar characteristics.

The Diagnostic and Statistical Manual of Mental Disorders - 5th edition (APA, 2014) explains that ASD is characterized by severe and invasive impairment in some areas of development, such as reciprocal social interaction skills and the non-verbal behaviors used for it, communication skills, socio-emotional reciprocity skills, difficulty developing, maintaining and understanding relationships and the presence of behaviors, stereotyped interests and activities.

Many children with ASD have a delay in starting to speak or use language differently than expected for their age. This delay does not occur in isolation, but is usually associated with other developmental changes. Another characteristic according to DSM-5 is the absence of interest in typical social interactions, such as eye contact, exchange of glances or communication initiative. Children handle objects in a repetitive or functionally limited way, they can also demonstrate specific skills, but at the same time, present difficulties in basic aspects of social communication.

## 2.2 THE SCHOOLING OF STUDENTS WITH ASD

The right to access and permanence in educational institutions is guaranteed in the Federal Constitution of 1988, which states in Article 206, item I, that: "Education shall be provided based on the following principles: I – equality of conditions for access and permanence in school." (Brazil, 2024, p. 186). In addition, this right is reinforced by other

constitutional provisions, such as Article 205 – Defines education as a right of all and a duty of the State and of the family, aiming at the full development of the person, the exercise of citizenship and qualification for work and Article 208 – Establishes the duties of the State with education, including specialized educational assistance to people with disabilities, preferably in the regular school system. (Brazil, 2024).

Another important provision for the school inclusion of people with ASD is the Law of Guidelines and Bases of National Education - LDBEN, Law 9394/96, which ensures the offer of Special Education as a transversal modality, preferably in the regular school network, ensuring specialized educational care for students with disabilities, global developmental disorders and high abilities or giftedness. According to article 59 of the LDB, education systems must ensure specific curricula, methods, techniques, educational resources and organization to meet the needs of students who are the target audience of Special Education (Brasil, 1996).

In this context, it is pertinent to emphasize that Law No. 12,764/2012 brought specific and extremely relevant rights to the process of inclusion of students with autism. This regulation, which institutes the National Policy for the Protection of the Rights of Persons with Autism Spectrum Disorder, also known as the Berenice Piana Law, ensured people with ASD, for all legal purposes, the same rights conferred on people with disabilities. It specifies, in its article 3, item IV, paragraph "a", among the rights of the person with ASD, the right "to education and vocational training" (Brasil, 2012).

School inclusion is fundamental for the development of children with ASD, as it guarantees them coexistence with other children of the same age group in a common educational environment. This interaction transforms the school into a space not only for academic learning, but also for welcoming differences and social development.

By participating in this context, the person with ASD has their interaction capacities stimulated, which contributes to avoiding prolonged social isolation. Social skills are not innate, but can be learned and developed through the interactions and exchanges that occur during the social learning process. In this sense, interaction with peers is essential for the development of anyone, regardless of whether or not they have ASD, being the basis for the construction of social, emotional and communicative skills (Vieira; Alves; Bringel, 2023).

It is relevant to note that education data in Brazil in recent years according to the School Census have shown a significant growth in enrollment of students with ASD between the years 2023 and 2024, with an increase of 44.4% in the number of students with ASD enrolled in basic education. This growth is demonstrated by the increase from approximately

636 thousand to almost 920 thousand students, which reveals a substantial expansion of this public in the educational system in just one year. (Brazil, 2024)

Students with ASD constitute an important portion of the public served by Special Education. This reinforces the centrality of ASD in inclusive educational policies and practices. There is a growth trend over time, as since 2020, the total number of enrollments in Special Education has grown by 58.7%. (Brazil, 2025).

The continuous and significant growth in enrollment in Special Education in Brazil in the period from 2020 to 2024, indicating advances in both access and school inclusion in regular classes. It is observed that the total number of enrollments went from 1,308,900 in 2020 to 2,076,825 in 2024, representing a significant increase over the five years analyzed. This growth suggests greater identification of students as the target audience of Special Education, expansion of inclusive policies and greater demand for specialized educational services.

## 2.3 CONCEPT AND FOUNDATIONS OF COLLABORATIVE TEACHING

### 2.3.1 Definition of collaborative teaching

Co-teaching, also called Collaborative Teaching or collaborative work, is a pedagogical proposal that emerged in the United States in the late 1980s, with the objective of favoring the schooling of students who are the target audience of Special Education (PAEE) in regular education classes, this form of teaching has been considered a promising strategy, as it contributes to the effectiveness of school inclusion, expanding the opportunities for learning, participation and development of these students in the regular school environment (Mendes; Vilaronga; Zerbato, 2023; Capellini; Zerbato, 2019).

According to the international literature, Collaborative Teaching is a pedagogical practice based on the partnership between regular education and special education teachers. In this type of work, both professionals share responsibilities and act together in all stages of the educational process. (Cook; Friend, 1993).

This means that teachers need to plan together and execute classroom activities in an integrated way and also collectively evaluate student performance. In this sense, "collaborative teaching should be understood as a new model of education, in which everyone feels responsible for the process of school inclusion". (Fontes, 2009, p. 42).

The core of Collaborative Teaching is to serve a diverse group of students, recognizing that the class is heterogeneous and that some students have specific educational needs. Thus, "collaborative teaching is a work alternative involving the cooperation between a regular school teacher and a special school teacher, who work together in the same class,



when there is the presence of one or more students who demand differentiated attention" (Marin and Maretti, 2014, p.3).

In this way, this approach seeks to ensure the participation, learning, and development of all, respecting differences and promoting school inclusion. Collaborative teaching is a form of organization of pedagogical work in which two teachers work together in the same classroom. This partnership aims to better serve the students who are the target audience of special education, without removing them from the regular class.

Co-teaching presupposes the integrated performance of two or more professionals, who share responsibilities in the planning, execution of classes and evaluation of student learning. This cooperation breaks with the logic of the teacher's isolated work. Collaboration is not limited to simultaneous presence in the classroom, but involves the collective construction of pedagogical strategies, the definition of methodologies and the joint analysis of learning outcomes. (Santos, 2015).

For Santos (2015), the main objective of this approach is to respond to the different forms and rhythms of learning of students, ensuring that everyone has access to the curriculum and development opportunities. A partnership between regular education and special education, this practice often occurs through the articulation between regular class teachers and special education teachers. In addition to teachers, collaborative teaching can involve other professionals in education and the support area, such as therapists and educational assistants, expanding the possibilities of intervention and support for the educational process.

The collaborative partnership between regular education and special education teachers according to Gately (2001, p. 42) is defined in three stages, after the implementation of the co-teaching proposal, as explained in chart 2:

**Table 1***Definition of three stages of cohesive implementation*

Internships	Definition
Early stage	In which both teachers make an effort to relate, but communication is superficial and formal
Commitment stage	In this stage, professionals communicate more openly, with more interaction and more frequently as trust is established, consequently contributing to collaboration in teaching
Collaborative internship	In which interaction and communication occur in a natural and comfortable way for all those involved in working together.

Source: Gately (2001)

Co-teaching is based on the idea that the barriers to learning are not exclusively in the student, but in the way the school is structured. Therefore, he argues that it is the school institution that must change its structure to meet the diversity of students.

The co-teaching work model is based on the social approach because it presupposes that the school must be modified and that it is necessary to qualify the teaching given in regular classes, where the student spends most of the time of his school day. Thus, if teaching in the regular class does not respond to the needs of these students and does not favor their participation and learning, it will be useless to extend their working hours by one or two hours a week to offer SEA, as if the problem were centered on the student with disabilities, and not on the school (Mendes; Vilaronga; Zerbato, 2023, p. 17).

The common classroom is the main space for schooling, so it is in this context that teaching needs to be qualified to ensure, welcoming, participation in the teaching and learning process in an effective way. Therefore, it is not enough to extend the time of SEA if teaching in the regular class is not inclusive. Offering more time than one or two hours per week for SEA does not compensate for exclusionary or inaccessible pedagogical practices in the regular school classroom.

### **2.3.2 Collaborative practices provided for in the legislation**

Decree No. 12,773, of December 8, 2025, reinforces the importance of collaborative work in the field of Special Education, highlighting that actions and activities must involve intersectoral articulation, that is, collaboration between different sectors and professionals to ensure quality education for the special education public. Specifically, article 12 and other provisions mention the need for articulated and collaborative actions, which guide activities both in the common classroom and within the scope of the Specialized Educational Service

(AEE), promoting intersectoral actions for inclusion and adequate support for students with disabilities.

Decree No. 12,773 establishes the obligation to prepare an individualized pedagogical document for the student, which must be updated continuously. This document is the PAEE (Specialized Educational Service Plan) and the PEI (Individualized Educational Plan), and must be built from a case study, that is, from a detailed analysis of the needs, potentialities

It is important to note that Decree No. 12773/2025 follows in its text what is established by CNE/CP Opinion No. 50/2023, which deals with guidelines and proposals for the education of students with Autism Spectrum Disorder (ASD) and other disabilities, in the context of inclusive education in Brazil.

From the proposition of the case study, its instruments are then established: the Specialized Educational Service Plan (PAEE) and the Individualized Educational Plan (PEI), both of a pedagogical nature, which make up the PPP of the school unit. These documents should guide the work to be developed in the common classroom, within the scope of the SEA, in the collaborative activities of the educational unit and in the demands of intersectoral articulation. (Brazil, 2023, p.13).

The proposition of the case study allows us to understand, in depth, the specific educational needs of the student. From this analysis, more appropriate and individualized pedagogical decisions become possible. Based on the case study, two central instruments are established: the PAEE, which organizes the actions of the SEA and the PEI, which defines objectives, strategies, adaptations and resources necessary for the student's teaching and learning process.

In this context, the current legislation is a very important factor for the construction of a cohesive/collaborative teaching between SEA and regular education teachers, because for the elaboration of the instruments the need for continuous planning among these professionals to conduct the pedagogical work in the classroom.

### **2.3.3 Teachers and co-teaching**

Teachers need time, knowledge, organization and planning to meaningfully carry out co-teaching in order to adapt to this new approach in the teaching and learning process. This partnership is built gradually and with the support of the school and other professionals, such as the pedagogue and principal. It is important to note, as Vilaronga and Mendes (2017, p.27) point out, the "co-teaching proposal has the characteristic of being adaptive, therefore, it requires time for contextual changes. It must be intentionally cultivated or developed and also be considered in the processes of formation, both initial and continued".

Part of the difficulties in developing collaborative work is related to values, beliefs and practices historically constructed in the school, such as the view that each teacher acts in isolation or that special education is the exclusive responsibility of a single professional. Breaking with this cultural logic requires profound changes in the way teaching work is understood and organized. This implies abandoning fragmented practices and moving towards joint and co-responsible action.

In this sense, it is extremely relevant to clearly and complement the functions and attributions of the regular education teacher and the special education teacher. This definition is essential to avoid overlaps, omissions, or conflicts and to ensure that both contribute effectively to student learning.

The proposition of a work that has two teachers, or more, sharing the responsibility of teaching, in which students who are the target audience of special education have to be contemplated in school learning, generates certain basic conditions. Among these conditions are: space and time to promote the exchange of experiences and knowledge of the contents of both parties; discussion and theoretical deepening regarding the decisions expressed in the school's Pedagogical Political Project (Michelluzzi; Cordeiro; Selau, 2022).

#### **2.3.4 Main contributions in the school context**

The main contributions and results observed in regular education classes, where there are children with ASD in elementary school in the early years, when there is collaborative work involving the regent teacher and the Special Education teacher, according to research by Martins, Santos and Denari (2017), include: intellectual abilities superior to those of neurotypical colleagues, ease of memorization, a wide linguistic repertoire and a lot of property when expressing their ideas.

For Martins, Santos and Denari (2017), specialized educational support, in partnership with the work of the regent teacher, brings good results to the teaching-learning process for these students. In general, collaborative work involving several professionals is seen as a certainty that the schooling process has a greater opportunity to happen successfully.

According to Silva and Junior (2024), collaborative teaching in the inclusion of students with autism enhances the access, permanence and participation of students with ASD in the regular classroom. Collaboration allows the exchange of experiences, knowledge and specific pedagogical strategies, adjusted to the needs of students with ASD, favoring their integral development.

The studies by Cardoso and Pisetta (2024) concluded that collaborative teaching promotes articulation, allowing moments of exchange, listening, and greater knowledge of

the possibilities and potentialities of autistic students, contributing to the articulation between teachers. Collaborative work proves to be an important and powerful means to resignify the school environment, contribute to the articulation between teachers, integrate pedagogical practice and reflect on practice.

Corroborating the study, Vilaronga and Mendes (2014, p. 149) emphasize that "the scientific literature related to co-teaching, although promising, shows the need for more studies on the collaboration between regular teachers and special education teachers in schools". This shows the need for more research and investigations that address the practice of collaborative teaching in educational institutions in the teaching and learning process of students with disabilities and especially those with autism.

### 3 METHODOLOGY

The present study is characterized as a qualitative research, of the bibliographic review type, whose objective was to analyze how collaborative teaching has been discussed, presented and applied in the scientific literature as a strategy to favor the inclusion of students with ASD in basic education, as well as to identify its main contributions and possibilities in the school context.

The bibliographic review was developed in a systematic and analytical way, contemplating scientific productions and normative documents related to inclusive education, collaborative teaching, schooling of students with ASD and educational public policies. The survey of sources took place in national and international databases recognized in the area of Education, such as SciELO, Google Scholar, CAPES and ERIC Journals, in addition to consulting official documents, including laws, decrees, opinions and guidelines of the Ministry of Education.

To search for publications, the following descriptors were used, in isolation and combined by Boolean operators: collaborative teaching, co-teaching, inclusive education, Autism Spectrum Disorder, ASD, special education, Specialized Educational Service (SES), PAEE and PEI. The inclusion criteria considered: a) scientific articles, books, book chapters and normative documents that directly addressed collaborative teaching and/or the inclusion of students with ASD; b) productions published in Portuguese and English; c) studies with theoretical or empirical relevance to the educational context, especially in the context of basic education.

Materials that did not have a direct relationship with the object of study, duplicate publications, or texts that dealt with the topic in a superficial way, without consistent theoretical foundation, were excluded. The data analysis process occurred in three stages:



exploratory reading, with the objective of identifying the pertinent texts; analytical reading, aimed at the in-depth understanding of the contents; and interpretative reading, in which the data were organized and discussed in the light of the adopted theoretical framework.

Based on this analysis, the studies were grouped into thematic categories, such as: fundamentals of collaborative teaching, implementation models, contributions to the inclusion of students with ASD, challenges faced by teachers and institutional conditions necessary for the effectiveness of this practice.

This methodology enabled a broad and critical view of collaborative teaching as an inclusive pedagogical strategy, contributing to the understanding of its importance in the schooling process of students with ASD and to the reflection on the paths necessary for its consolidation in educational institutions.

## 4 RESULTS AND DISCUSSIONS

The analysis of the literature allowed us to identify that collaborative teaching has been widely discussed as a promising pedagogical strategy for the inclusion of students with ASD in basic education. The reviewed studies show conceptual, normative and practical advances, while revealing persistent challenges for their effectiveness in the school routine.

For analytical purposes, the results were organized into five thematic categories, in line with the specific objectives of the study: (1) theoretical foundations of collaborative teaching; (2) models and forms of implementation; (3) contributions to the inclusion of students with ASD; (4) challenges faced; and (5) necessary conditions for the effectiveness of collaborative practices.

### 4.1 FUNDAMENTALS OF COLLABORATIVE TEACHING

The studies analyzed converge in understanding collaborative teaching as an approach that breaks with the traditional and fragmented logic of teaching work. Authors such as Cook and Friend (1993), Capellini and Zerbato (2019) and Mendes, Vilaronga and Zerbato (2023) highlight that this practice is based on pedagogical co-responsibility, joint planning and integrated action between the common room teacher and the Special Education teacher.

In this sense, collaborative teaching is aligned with the principles of inclusive education, by recognizing diversity as constitutive of the school environment and by shifting the focus from the student's difficulties to the reorganization of pedagogical practices and school structure. This conception is in line with the current Brazilian legislation, which assigns to the school the responsibility of ensuring conditions of access, permanence, participation and learning for all students.

## 4.2 MODELS AND FORMS OF IMPLEMENTATION OF COLLABORATIVE TEACHING

The literature points to different ways of implementing collaborative teaching, varying according to the institutional context, the training of teachers and the level of articulation between the professionals involved. The most recurrent models include simultaneous co-teaching, teaching in stations, alternating teaching and complementary support in a common room.

Table 2 summarizes the main models identified in the literature and their central characteristics.

**Table 2**

*Collaborative teaching models identified in the literature*

Co-teaching model	Key features
<b>Simultaneous co-teaching</b>	Both teachers work together in the same activity and with the whole group
<b>Teaching in stations</b>	The class is divided into groups, with activities conducted alternately by the teachers
<b>Alternate teaching</b>	One teacher leads the main activity while the other works with a smaller group
<b>Collaborative support</b>	The Special Education teacher offers pedagogical support in a common room

Source: prepared by the authors (2025)

These models show that collaborative teaching is not configured as a single or rigid practice, but as a flexible and adaptive approach, which must consider the needs of students with ASD and the conditions of the school.

## 4.3 CONTRIBUTIONS OF COLLABORATIVE TEACHING TO THE INCLUSION OF STUDENTS WITH ASD

The studies analyzed indicate that collaborative teaching contributes significantly to the learning, participation and social development of students with ASD. Among the main contributions highlighted are the expansion of access to the curriculum, the adaptation of pedagogical strategies, the encouragement of social interactions and the appreciation of students' potential.

Research such as those by Martins, Santos and Denari (2017), Silva and Junior (2024) and Cardoso and Pisetta (2024) demonstrate that joint work between teachers favors interventions more adjusted to the needs of students with ASD, promoting greater engagement in school activities and reducing barriers to learning.

Table 3 presents a summary of the main contributions pointed out in the reviewed studies.

**Table 3***Contributions of collaborative teaching for students with ASD*

Dimension	Identified contributions
<b>Learning</b>	Curricular adaptation, diversification of strategies and greater access to content
<b>Participation</b>	Increased involvement in collective activities and reduced isolation
<b>Social development</b>	Stimulation of communication, interaction with peers and social skills
<b>Teaching practice</b>	Exchange of knowledge, continuing education and reflection on practice

Source: prepared by the authors (2025)

These results reinforce that collaborative teaching not only benefits students with ASD, but also contributes to the qualification of pedagogical work and the construction of a more inclusive school culture.

#### 4.4 CHALLENGES FOR THE IMPLEMENTATION OF COLLABORATIVE TEACHING

Despite the advances pointed out, the literature shows significant challenges for the consolidation of collaborative teaching in schools. Among the main obstacles are the lack of time for joint planning, the absence of specific continuing education, the lack of definition of roles among teachers and the persistence of traditional conceptions that attribute Special Education to a single professional.

Authors such as Mendes, Vilaronga and Zerbato (2018) and Vilaronga and Mendes (2017) highlight that these obstacles are, to a large extent, cultural and institutional, requiring profound changes in the organization of school work and in the understanding of the teaching role.

#### 4.5 NECESSARY CONDITIONS FOR THE EFFECTIVENESS OF COLLABORATIVE PRACTICES

The studies analyzed point out that the effectiveness of collaborative teaching requires structural, pedagogical and formative conditions. Among them, the following stand out: institutionalized time for joint planning, support from school management, clarity in the definition of professional attributions, and integration of the PAEE and PEI into the Political-Pedagogical Project (PPP), as provided for in Decree No. 12,773/2025.

Table 4 summarizes the conditions considered essential for the implementation of collaborative teaching.

**Table 4***Conditions for the effectiveness of collaborative teaching*

Category	Necessary conditions
<b>Organizational</b>	Time for planning, management support and reorganization of the school routine
<b>Pedagogical</b>	Integration of the PAEE and PEI to the PPP and shared planning
<b>Formative</b>	Initial and continuing training on inclusion and co-teaching
<b>Cultural</b>	Overcoming isolated work and strengthening co-responsibility

Source: prepared by the authors (2025)

In this context, the results show that collaborative teaching is consolidated as a powerful strategy for the inclusion of students with ASD, as long as it is supported by institutional policies, legal support and collective commitment of the school community.

## 5 CONCLUSION

This article aimed to analyze, through a literature review, the contributions of collaborative teaching to the inclusion of students with ASD in basic education, as well as to identify its foundations and possibilities in the school context. The analysis of the literature allowed us to verify that collaborative teaching is configured as a relevant and promising pedagogical strategy for the effectiveness of inclusive education, by favoring more articulated, flexible practices centered on the educational needs of students.

The results show that collaborative teaching breaks with traditional and fragmented models of teaching performance, by proposing co-responsibility between the common classroom teacher and the Special Education teacher in all stages of the educational process, planning, execution and evaluation. This approach contributes to the expansion of access to the curriculum, to the diversification of pedagogical strategies and to the strengthening of social interactions, fundamental aspects for the academic and social development of students with ASD.

However, the literature points out significant challenges for the effective implementation of collaborative teaching, such as the absence of institutionalized time for joint planning, the insufficiency of specific continuing education, the lack of definition of professional roles, and the resistance to changes in the organization of school work. These obstacles show that the consolidation of collaborative teaching requires not only individual initiatives, but institutional commitment, support from school management and support in educational public policies.

In this context, the importance of integrating the Specialized Educational Service Plan (PAEE) and the Individualized Educational Plan (PEI) into the school's Political-Pedagogical Project (PPP) is highlighted, as provided for in the current legislation. This integration strengthens collaborative teaching by institutionalizing inclusive practices and ensuring

greater coherence between the pedagogical actions developed in the common room, in the SEA and in collaborative activities.

It is concluded, therefore, that collaborative teaching is a fundamental strategy for the effective school inclusion of students with ASD, as long as it is supported by appropriate organizational, pedagogical and formative conditions. It is recommended that future research advance in the empirical investigation on the implementation of this approach in different educational contexts, contributing to the improvement of inclusive policies and practices in the Brazilian educational system.

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