

# AUTISM SPECTRUM DISORDER AND EDUCATIONAL PRACTICES IN PROFESSIONAL EDUCATION<sup>1</sup>

## *TRANSTORNO DO ESPECTRO AUTISTA E PRÁTICAS EDUCATIVAS NA EDUCAÇÃO PROFISSIONAL*

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**ABSTRACT:** In the context of inclusive education, this research had as the objective to analyze the educational practices adopted in the schooling of a student with Autism Spectrum Disorder (ASD) in the Integrated Technical Education. The study was guided by a qualitative approach, as a case study. To collect the data, a documentary research and semi-structured interviews with the student with ASD, his parents and the teachers from the institution of the Federal Network of Professional, Scientific and Technological Education, in Belo Horizonte, State of Minas Gerais, Brazil, were carried out. To interpret the data, the Content Analysis was used, with the theoretical contribution of inclusive education and the literature on ASD. The results of this research point to the low enrollment numbers of people with autism in the Integrated Technical Education and to the effectiveness of the collaborative work, in interaction with the family, support actions for the student, curricular flexibilization, adjustments to assessments, didactic procedures and specific teaching proposals. These practices have resulted in more adequate conditions of schooling for the student with autism, but also with challenges to be overcome, concerning weaknesses in the training of educators and the need for institutionalization of guidelines and educational practices based on human diversity that expand the educational opportunities.

**KEYWORDS:** Autism. Professional education. Educational practices.

**RESUMO:** No contexto da educação inclusiva, esta pesquisa teve como objetivo analisar as práticas educativas adotadas na escolarização de um estudante com Transtorno do Espectro Autista (TEA) no Ensino Técnico Integrado (ETI). O estudo foi orientado por uma abordagem qualitativa, na modalidade estudo de caso. Para coleta de dados, realizaram-se uma pesquisa documental e entrevistas semiestruturadas com o estudante com TEA, seus pais e seus professores de uma instituição da Rede Federal de Educação Profissional, Científica e Tecnológica (RFEPCT), em Belo Horizonte, estado de Minas Gerais. Na interpretação dos dados, utilizou-se a análise de conteúdo, com o aporte teórico da educação inclusiva e da literatura sobre o TEA. Os resultados desta investigação apontam para o reduzido número de matrículas de pessoas com autismo no ETI e para a efetividade do trabalho colaborativo, em interlocução com a família, ações de apoio ao estudante, flexibilização curricular, adequações das avaliações, procedimentos didáticos e propostas de ensino específicas. Essas ações resultaram em condições mais adequadas de escolarização para o estudante com autismo, mas com desafios a serem superados, relativos às fragilidades na formação dos educadores e à necessidade de institucionalização de diretrizes e práticas educativas pautadas na diversidade humana, que ampliem as oportunidades educacionais.

**PALAVRAS-CHAVE:** Autismo. Educação profissional. Práticas educativas.

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## 1 INTRODUCTION

The expansion of access for people with Autism Spectrum Disorder (ASD) to regular professional education institutions was brought about by the change in educational conception to the inclusive education paradigm, starting in the second half of the 20th century, based on the defense of equal rights and opportunities.

Throughout history, professional education of people with disabilities<sup>5</sup> has occurred in parallel with the regular education system, in specialized institutions or workshops (Silva & Dore, 2016), with an assistance and normalizing character (Silva, 2011). From the 1990s onwards, Brazilian legislation and national public policies, ratifying the guidelines of international documents in favor of human rights, advocated universal education and equal learning opportunities for all. In Brazil, the expansion of access for people with disabilities to Basic Education was marked initially by the Federal Constitution (1988), which instituted the State's duty to offer Specialized Educational Service (SES)<sup>6</sup> to people with disabilities, and the National Education Guidelines and Framework Law (*Lei de Diretrizes e Bases da Educação Nacional* – LDBEN - Law no. 9,394, of December 20, 1996), which defined Special Education<sup>7</sup> as a teaching modality preferably offered in regular schools.

From 2008, with the formulation of the National Special Education Policy from the Perspective of Inclusive Education, there was a greater consolidation of the access of this population to regular education, as well as the definition that specialized support services would no longer replace this schooling, becoming complementary, in the case of people with disabilities, or supplementary, for gifted subjects. More recently, the Brazilian Law for the Inclusion of Persons with Disabilities, Law no. 13,146, of July 6, 2015, guaranteed the right of these subjects to access, permanence, participation and learning at all levels and modes of education, with the availability of accessibility strategies in their various dimensions.

In this context of changing education policy, it was sought to understand, in the developed research, how the schooling of young people with ASD in Integrated Technical Education has taken place, a professional training modality that joins High School and Technical Education taught in the same educational institution<sup>8</sup>. Through an integrated curriculum, Integrated Technical Education presents particularities such as the extensive workload, specific school routines, in addition to differentiated objectives, content and methodology from regular

<sup>5</sup> In this paper, the terminology “people with disabilities” will be used, preferably, to report to Special Education students. It should be noted that individuals with autism were considered as persons with disabilities for all legal purposes by Law no. 12,764, of December 27, 2012, which instituted the National Policy for the Protection of the Rights of People with Autism Spectrum Disorder.

<sup>6</sup> Decree no. 7,611, of November 17, 2011, defines Specialized Educational Service as the set of activities, pedagogical resources and accessibility, organized by the educational institution on a continuous basis, with the objective of complementing or supplementing the training of Special Education students in regular education. Kassas and Rebelo (2011) explain that, in the period of the promulgation of the 1988 Constitution, this specialized service could be offered through different teaching modalities, preferably in the regular education network.

<sup>7</sup> According to Law no. 9,394, 1996, Special Education students constitute people with disabilities, global developmental disorders, or giftedness.

<sup>8</sup> As described in the National Education Guidelines and Framework Law (Law no. 9,394, 1996), professional education encompasses qualification courses, High School technical education, undergraduate and graduate courses. High school technical education can be developed in conjunction with High School, for students who have completed Elementary School, and, subsequently, for those who have already completed Basic Education. Technical vocational education articulated at High School level can be carried out in an integrated manner at the same institution, and concurrently, when the High School and technical courses take place in different educational establishments/institutions, with different enrollments.

High School. In view of these specificities, the question was raised about what educational practices have been adopted in the schooling of students with autism in the Integrated Technical Education. In this study, educational practices are understood as the educational work developed within the scope of the technical institution, which covers not only the teaching practice but also the educational actions promoted by the teaching support sectors.

Despite legal guarantees and education policy guidelines, the number of people with disabilities in integrated technical courses is very low, as indicated by data from the Statistics Synopsis of Basic Education between 2014 and 2018 (National Institute for Educational Studies and Research 'Anísio Teixeira' [INEP], 2015, 2016, 2017, 2018, 2019), described in Table 1. In this survey, the enrollments of young people with ASD are not discriminated against, and are included in the group of Special Education students. The low percentage of enrollments, over the analyzed period, explains the difficulty of access to Integrated Technical Education by people with autism and other students with disabilities. In 2018, despite the increased access of these students to the Integrated Technical Education, enrollment in Special Education corresponded to only 0.5% of the total in integrated technical courses in Belo Horizonte (BH), Minas Gerais, as shown in Table 1.

Integrated Technical Education Enrollments / Period	2014	2015	2016	2017	2018
General <sup>a</sup>	3.019	2.539	2.520	2.424	3.195
Special Education <sup>b</sup>	4	7	4	5	16

Table 1. Special Education enrollment in regular classes in Integrated High School in Belo Horizonte.

Source: Elaborated by the authors based on the Statistics Synopsis of Basic Education (INEP, 2015, 2016, 2017, 2018, 2019).

Notes: (a) includes the enrollment of federal, state, municipal and private educational institutions; (b) includes enrollment of students with disabilities, global developmental delay<sup>9</sup> or giftedness.

Regarding this limitation of access to professional education, Cordeiro (2013) observed that people with disabilities had predominantly non-linear trajectories in public schools. According to the author's analysis, the precarious educational path of these students would cause a bottleneck in the transition to High School due to the failure to complete Elementary School, as well as difficulties in carrying out the knowledge tests that make up the selection processes of technical schools. As for the educational process of students with ASD, the study conducted by Lima and Laplane (2016) reinforces the findings of Goessler (2016) when they identified that most of them, about 92%, had a partial or incomplete school trajectory, which would indicate the existence of obstacles to staying in school, especially in the final grades of Elementary Education in the Municipal System. Thus, the authors found the high dropout rate of these students, since few reached High School (Lima & Laplane, 2016).

<sup>9</sup> Prior to the adoption of the Autism Spectrum Disorder terminology, the 4th edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM IV), used the diagnostic category Global Developmental Delay (GDD), which included Autism, Asperger's Syndrome, Rett's Syndrome, Childhood Disintegrative Disorder and Global Developmental Delay, without other specifications (Schmidt, 2017).

For the limited number of young people with ASD who managed to overcome the obstacles present in schooling, in Elementary School and in the process of entering technical courses, challenges may still be imposed along the course of technical education. In this sense, studies demonstrate the lack of policies and institutionalized actions in the perspective of inclusive education, the lack of adaptations that make educational practices accessible to these young people, in addition to weaknesses in the training of educators (Oliveira, 2014; Rodrigues, 2014). In this regard, Goessler (2016) observed that the course of interruptions in the education of people with disabilities was repeated in professional education, in a way that most of them did not complete the technical course. The author stressed, however, that this issue was not restricted to students with disabilities.

The results of these studies indicate the need for reflection on how school educational practices can be more accessible to students with autism, given the specificities that these young people have. To this end, it is important to understand that ASD refers to a continuum of neurodevelopmental disorders whose diagnostic criteria comprise two areas: difficulties in social communication and social interaction; and restricted and repetitive patterns of behavior, interests or activities (American Psychological Association [APA], 2014). The difficulties in these two domains have been present since childhood and can be manifested in different ways, with intensities ranging from mild to severe, which affects the type of support that the subject requires (APA, 2014). However, it must be considered that the severity of the manifestations of autism can vary according to the context and the time in life (APA, 2014).

Autism was described as a specific nosographic category in the 1940s by psychiatrists Leo Kanner (Kanner, 2012) and Hans Asperger (Asperger, 2015), but only in 1980 was inserted as a new class of disorders in the Diagnostic and Statistical Manual of Mental Disorders. As of the 5th edition of this manual, the term Autism Spectrum Disorder (ASD) started to be adopted in order to express the variety of manifestations related to socio-communicational and behavioral difficulties experienced by people with ASD. According to data made available by the Centers for Disease Control and Prevention (CDC) in the USA<sup>10</sup>, autism is found in all ethnic-racial and socioeconomic groups and occurs four times more in boys than in girls. The CDC estimates that one in 54 children has autism in that country. In Brazil, there is no official data on the prevalence of ASD, but it is estimated that approximately two million people have this condition, according to the diagnostic criteria (Fadda & Cury, 2016). The causality of autism has not yet been fully defined, but, according to Fadda and Cury (2016), the most accepted thesis today refers to the view that a combination of genetic and environmental factors alter the brain functioning of people with autism.

In view of the particularities presented by people with ASD, this work had the general objective of analyzing the educational practices adopted in the schooling process of a student with ASD in Integrated Technical Education, based on the perceptions of this young man, his parents and his teachers. The specific objectives of this research were to identify the perceptions of students with autism, their parents and their teachers regarding the educational practices adopted in the Integrated Technical Education and to analyze the contribution of these actions to the student's schooling in Integrated Technical Professional Education.

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<sup>10</sup> Information available at the CDC website. Retrieved on March 27, 2020 from <https://www.cdc.gov/ncbddd/autism/data.html>.

## 2 METHODOLOGY

To achieve the presented objectives, a qualitative research was carried out, in the case study modality, based on the experience of a young man with ASD, enrolled in the technical course in the IT area of a technical institution of the Federal Network of Professional, Scientific and Technological Education, located in the city of Belo Horizonte, Minas Gerais, Brazil. The data were collected through documentary research and semi-structured interviews, carried out with the student with autism, his parents and with his teachers, throughout his trajectory in the integrated technical course of the school. The research proposal was evaluated by the Ethics Committee of the investigated institution that approved its realization, with the Certificate of Presentation for Ethical Appreciation. The study included ten volunteer participants, who did not receive remuneration for this participation: a student diagnosed with ASD, the father and mother of this young man and seven Integrated Technical Education teachers. The selection of participants occurred based on the identification of the only student who declared having autism in the investigated institution, during the period of development of this research. Consequently, the parents and the Integrated Technical Education teachers of that student with ASD were identified. Among these teachers, those who agreed to participate in this research were selected, which represented approximately 36% of the total teachers linked to the technical course in the area of information technology, between the years 2016 and 2018 (period between the student's entry into the school and realization of the research).

The interviews were conducted in a classroom of the technical institution, at five different times: with the student with ASD, individually; with parents, in pairs; and with the teachers it took place in three formats: in groups (with four teachers), in pairs and individually. A flexible script was used for the interviews, with open questions about the education of young people with autism in the integrated technical course, regarding the facilitating and hindering aspects of this experience, of the social interactions in the school environment and the educational practices adopted by the federal technical institution, including on the difficulties of implementation and contributions of these actions to the educational process of the student. These questions were presented to all participants and other topics were addressed in specific groups of respondents. Teachers were also asked questions regarding knowledge about ASD, previous experience with students with this condition, and family participation in the school life of young people with autism. Parents and students were asked questions about the school trajectory prior to Integrated Technical Education, the choice of the technical course, the preparation for the selection process of the federal technical institution and the implementation of adaptations in the selection tests for the integrated technical course. All interviews were recorded on audio, upon participants' agreement, and were fully transcribed.

The material of the interviews was contextualized and complemented by the data collected in the documentary research that consisted of the analysis of the following institutional documents: political pedagogical project, proposal for administrative organization chart, resolution on class councils, notices of selection processes for integrated technical courses, explanatory note on the eligibility for places reserved for people with disabilities in the selection process, data from the Permanent Vestibular Commission on the number of candidates with disabilities and adaptation needs in the selection process, student report card

with ASD of 2016, 2017 and 2018, teaching plan of a discipline of exact sciences and report of the psychosocial monitoring sector of students.

The contents obtained by data collection were analyzed by the content analysis method, looking for meanings based on the correspondence between the “semantic or linguistic structures and the psychological or sociological structures (for example, conduct, ideologies or attitudes) of the statements” (Bardin, 2011, p. 43). The data analysis process consisted of three phases: (1) pre-analysis, in which the institutional documents were selected, the interviews were transcribed and the collected material was read; (2) exploration of the material and treatment of the data, which involved coding the texts obtained with the transcripts of the interviews and institutional documents, whose contents were organized into thematic categories; (3) inference and interpretation of the contents, with the identification of the meanings associated with the themes, based on the theoretical contribution related to inclusive education and ASD.

### **3 RESULTS**

The data on the schooling of students with autism in the Integrated Technical Education was organized into three main categories related to the objective of this study, as described in this topic: facilitating factors, hindering factors and educational practices adopted with the student with ASD, which covers the subcategories: support actions for students, collaborative work, curriculum flexibility, individualized monitoring, teaching proposal and didactic procedures.

#### **3.1 FACILITATING AND HINDERING FACTORS IN INTEGRATED TECHNICAL EDUCATION**

Throughout the Integrated Technical Education, some factors favored the permanence and advances in the schooling of the student with ASD, among which the family support, the welcoming and engagement of the educators, the administrative structure composed of student monitoring sectors, the availability of institutional resources and collaborative work processes were pointed out, as well as attitudinal aspects of young people, such as their commitment to studies and their ability to follow procedures and rules. In particular, the support and engagement of parents in their child’s educational path seem to have contributed, in a fundamental way, to the progress in schooling and student development. In addition to actively participating in the educational process of the young student, the parents helped him in the out-of-school study and in the management of the school’s commitments (mainly the mother), made possible specialized monitoring, activities of an artistic and sports nature and also constituted an important reference for the student in the struggle for his rights. The contribution of families is repeatedly indicated in research on inclusive education and in the reports of people with ASD, revealing the role of relatives in stimulating their development (Grandin & Panek, 2017), in raising awareness about autism, in encouraging research, the provision of services and treatments, as well as the daily struggle for their rights against discrimination (Grinker, 2010).

Nevertheless, the extensive workload of studies, the need for autonomy and the use of social media in the development of school activities represented obstacles for students with ASD since they would require planning and organization of their school routine which would reduce

the time available for extra class study. In addition, if the instructions for school activities were not done in an objective and detailed way, this young student's learning could be compromised by the non-fulfillment of tasks, or by their inadequate performance. These difficulties may be related to student characteristics related to autism, such as literality, focus on details and the difficulty in grasping the global aspects of the content. The rigidity and specificities of abstraction presented by the young person with ASD were also associated by the interviewees with relational difficulties, between him and the other students, which may have even interfered in the development of school activities, both in group work and during the course of classes. At the same time, limitations in social interaction indicate a difficulty in living with differences, reflecting the stigmatization present in the broader socialization processes. Grinker (2010) argues that most people with autism could be more stigmatized because they do not seem to be particularly different from other people since their specificities are sometimes unclear.

Another aspect that represented an obstacle to the technical education of this young man refers to the lack of previous knowledge of teachers about ASD and the inexperience in teaching students with this condition, even in the case of teachers whose academic background included a teaching degree. Regarding the improvement of teacher training processes, the scientific literature indicates the need to promote theoretically solid training (Garcia, 2013), with a greater association between theoretical and didactic knowledge (Saviani, 2009), being also indispensable a definition of the field of training in Special Education (Garcia, 2013; Kassar, 2014) and the articulation of the curricular elements of pedagogy courses and other degrees (Cruz & Glat, 2014), among other aspects.

### 3.2 EDUCATIONAL PRACTICES FOR THE STUDENT WITH AUTISM

Throughout the school career of students with ASD in Integrated Technical Education, the researched federal institution promoted actions to favor the education of this young student in the technical course in the area of information technology, as described in the following sub-items.

**Support actions for students:** The performance of sectors that monitor the educational process of students was indicated by the research participants as interventions that promoted more appropriate teaching conditions for this student. In this sense, the support of the psychosocial monitoring sector through awareness actions on autism among students, individual psychological support, as well as guidance to students and mediation of conflicts, made it possible for young people with ASD to be more welcoming and with a feeling of belonging to the school community. The student union also acted, on its own initiative, in raising awareness about autism among students entering the school. In the scope of managing school commitments, the monitoring of students with ASD by the pedagogical sector seems to have motivated the young student to organize his school routine. In addition, the parents' strategy of linking an electronic diary to a clock that vibrated according to scheduled events was recognized as an effective intervention in order to contribute to more student autonomy in this regard. However, the research participants indicated the occurrence of relational difficulties between the young student with autism and his classmates, during the course of coexistence, and the need for more frequent interventions in the field of social interactions.

In this sense, Rosin-Pinola and Del Prette (2014) discuss the relevance of teachers' social skills in the schooling of people with disabilities, considering that the teaching performance should promote the articulation of academic learning to the socio-emotional development of students, in general, and contribute to the improvement of coexistence. Silva and Mendes (2012) point out that psychologists can help teachers, contributing to the development of the social skills of educators and students.

**Collaborative work:** The articulated action between managers, teachers, student monitoring sectors, support center for inclusion and parents of students with ASD contributed to the promotion of greater accessibility of the educational process, according to the perception of the interviewees. This integrated work involved the sharing of experiences, collective proposals for educational actions, direct communication between teachers and parents, as well as support for teaching practice by the psychosocial monitoring sector and the institution's pedagogical nucleus. This collaborative work resulted in the proposition of other educational practices, such as the flexibility of the temporality of the curriculum, the adaptations of the evaluations and individualized monitoring. The articulation of different perspectives in the construction and implementation of educational actions, with shared responsibility, and mutual support seem to have positively impacted the student's schooling process in the integrated technical course, corroborating findings in the literature that indicate common notes (Federico, Herrold, & Venn, 1999<sup>11</sup> as cited in Mendes, Almeida, & Toyoda, 2011; Wood, 1998).

**Curricular flexibility:** Considering the particularities of young people with autism, the federal technical institution adopted the flexibility of the temporality of the curricular matrix and adapted assessments, starting from the second academic year of the student in the Integrated Technical Education. In this sense, an annual schedule of subjects was prepared for young people with ASD, with a smaller number of subjects, making it possible to progress in the course by subject and not by grade. With the adoption of this strategy, there was a reduction in the annual workload of the course for this student, which led to the valorization of his advances in the educational process, more time for extra-class study, as well as the expansion of free time in his routine. The flexibility in complying with the curricular elements seems to have led to an adaptation of school temporality to the particularities of learning for the student with autism, such as the need for more time to process information, the tendency to focus on details and difficulty in organizing school commitments. In the evaluative activities of the disciplines, the formulation of the questions was adapted through the fragmentation of the statements with more than one questioning and the use of more direct and objective questions, avoiding the use of connotative language. These adjustments contributed to a greater understanding of the statements by the student with ASD. In addition, there was additional time available for the tests, which was not frequently used by the student. After the implementation of curricular flexibility associated with other institutional interventions, there was an improvement in the school performance of the student with autism.

**Individualized monitoring:** As a strategy to support the learning difficulties of students with ASD in specific areas, individualized monitoring was implemented in technical subjects and in an Exact Sciences discipline. The monitoring work, carried out by undergraduate

<sup>11</sup> Federico, M. A., Herrold, W. G. Jr., & Venn, J. (1999). Helpful tips for successful inclusion. *Teaching Exceptional Children*, 32(1), 76-82.



students in each area, made it possible to monitor extra-class activities, carry out exercises, clarify doubts individually and the regularity of studies. At the beginning of the process, the monitors participated in a training on ASD promoted by a research and extension laboratory in autism and, throughout the process, they were supervised by the teachers who taught the discipline and guided by the psychosocial monitoring sector. In the opinion of the research participants, this individualized support provided that the learning of the contents occurred at a different pace, with more appropriate didactic procedures to the particularities of the student with ASD, contributing to the improvement of their school performance. In addition, the integration between the monitoring work and the teaching practice, through the monitoring of collective classes by the monitors and the sharing of experiences (between the teacher and the student), enabled a deeper knowledge about the learning process of the student with autism in the discipline. However, the lack of institutionalization of inclusive actions, such as individualized monitoring, caused obstacles in the development of this support, leading to the interruption of classes, the delay in hiring the monitors, the lack of clarity in the assignments of the monitors and the perception of this support as a privilege granted to students with ASD. For the actions to support schooling to be developed in adequate conditions, reflection, awareness and participation of the school community in the policies that guide educational practices in the institution, which may not have occurred satisfactorily in the analyzed experience, is essential.

**Teaching proposal and didactic procedures:** In the student's schooling process with ASD in the Integrated Technical Education, the teaching proposals of two subjects, one in the area of Exact Sciences and the other in Natural Sciences, contributed to the student's participation and learning in the integrated technical course. It is inferred that these disciplines were more appropriate to the particularities of the young student with autism since they did not require specific adaptations for him. Teaching in these disciplines was based on conducting scientific research processes, linked to practical situations, using varied didactic procedures and valuing the learning process of each student. In the Exact Sciences discipline, different teaching strategies were adopted, mainly in small groups or in pairs, among which we can mention the lectures, debates, the resolution of challenges, the written records, the elaboration of summaries of the content, carrying out experiments and varied forms of assessment. The discipline of Natural Sciences used the pedagogy of projects, based on the theoretical constructs disseminated mainly by the French Josette Jolibert, and her collaborators, and by the Spanish Fernando Hernández (Giroto, 2005). According to this conception, teaching, learning and knowledge are circulating, so that the teacher acts as a facilitator, considering the contributions of each student and providing different learning paths (Hernández, 1998). The flexibility in the learning process, based on teaching by projects, seems to have enabled young people with ASD to develop their studies at their own pace.

In addition, specific didactic procedures favored the learning process of the student with autism in the Integrated Technical Education, such as the use of analogies to concretize situations to explain abstract concepts, the use of direct, objective and detailed instructions, avoiding the use of connotative language and the teacher's management skills in different situations. To promote the educational process, the teachers surveyed used interventions such as the elimination of distracting stimuli, rearrangements in the composition of work groups, the positive reinforcement of behaviors, the experimentation of paths chosen by the

student with autism in solving exercises and the establishment of combinations about the moment of expression of subjects of interest in the classes. In addition to these actions, a didactic procedure was indicated by the student with ASD himself and by his mother as a more appropriate method to his particularities. This method, adopted by the mother to help her son in his studies, consisted of compartmentalizing the content, explaining one concept at a time, followed by the verification of learning, with the clarification of doubts, and subsequent gradual advance of the teaching process.

It is possible to identify the proximity of this procedure to the guidelines of Gomes and Souza (2013), when addressing the “restricted stimulus control” in people with ASD. The authors indicate strategies that help the student to pay attention to the important aspects of the task, avoiding the focus on only a few details, and to organize them so that he can understand, this way, the global aspect in question. It is inferred that the compartmentalization of the content contributes so that the student directs his attention to the relevant elements and organizes them, gradually, in the set of knowledge worked. The verification of learning is also recommended, by Gomes and Souza (2013), when they emphasize that teachers should be aware of the feedback given by the student and the influences of the environment on his performance. The authors also indicate other educational strategies that consist of teaching the student with autism to make visual markings of what needs to be observed, organize the textual elements in an explicit manner, provide verbal guidance so that the relevant aspects of the task can be observed, avoid using distracting stimuli (not essential for the proposed activity) and employ visual stimuli and subjects of interest to the student (Gomes & Souza, 2013).

#### 4 DISCUSSION

The analysis of the student’s schooling process with ASD in Integrated Technical Education cannot be generalized given, above all, the variety of manifestations of autism, but it points out possibilities of educational practices with these young people in the context of professional education. Throughout the student’s educational path, the researched technical institution did not have the resources and services of Special Education provided for in Brazilian legislation, but sought to promote accessibility through actions built collectively and implemented in different areas of the school. In this way, different sectors assumed the tasks of the SES, identifying the educational needs of young people with ASD and proposing actions in an articulated way, together with the student’s family, which resulted in favorable results for his schooling. Among the actions adopted by the technical institution, two strategies stand out, mainly because they make it possible to adapt the educational process of students with autism to their learning style: curricular flexibility and individualized monitoring. In the scientific literature, the flexibility of curricula is a controversial topic that involves different conceptions (Garcia, 2006; Glat & Blanco, 2007; Tavares Silva, 2015). In the researched schooling experience, the flexibility of the temporality of the curriculum maintained the objectives and content taught in the subjects, not substantially affecting the basic elements of the curriculum, as pointed out by Heredero (2007). The author clarifies that the adjustments regarding the curricular temporality and the evaluations modify the form of access to the curriculum, referring to how and when it is taught, and how it is evaluated.

As for the proposal of individualized academic monitoring, it can be understood as a mediation modality in the learning process in which mediators are in a different position in relation to the teachers of the discipline: less vertical and, probably, with a different language, depending on age as well as for the fact of taking on the role of students. This individualized academic support seems to have benefited not only the student with autism, through different time and didactics, but also the monitors, for the opportunity to expand their knowledge about ASD and to develop social, emotional and pedagogical skills. However, Mendes, Silva and Pletsch (2011) warn that, when implementing support services for students with disabilities in other school spaces and times, the school may not rethink its curricular practice and the pedagogical work developed within the classroom. The authors question that, despite the insertion of new subjects and services in the regular school, there is a rigidity of the curriculum that leads to the dissociation of the teaching and learning processes, and to the permanence of the concept that the student with disabilities should be “normalized”. Thus, a diversified and flexible educational work can oppose the tendency for normalization, still present in school practices, when considering human heterogeneity. In this sense, the non-traditional teaching proposals in the Integrated Technical Education proved to be more appropriate for the education of young people with autism (and perhaps of the other students) by providing the construction of knowledge through different paths and school times.

## 5 CONCLUSIONS

The reduced access of young people with autism to professional education indicates the urgent need to improve the educational practices of regular Basic Education schools, especially at the beginning of schooling for these subjects. This could be opposed to the reduction of training opportunities resulting from poor education, expanding the entry into professional education. Schools still need to move towards overcoming the normalizing tradition of education systems (Mendes, Silva, & Pletsch, 2011). Considering that the change in educational systems towards an inclusive perspective is a process, the entry of young people with autism in the Integrated Technical Education and the adoption of educational practices more accessible to them represent an advance in the schooling of people with ASD, in the context of professional education. The presence of students with autism, in federal technical courses, may provide opportunities for improving educational concepts and practices in order to make them accessible to the diversity of young people who are part of the school community.

When analyzing the educational practices adopted with a student with ASD in the Integrated Technical Education, this research pointed to interventions that proved to be effective in the investigated case study. The work corroborates findings from the scientific literature on advances in the learning of people with autism through the implementation of non-traditional teaching methods, when they provide adequate conditions for the particularities of these subjects (Gomes & Souza, 2013). The results of this study also indicate that adjustments in the temporality of curricula and teaching plans, the adoption of diverse didactic procedures, which articulate theory with practical situations and use an objective language can make the educational process more accessible to young people with autism. In addition, this research highlights the notes of Rosin-Pinola and Del Prette (2014) and Silva and Mendes (2012) on the importance of supporting social interactions and the educators' handling skills for the

students' socio-emotional development and highlights the contribution of this support for the permanence, participation and learning of the young student with autism, as well as of other students, in the school environment.

Considering that the research in question was a case study, other investigations can be carried out on the schooling of young people with ASD in technical education institutions. The study of the youthful condition of people with autism is also a relevant topic since most research addresses autism in childhood, with little research on adolescents or adults with ASD (Guedes & Tada, 2015). In this perspective, the experience of youth, on the part of young people with ASD, could be researched in the context of the Integrated Technical Education. Finally, with regard to graduates of integrated technical courses, there is also the possibility of investigating the entry of young people with autism into the world of work.

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