



Intervention Strategies for Specialized Educational Assistance in the Public Network: The Case of Twice-exceptionality

Sônia Maria Maciel Lopes^{1*}, Elizane Franchi Pelligrini², Leonila Santos Almeida Sasso³,
Valéria André dos Santos⁴, Júlio César André⁵

¹Votuporanga Region Education Board, Votuporanga, São Paulo, Brazil

²School "Maria Educadora", Itajobi, São Paulo, Brazil

³Independent Researcher, Mirassol, São Paulo, Brazil

⁴State School "Rui Barbosa", Glória D'Oeste, Mato Grosso, Brazil

⁵Center for the Study and Development of Health Education – CEDES, Medical School of Medicine of São José do Rio Preto - FAMERP, Brazil

***Corresponding Author:** Sônia Maria Maciel Lopes, Votuporanga Region Education Board, Votuporanga, São Paulo, Brazil

Abstract: Among the diversity of students in the school context, there are those who still have little identification in the regular classroom, including Double Exceptionality (DE), that is, Asperger Syndrome (AS) and High Abilities (AH). Due to gaps in the initial and continuing education of teachers that enable them to recognize the characteristics of specific human talents, the biggest harmed in this situation is the student. Qualitative research where the object researched is the trajectory of the student XD (fictitious name) in the school environment. The type of study is a single case study, which places the case as the focus of research. The Medical Evaluation showed a clearly above average position in intellectual capacity and a higher average than expected for their age and education, with a percentile equal to or better than 40% for a group of their same age group; his cognitive development presented some distortions with delays, his academic performance being impaired due to limitations in social interactions, in addition to severe blocks in relation to the environment, with reactions to pressure, anxiety, inadequate feelings, which made him highly attached to their imaginations and fantasy, bringing the feeling of a dangerous, uncertain, rigid, inflexible world. In this case, communication increased as trust was established and it was possible to perceive the set of experiences of the subject of the report from the stimulus of a game, since playfulness had a positive part in this process linked to difficulties. The ability of oral communication was stimulated with gamification and graphic representation, stimulated by the interest in the English language. The partnership with an institution with a gamification and robotics project greatly facilitated the development of XD as an individual in society, strengthening ties, affirming trust and opening up new professional horizons. A private actor, Coordinating Professor of the Pedagogical Nucleus, and the collaboration of the entire school community leveraged and underpinned XD's educational inclusion.

Keywords: Teaching and learning. Special education. Specialized educational assistance. Mainstreaming education. Intervention Strategies. Twice-exceptionality. High skills / Gifted.

1. INTRODUCTION

Among the diversity of students in the school context, there are those who still have little identification in the regular classroom, including Double Exceptionality (DE), that is, Asperger Syndrome (AS) and High Abilities (AH). Due to gaps in the initial and continuing education of teachers that enable them to recognize the characteristics of specific human talents, the biggest harmed in this situation is the student. In this sense, losses such as deficits in social interactions and communication that are already characteristic of this student population increase, resulting in a mismatch between intellectual, social and emotional development. However, it is possible to alleviate their suffering by enabling follow-up interventions with teamwork made up of professionals focused on support and with individualized interventions from different areas that will contribute with support for improvements in social adjustment, favoring student's performance in the classroom.

2. REVIEW OF RELATED LITERATURE

2.1. Specialized Educational Service in the Public Teaching Network

The right and guarantee of access to free education are established in the Federal Constitution of 1988, in article 208 [1]. From this perspective, emerges the National Policy for Special Education in the Perspective of Inclusive Education (NPSEPIE), of 2008 [2], with a new framework for education, this time, a new look at special education that was previously of a substitute character for common teaching.

In 2009 [3], Brazil ratified the provisions of the Commission on the Rights of Persons with Disabilities (CRPD), of the United Nations (UN), in the International Convention on the Rights of Persons with Disabilities, which was established that students with disabilities, pervasive developmental disorders and high abilities, are now offered teaching in the regular classroom and in the Specialized Educational Service (SES), in a complementary and supplementary way. This issue is then recognized as a theme of justice, human rights and the promotion of equality. From Law No. 9,394 of December 1996, chapter V [4], special education became a transversal teaching modality at all levels, stages and modalities.

This way, NPSEPIE guides the systems regarding the organization of this education, in this context, Law No. 13,146/2015 (Statute of the Person with Disabilities) [5] is established, bringing the inclusive school model with the requirement to adopt new pedagogical practices. Therefore, the training of teachers is necessary so that they break with the students' conceptions of homogeneous standards. The other education professionals, as well as the participation of the family and the community, become part of this organizational system to implement an inclusive look at urban and architectural accessibility, furniture and equipment, transport, communication and information, in intersectoral articulation of the implementation of public policies [6].

As a response to families who are not always able to identify what is missing from the school so that students can gain in their singularities related to school inclusion, Law No. 9,394 of December 20, 1996, Law of Guidelines and Bases (LGB) [7], establishes the mediation of the specialized teacher in the SES, according to article 58:

§ 2nd: The educational service will be provided in classes, schools or specialized services, whenever, due to the specific conditions of the students, it is not possible to integrate them into the regular classes of regular education.

Under the law, the SES takes place in the multifunctional resource rooms of basic education schools. They are spaces with furniture, teaching and teaching materials, accessibility resources and specific equipment to serve students who are the target audience of special education, in a shift contrary to their schooling, as established in NPSEPIE [2] and Decree No. 6.571 /2008 [8].

Resolution No. 4, from October 2nd, 2009 [3], makes it clear that the SES will be carried out in the inverse shift of schooling (outside shift). Aimed at students with disabilities, pervasive developmental disorders and high abilities, it brings the guarantee of a specialized teacher in a specific area, within the school itself, whose function is to guide teachers in the regular classroom, families and classmates regarding the use of materials, their applicability and functionality, in addition to adequately supporting the student in their educational need with content in Brazilian Sign Language (Libras) and tactile Libras; Digital alphabet; Tadoma; Portuguese language in written form; Braille system; Orientation and mobility; Accessible computing; Soroban (abacus); Visual stimulation; Alternative and Augmentative Communication (AAC); Development of educational processes that favor cognitive activity. As resources, accessible didactic and pedagogical materials (books, drawings, maps, graphics and tactile games, in Libras, in Braille, in enlarged character, with visual contrast, imagery, digital, among others); Accessible Information and Communication Technologies (ICTs) (mouses and switches, specific keyboards, speech synthesizers, Braille line, among others); and Optical Resources; AAC boards, pencil thickeners, equipment tips, head, inclined plane, accessible scissors, magnetic board with magnetized letters, among others. In conjunction with other professionals, the work of this specialized teacher collaborates with the development of the autonomy of this student in care.

2.2. Autism Spectrum Disorders and Learning Process

Autism Spectrum Disorder (ASD) in Early Childhood Education (ECE) has been a widely discussed topic nowadays, as it is observed that children have been diagnosed early, due to the advance of studies in this area of special education [10], as indicated in the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) [11].

Children with ASD face several challenges in their daily lives, whether in social interaction, communication or in their motor and cognitive development. Through observation, carried out during the IE period, it appears that even though the child with ASD has limited language and resistance to physical touch, this child has feelings and, therefore, the teacher needs to nurture the relationship of affection and stimulate your emotional sensitivity. Another difficult factor is the ways in which the information is understood by the child with ASD. She needs to receive at school, in detail, what will be done that day. It is also necessary that the activities are done one at a time, as many stimuli can cause an overload, which makes it difficult to assimilate what is being taught. [10]

Psychopedagogy is also of paramount importance for the development of children with ASD as the psychopedagogue studies the learning process of these children, thus identifying the difficulties that interfere with the assimilation of content [12].

2.3. The Double Exceptionality

Rezende, Fleith and Alencar [13] mention that Double Exceptionality (DE) is an asynchrony of human development and cite Asperger's Syndrome (AS), Attention Deficit and Hyperactivity Disorder (ADHD), Learning Disorders (LD), among others, as an example. Under these conditions, it can be added to High Abilities/Giftness (AH/SD). Renzulli [14], defines AH/SD, which, in his definition, is represented in the "[...] Three Rings Gifted Conception: creativity and commitment to the task. [...] capacity above average [...]".

Also, in accordance with this definition, Resolution NCE/ No. 4, of October 2, 2009 [15], considers in its Art. 4 - III, some traits for the identification of students with AH/SD, defining them as "[...] those who have a high potential and great involvement with the areas of human knowledge, isolated or combined: intellectual, leadership, psychomotor, arts and creativity".

2.4. How Other Areas Contribute to the SES

The specificity of each SES student can benefit from the participation of other professionals to support the children's development.

For example, autistics, as they present significant behavioral deficits, suffer a great impact on education, needing stimuli in order to have a better quality of life. The participation of other professionals from the multidisciplinary team can lead to the achievement of new skills, such as the practice of physical activity that improves not only the motor part, but also the cognitive one, with benefits in the physiological, psychological, cognitive and social spheres, working the individual as a whole in its integral formation.

According to Oliveira, Santos and Santos [16], in the case of the autistic person, due to different dysfunctions, the development of new skills brings progress in the physiological aspect with maintenance and increased range of motion, developing coordination with improved balance and body posture. In the psychological area, successful execution of activities results in increased self-esteem. In the cognitive area, it is observed that through body movement, students tend to know themselves better, and in the area of socialization, it allows for better inclusion, since the child needs to have contact with others in the same range age, in addition to approximation with adults.

According to Teixeira and Hernandes [17], music therapy, through a musical language that is universal, overcomes cultural, cognitive and emotional barriers, opening paths in the communication of all human beings through creation, interpretation, listening and musical improvisation.

In this context, it is clear that music becomes something organized and essential, integrated with sports practices, it becomes favorable for the learning of autistic students assisted in the SES, however, the service does not have the support of the multidisciplinary team through resources of the state, with the families having to bear the costs for the benefits of the children in care.

2.5. Games as a Communication Channel

Although it is clear that autism is a very broad disorder, Sá et al. [18] mention that intervention with educational games brings the perception of daily progress being achieved, according to reports from parents, experts and researchers, in a way that collaborates with a cognitive, social and emotional growth in children. In this context, depending on the autistic child, games are possibilities found through technological tools, therefore creating a productive process.

An approach that has been gaining followers and being quite experimented involves the application of digital games, which aim, in a playful way, to improve the deficit skills resulting from ASD, which are present in the emotional, communication and social, cognitive, motor and concentration areas. [19]. Digital games, as educational tools, allow students to assimilate concepts, helping in the learning process and in the development of essential skills and abilities for their education. With the use of digital games, the individual develops their cognitive skills, mainly pattern recognition, information processing, creativity and critical thinking [20].

The use of digital games as assistive technology for people with ASD has been shown to be effective in a considerable number of studies. There is a strong trend towards growth in the area of development of digital games with assistive features focusing on mobile devices, and they must increasingly be integrated into the daily activities of people with special needs and abilities, in particular, people with ASD. [21]

2.6. The Installed Context

The emergence on December 31st, 2019, in Wuhan City, Hubei Province, People's Republic of China, of the SARS-CoV-2 virus, known as Coronavirus, which leads to acute respiratory syndrome, hospitalization and death, resulted from the day March 12th, 2020, the pandemic declared by the WHO, the global outbreak of SARS-CoV-2 [22].

This fact initiates the new conditions of the educational scenario in the pandemic, forcing decision-making with emerging measures by the National Council of Education (NCE) approving Opinion No. 5/2020 [23], which reorganizes school calendars, as well as carrying out pedagogical activities.

In this sense, the State Department of Education (SDE), through Decree No. 64,862 of March 13th, 2020, amended by Decree No. 64,864, of March 16th, 2020 [24], suspends classes within the scope of the Secretariat of Education, to prevent contagion by Covid-19. Therefore, the service at the SES that was previously in person becomes remote and the pedagogical process gains a new model in teaching.

As a result, there is a change in the paradigm of the school, as technology becomes part of the school context as never before.

Technology becomes the main means of communication between school, family and students, with the cell phone being the most used means of communication by the Whatsapp app, with the creation of groups or individualized video calls.

School activities were offered so that students did not lose contact with the school and did not have setbacks in their development.

The LGB [7], in its Article 62, in items 2 and 3, provides for teacher training to "use distance education resources and technologies", however, the scenario brought to the process educational a lot of suffering.

Decentralized organizations, such as the Education Board, through the Coordinating Professor of the Pedagogical Nucleus, also supported teacher training in accordance with what is established in the LGB.

In the meantime, support for schools was based on the preparation of weekly and fortnightly scripts with suggestions for teaching materials made available on Whatsapp groups through a list of exercises, videos, pedagogical guidelines, among other notes such as feedback to families, students and follow-ups of managers.

Accordingly, State Decree No. 64.982 May 15th 2020 [25] institutes the Education Media Center of São Paulo, aiming at the implementation of new methodologies and educational tools complementary to on-site teaching. A great advance for São Paulo's education with real-time training moments for all teams from the education board and schools, as well as online classes for students.

In this context, the SES also included, however, the obstacles surfaced in a timely manner, as not all students have the tools such as cell phones or computers to carry out activities, requiring the sending of printed materials. Faced with this reality, the students end up being segregated for not having the necessary support for their development. Such impact ends up being reflected in the activities of the regular classroom, bringing the need for active monitoring by the school team.

3. RESEARCH METHOD

Qualitative research where the object researched is the trajectory of the student XD (fictitious name) in the school environment. The type of study is a single case study, which places the case as the focus of research. The survey was conducted at the State School "Jardim Encantado" (EEJE), in the city of Votuporanga, State of São Paulo, Brazil, from May 2019 to March 2020. The source of research data included: 1) Coordinating Professor of the Pedagogical Nucleus (CPPN) responsible for the teaching modality of special education, 2) Coordinator of the EEJE, 3) Teacher of English. The case study data collection was through direct observation. The data analysis technique used in this research was the non-statistical technical analysis that applies to qualitative data.

4. RESEARCH RESULT

4.1. Case's Identification

Attending a routine visit, CPPN is faced with student XD, a fictitious name, whose performance in relation to other Specialized educational assistance (SEA) students caused him a certain estrangement and discomfort. XD had oriental characteristics, was 13 years old and was regularly enrolled in the 7th year of elementary school, in the afternoon, at "EE Jardim Encantado". The EEJE is considered an outstanding school, as its location is privileged in this city in the northwest of São Paulo, under the jurisdiction of the Education Board (EB), in addition to having an almost entirely effective faculty, without rotation, reason for dispute for places for children by their families. Precisely on the day of the visit, XD was in attendance for students with Intellectual Disabilities (ID), having been referred by his regular school, with the justification of being a student without participation in classes, of not having friends, despite being very nice. On the other hand, the argument of the professor in charge of the SEA, regarding the student's presence in the service, was because it was under evaluation. Well, on that day of the visit, XD crossed his eyes with that of the CPPN and there a first interaction was established. Smart, bright and endearing look, with a synchronized sway of the legs as if he wanted to say something, and he said, without the sounds of the words, but in written form "My name is XD.". Oh! Another sign that attracted the attention of the CPPN that challenged him: "Do you like English?"; and the answer: "Yes!" The occurrence aroused the curiosity of the CPPN, which asked itself: "What is hidden in this being? A student with Intellectual Disabilities, writing in English is not natural...". The link was created and the CPPN, delighted, set out to investigate XD more closely. Back at the DE, and in conversation with the teaching supervisor (SE) about the case found in the SEA room and the estrangement felt with the clues given, the CPPN was surprised by the fact that the SE had also noticed something different, mysterious in this student.

4.2. Case's Pedagogical Survey

In the second half of May 2019, CPPN began a pedagogical survey with XD to learn more about it, interacting with its life story. The first contact was with the school coordinator, who had assumed the role a month ago, however she knew the student in the classroom because she had taught him in the math subject, which would favor the collection of information. However, CPPN realized that the work would require a little more patience in this school itinerary, given that the school still had traces of very conservative conceptions, when it came to the process of inclusion of the target audience of students with ASD, and with good reason, as this audience was hidden, being seen more in the Special Care Institutions. "EE Jardim Encantado was a school that was extremely careful with the health of its students, so much so that it had an employee at the secretariat to administer medication at scheduled times for the students, with the proper authorization by the parents for this purpose.

Therefore, the investigative interaction with the school coordinator began as a survey on the student's school life: "XD comes from another education system, he has been studying at this school for two years, however, he never opened his mouth to talk to the teachers, he doesn't have friends, sometimes he looks like a deaf student, because he doesn't interact with anyone, among the teachers the speech is

permeated in a dubious way, whether he hears well or not, because they never heard his voice in the classroom during classes. A curious fact among us at school is that this student comes every day with dark glasses and a glove in one hand, other times, he comes with a sweatshirt, hiding his head in the hood. The family is oriental, extremely reserved, speaks little of XD's life, and what we know is that the student is autistic, has psychological and neurological monitoring and does swimming activities during off-shift hours. Still, the order of the family is that he does not have contact with one of the classmates due to a past disaffection, when they were in the other network. He comes to school accompanied by his mother to the gate and at the end of classes, she picks him up.”

In this way the first information about XD was obtained. In the Collective Pedagogical Work Activity (CPWA) of the school unit, teachers were informed that the CPPN would participate in classes for student observation.

The following week the CPPN entered the classroom, sat at the last desk and began to observe him. Remember it well: math class, XD barely raised his head, his legs continued in that synchronized swing as if a musical echo sounded just for him, the movements didn't stop. The teacher began to explain the subject, and the activities were carried out with the participation of the students. The class came to an end, the teacher said goodbye, soon the teacher of the next class enters. XD continued with the same posture as in the previous class, so he followed the later classes, until the break time, when the CPPN also left for the survey in another environment outside the classroom. His gaze ran through the spaces of the courtyard in search of XD, the noises of the kids were noticed, because the moment was one of recreation, rest and lots of laughter, however there was also XD in his own way. Interaction with kids? No! It was noticed that he had a huge desire to reach the boys' circle, as he was walking around, but something didn't let him interact, thus signaling one of the characteristics of the ASD.

The next day, the CPPN spoke with the English teacher about the interest in the student's communication of this language, telling her what she had witnessed in the communication during the visit to the SES, when the teacher shared the same thought as the CPPN: "he likes English a lot, but does not participate in classes. The activities are seen, corrected, and the interest in the language is clearly perceived." On that day, in a conversation with the school coordinator, she was informed about the poor performance of the student on the math test, a fact that had made her worried, as the student had good grades.

4.3. Breaking the Silence

Subsequently, the CPPN invited XD for a private conversation, since his close and frequent presence no longer caused him any more estrangement. He promptly accepted the invitation, now, the CPPN's challenge was to expand that interaction initiated in the eyes of the SES classroom, arguing that it evidenced possibilities of subjectivation in the reception and hidden potentialities, not yet revealed, since the school, as it is plural in its diversity of the students, it could have overlooked this accompaniment. In one of the school's rooms, reserved for coordination, XD and CPPN started the math assessment again as a pretext for a better understanding of what was happening, and, among the questions, CPPN asked XD if it was managing to carry out the proposed tasks, but she didn't get answers and in those moments her silence bothered her. “Why did you write to me in English in the SES room? No answer! Do you like English?” The silence continued, but the eyes were on the CPPN. “I'm terrible at English, I don't know anything about that language,” the NPCP told XD, to see its reaction. The math questions were there to be solved. The CPPN knew it was getting in the way with the calculations, but the objective was to open a communication channel.

Another question was asked: “Do you like to play with your friends? Do you play on your computer or on your cell phone?” At that moment, XD opens the communication channel and reports in writing in a corner of the test sheet. Opportunity in which the CPPN quickly gave him a blank sheet so he could write. “I like Kick the Buddy, a torture game. We torture the doll, it's an anti-stress game, but my mom thinks this mobile app gives you jail, she's wrong.” The CPPN, despite being very frightened by what it read, continued with its inquiries, as the channel was opening and could not be lost. So XD writes: "This one is dead", referring to himself, "I have poisoned his soul, only a clone of mine can help me". Knife and saws designs began to emerge in the midst of their creation. CPPN realized that

the student was literate, but wondered how he would act with socio-emotional skills. All the more reason to continue the investigative survey. The clock did not stop and the hours advanced, they interrupted the task with a continuity agreement the following day. The next day, in the same room, they continued their math tasks. After a while, XD was involved in the calculations and silence again hung in the air, an idea came to mind at NCP: try the game Kick the Buddy, mentioned in the previous class. And so, with the cell phone in hand, the CPPN started, in a loud voice, the wrong pronunciation in English about the words of the referred game, and to surprise, XD gets up from his desk, whispering in his ear “this is not how to reads”, correcting his pronunciation of the words in the game. The sounds of words began to break the silence that had existed until then. Unforgettable, different, unique human being.

In the meantime, the CPPN discovered in this communication that XD was invisible, that is, in its imaginative conception, his presence at the school was hidden, that is why he did not speak, did not interact with anyone and from that moment onwards, the CPPN also became invisible. A fact that caused him a certain discomfort, however it could not be rude or insensitive, but welcoming in that speech that seemed so distressing and suffocated, kept to himself; but, how to be an invisible friend? the CPPN was asked, and thought: “there are paths to be followed so that we can also lead others”. He told XD that he wasn't from school, but would be his invisible friend, however he needed another invisible friend who was from school, he resisted, but accepted the proposal. She introduced him to the idea that the school coordinator might be the friend he needed, and with some resistance he accepted her.

The CPPN left the room in search of another friend, invisible in XD's imagination, who, from now on, was also part of this arrangement. This fact surprised the school's management team, as until then, it had never heard the student's voice. The coordinator, now the new invisible member, entered the room, whose door was closed, XD's voice echoes for the first time in the environment, sharing ideas, even if they were narratives that seemed strange.

It was noticed in the student a possible compromise in this intellectual aspect, as well as the adaptive abilities, however, knowing the familiar environmental conditions of an extremely rigid and conservative family, it was refined the look for this aspect in the interactions.

From that day, XD started talking to the invisible friends he had just made at school, telling her what happened to him in the school and family environment. The bond was established with acceptance, alterity, empathy and affection. Still, in order not to miss these precious moments conquered, the CPPN was looking for XD at the EEJE school, whose building was right next to the DE where she worked.

XD attended the DE every day for about 1h30min, and at those times the computer was guaranteed to be used with the Kick the Buddy game. Support was also provided in the stimulation of conversation in English with the coordinating teacher responsible for the foreign language, since with the other DE and school teachers, the retraction in social interaction and communication continued.

4.4. XD's Diagnosis and Medical Evaluation

But what about the XD family? It was at this point that the mother was called, finding out what was happening with her son. Very helpful, the mother answered the DE's call and with the participation of the school team, all the monitoring carried out to the student was narrated. Surprisingly in this conversation, the reports were presented by the mother, since the student was already under evaluation by the multidisciplinary team of a medical school in northwestern São Paulo, diagnosed as having Asperger's Syndrome.

From there, a greater relationship with the mother was established for better knowledge of XD, such as preferences, routines, autonomy and independence, mobility, family relationships and other environments frequented by the student. The first information emerged from the partnership established with the mother, reporting games as her favorite activity.

The test results showed a clearly above average position in intellectual capacity and a higher average than expected for their age and education, with a percentile equal to or better than 40% for a group of their same age group; in his cognitive development, he presented some distortions with delays, his

academic performance being impaired due to limitations in social interactions, in addition to severe blocks in relation to the environment, with reactions to pressure, anxiety, inadequate feelings, which made him highly attached to their imaginations and fantasy, bringing the feeling of a dangerous, uncertain, rigid, inflexible world. Such analysis brought to PCND the feeling of responsibility in the initial and continuing training of education professionals, as there are hidden treasures in every human being that can only be discovered, explored if touched with affection, understanding and passion for educational practice.

4.5. Expanding the Possibilities of Attention

Consequently, the circle of people increased so as not to make the same (or worse) mistakes, it was expanding, not only in the DE space, but also in the EEJE school, which now has in its space the place for the care of students with ASD.

In agreement with the family, XD was transferred from this school in the second semester of 2019, to the State School “Castelo Forte” (EECF), in order to facilitate the service for its spectrum. Inserted in the appropriate SES and created for this type of student, XD was accompanied by the teacher specialized in ASD who worked on different aspects for his advancement. As the student was found to have High Skills / Giftedness in some areas, partnerships were initiated with the Universidade Estadual Paulista (UNESP), particularly the campus of the Institute of Biocencias, Letters and Exact Sciences of São José do Rio Preto (IBILCE) and the Institute Federal of Science and Technology of São Paulo (IFSP), Votuporanga campus, through the insertion and monitoring of activities, whose themes would address their areas of interest, such as gamification and programming, assuming that learning was centered on the student, using the methodology based on projects and problems.

At the ASDSES, the service took place twice a week with activities advised by the researcher responsible for the High Skills area at UNESP, planned jointly between the CPPN and the SES specialized teacher, with an individualized care plan for XD, aimed at the development of the potential presented in their area of interest, such as skills in games, foreign language, creation, also seeking to intensify social interaction, communication, with activities and tasks that minimize existing environmental phobias.

The fact is that the positive side of the student evidenced in the assessment period by observation in the classroom, was addressed in the SESASD service, through creations that stimulated their interaction with the specialized teacher. Thus, tasks were planned to be performed by the student. As a follower of famous youtubers, XD had expressed the desire to be a Youtuber as well, and this tip was the hook to guarantee communication stimulation. Researches on the routines developed by youtubers were also carried out, seeking to know the values and earnings of these people, advertisements on the channels and video recordings by cell phones were also guaranteed so that XD could stimulate speech. Still, valuing the side of creation, several activities with STOP Motion were made so that the student could activate his imagination, putting the scripts and characters in action with the support of digital technology, later transposed to other materials such as bond sheet and cardboard.

As for the day of the student's appointment, the activation of other spaces that contemplated support was also considered, demystifying the environmental phobias detected by the assessment of the multidisciplinary team. Classes were held weekly at the IFSP, with the participation of a group consisting of approximately 10 students who had a high level of school performance, including participants of the Brazilian Public School Mathematics Olympiad (OBMEP), in addition to great interest in the games, which is why it facilitated personal interaction with peers during creation moments, bringing motivation in the execution of tasks shared in groups, in addition to mandatory communication.

Classes took place on Thursdays at the IFSP and were taught by the researcher in technologies and programming, with a duration of 1h30min. That time was divided between explaining the problem to be solved, indicating the appropriate programming and then applying the concepts by the students, always counting on the final challenge. Thus, the first tool presented was Scratch, the second tool, Construct 2, both free and available on the internet. In the Scratch environment it was only possible to program using blocks, in the case of games created by XD the challenge was to make the well-known character “Mário” go through the pipe, enter an underground world in which he had to capture the

greatest number of coins inside the 60 second time. Afterwards, the student should do the Coin Programming. The classes respected the pace of the student, and also that of the other project participants, in this way it was possible to XD notice that other students from the same class also developed different games, using the same mechanics, some use time, others not, there were also different uses of lives and points, considering that the scripts and characters had different rules for each student.

A great advance was observed in the tasks performed with the development of XD skills from these stimuli in the course of the school year in the regular school and in services and partnerships.

Student service continued in the 2020 academic year, with high expectations, as its development was clear.

5. CURRENT SITUATION

However, obstacles and barriers arose: the SES teacher was unable to continue the service because she taught at another educational institution, not being included in the list of teachers enrolled at another DE level with the same training who could teach the classes to XD. And another negative and impacting factor was that as of March, an unusual situation arose, the COVID-19 pandemic, which directly affected health and education. With social distancing, regular classes and appointments became remote with online activities, leaving the routine that until then was used to in person. And then the school, which used to be the space for inclusion, support and welcoming, also started to need to be welcomed. In the face of so many events that led to death for entire families, affection, empathy, otherness gain space in the integral formation of education, articulated with the knowledge historically instituted in the school space.

Engagement activities and active search for students became part of the pedagogical practice.

The faces hidden behind the masks obscured communication, however, alternative activities to ensure the teaching-learning process were carried out, preventing students from straying from school life. Barriers were unavoidable in school spaces, so care for XD suffered with mediation, even online, as fear, insecurity, social distancing, were present in all families and in all spaces and environments. Time passed, the school year ending, however, the increasingly worrying pandemic waiting for the vaccine. At school, students have the option of flexible attendance, but is learning the same?

Behold, new horizons appear with the threshold of the year 2021, the arrival of the vaccine, and hope is reborn. We are in the new normal, but closing the first semester, but where is XD? As for the assistance, even if remotely, they were tried, but without success, with the distance the spectrum condition was accentuated again, needing a return, as soon as everything returns to normal with school life.

His family was contaminated with COVID 19. I believe that the suffering experienced with the disease helped to silence the voice, however, the flame can be lit again, just give it an opportunity.

6. DISCUSSION

As trust was established, communication increased. It was essential to take advantage of this moment, as it collaborated with the expansion of vision in the student's assessment. Pragmatic theories consider the context extremely important for communication from the pre-verbal period; that is, even before issuing the first words, the child is able to respond to social initiatives, with the emergence of skills that underlie conversational exchanges [27], which is in line with the findings of research [28,29] that have shown that context, attentive and responsive parenting behaviors, predict subsequent language gains in children with ASD. Rolim and Antero [26] state that for there to be significant changes in the development of ASD patients, it is necessary to have bonds, affection, meanings and affections. In this process, the sensitivity of noticing spoken words and even those that were not heard, are perceived, felt and thus obtain a better use of learning. This is what happened in the reported case where the CPPN lovingly unveiled itself in the XD's attention and monitoring.

It was possible to notice the set of their experiences from the stimulus of a game, after all, playfulness had a positive part in this process coupled with difficulties. Indirectly, games and language have established communication since the time of Piaget and Vygotsky [30]. Virtual games benefit their

patients through health, entertainment, training and education, for example [31]. The game Kick The Buddy has a rating category somewhat strange and controversial as it fits into games of violence, torture and action. There are those who take a stand against this classification saying that the purpose of the game is just for people to get rid of stress, a rather curious form of therapy. Kick The Buddy means “chute seu amigo” in Portuguese, and it's like a punching bag to ease tensions. All means of torture can be applied, as the doll does not feel pain or suffer from anything. Kick the Buddy presents a simple gameplay and to play just select the weapon or power you want in the menu on the left side of the screen, and then just touch the screen to use the selected object. Hundreds of objects can be found, and even extranatural aids, all divided into categories. Offered by Playgendary, it was released on May 22nd, 2018 (Android Kick Buddy App - Buddyman Kick Game, Zoldyck Developer) and had its last update on July 5, 2018, as Kick The Buddy was released sometime after that: Forever. The game is free to play, but it offers actual purchases of some items, as well as displaying ads constantly. It is compatible with iPhone, iPod touch, iPad with iOS 4.0 or higher and all Android devices [32].

In a recent review, Albuquerque et al. [33] claim that there is a connection between conventional intervention and the use of technologies as a way to complement traditional professional practices by showing that the public involved in the reviewed works showed positive results between the associated therapies and, thus, they can say that there is success in interventions, improving communication and interaction of those involved; and that the development of more serious games in this area will provide greater gains for patients.

The oral communication ability was stimulated, providing knowledge about cognitive knowledge as a logical sequence of facts, organization of ideas, perception of the cause and consequence relationship, in addition to the observation of their emotions. These elements of learning are of great importance in the lives of autistic people, as they have many difficulties in interpreting and building narratives, due to characteristics, such as the difficulty in understanding some expressions, ironies and feelings, facing language in the literal sense [34]. Games allow the experience of different narratives, in different contexts and virtual environments, which help subjects, among other skills, to develop logical thinking [35].

The frequently use of second-hand drawings in the midst of its creation were an integral part of the communication process established, initially orally, then written with a mixture of graphic representations. Communication through figures is the most effective communication methodology used with autistic people, something observed since the first years of age [36]. Based on the assumption of the effectiveness of focused interventions [37], quizzes with a proposal of a tool that seeks to help in the development of understanding the linearity of events of ASD patients, with graphic design, where images are shown and the child has the task of ordering them sequentially, according to a children's story presented, have been developed with the purpose of evaluating the usability of the game when applying it to individuals with ASD [38].

Among the specificities of people with ASD is the deficit in socialization, communication and behavior, so that they commonly encounter difficulties that reflect on social participation [39] and, according to Buemo et al. [40], in the school context, deficits in communication and social interaction of people with ASD cause damage to their socio-educational development. Isolation and the possibility of segregated activities are identified as a negative factor in self-reports of ASD patients [41]. Here is XD's “invisibility”, his imaginative conception that his presence at school was hidden. According to Daniels [42], the social voice becomes the inner voice, by internalizing meanings and transforming them into their subjectivity.

The diagnosis of Asperger's Syndrome given to XD does not exclude the condition of an AH/SD junction and some deficiency and/or disorder that reveals itself in a unique population in the AH/SD area, where students tend to fail to demonstrate high academic performance or even to reveal a specific disability and/or disorder, as their potential may be masked by some disability and/or disorder, or otherwise, the disability and/or disorder may mask the AH/SD [43]. Vilarinho-Rezende, Fleith and Alencar [44] also state that distinguishing between giftedness and double exceptionality, in addition to being a challenge for professionals working in the area of Special Education (EE), is a difficult task, due to the similar characteristics between AH/SD and SA [45] and this, in fact,

promotes difficulties in the process of evaluating the two specificities, which reinforces the need that the topic needs to be studied, especially when it comes to the scarce production of knowledge about the condition of double exceptionality in Brazil [46].

The partnership's logic with IBILCE and IFSP is based on research that revealed that when programming, children learn to solve problems, communicate their ideas and plan and structure projects, and these skills are useful not only for those who intend to join in the job market in the information technology area, but for anyone, regardless of age, experience, interest or chosen profession. The concepts of programming logic also help in the learning of subjects such as Portuguese, mathematics and physics, awakening the child's interest in the school.

The fact that the IFSP on this campus has a gamification and robotics project with children and teenagers within the autistic spectrum and/or with high abilities, greatly facilitated XD's care. This project has a flexible lesson plan, as it is based not only on the transmission of content, but also on the student's view of the proposed theme and on their development as an individual in society, strengthening ties, affirming trust and opening new professional horizons. Johnson, in 2010 [47], working with a gifted American adult with Asperger's disorder, showed that early identification and the adoption of differentiated teaching strategies proved to be important educational intervention tools to promote the success of these individuals. Students with dual exceptionality need educational interventions that are interconnected between both conditions, in addition to adequately qualified teachers, as failure to meet their needs can cause losses that impede the development of their talent [48].

The course's location is also stimulating, as elementary and high school students who do not belong to the IFSP become part of the daily context of the school, being treated as regular students, having the same responsibilities and rules, living during breaks with the technical and higher education students, giving those involved familiarity with the people, environments and projects developed there and encouraging a future entry into careers in the engineering field. Promising future for XD, with talent and potential in this area, since the development of potential of individuals like XD is possible in school institutions at all levels, from elementary to higher [49].

The project's professor takes into account that careers today linked to information and communication technology open up a wide range of employment and career development possibilities for young people, both outside and within the autistic spectrum. What is measured is the ability to solve problems and develop medium to long term projects, with this professional being able to work remotely or allocated in any physical space designated by the companies. It is noted that some of the important characteristics for professionals in this area are concentration, logical reasoning, self-taught skills, ease for repetitive and methodical work, verbal and written fluency in other languages, in addition to, of course, digital fluency, both in handling tools and in building software and hardware prototypes, skills shown by XD in the multidisciplinary assessment. The cognitive functioning of children such as XD has characteristics of cognitive activity that can be explained by greater plasticity and efficiency and that aid in extensive attentional processes that facilitate the management of cognitive performance through working memory, flexibility and inhibition [50]. Furthermore, they feature fast learning; greater speed in understanding large, complex and abstract problems; good verbal skills; good problem solving skills; significant ability to store and manage information; a good level of understanding; varied interests and a high level of curiosity about the environment [51].

XD's educational inclusion, leveraged by the CPPN, was based on the collaboration of the entire school community (manager, teachers, support professionals and family members), since, in general, the various actors involved were committed to enabling actions aimed at promoting of his academic success, of the development of his talent and of the reduction of his limitations. According to the literature, it is essential that all institutional segments are truly engaged in proposing and increasing collective attitudes in favor of reducing discriminatory attitudes and the consequent increase in respect for diversity [52-54].

7. CONCLUSION

In the reported case, communication increased as trust was established and it was possible to perceive the set of experiences of the subject of the report from the stimulus of a game, since playfulness had a positive part in this process linked to difficulties. The ability of oral communication was stimulated

with gamification and graphic representation, stimulated by the interest in the English language. The partnership with an institution with a gamification and robotics project greatly facilitated the development of XD as an individual in society, strengthening ties, affirming trust and opening up new professional horizons. A private actor (CPPN) and the collaboration of the entire school community leveraged and underpinned XD's educational inclusion.

REFERENCES

- [1] Brasil, [Constituição (1988)] Constituição da República Federativa do Brasil: texto constitucional promulgado em 5 de outubro de 1988, com as alterações determinadas pelas Emendas Constitucionais de Revisão nos 1 a 6/94, pelas Emendas Constitucionais nos 1/92 a 91/2016 e pelo Decreto Legislativo no 186/2008, Senado Federal, Coordenação de Edições Técnicas, Brasília (BR), (2016). Retrieved November 5, 2021 from https://www2.senado.leg.br/bdsf/bitstream/handle/id/522095/CF88_EC92_2016_Livro.pdf?sequence=1&isAllowed=y
- [2] Brasil, Ministério da Educação, Política Nacional de Educação Especial na Perspectiva da Educação Inclusiva (PNEEPEI), MEC, Brasília (BR), (2008). Retrieved November 5, 2021 from <http://portal.mec.gov.br/arquivos/pdf/politicaeducespecial.pdf>
- [3] Brasil, Resolução nº 4, de 2 de outubro de 2009. Institui Diretrizes Operacionais para o Atendimento Educacional Especializado na Educação Básica, modalidade Educação Especial. Diário Oficial da União, Brasília, (2009). Retrieved December 08, 2021 from http://portal.mec.gov.br/dmdocuments/rceb004_09.pdf
- [4] Brasil, Ministério da Educação, Lei de Diretrizes e Bases da Educação Nacional. Lei n. 9.394/96. Retrieved November 5, 2021 from http://www.planalto.gov.br/ccivil_03/leis/19394.htm
- [5] Brasil, Presidência da República, Lei nº 13.146, de 6 de julho de 2015. Institui a Lei Brasileira de Inclusão da Pessoa com Deficiência (Estatuto da Pessoa com Deficiência). Retrieved December 08, 2021 from http://www.planalto.gov.br/ccivil_03/_ato2015-2018/2015/lei/l13146.htm
- [6] Franco, A. M. S. L., and Schutz, G. E., Constitutional inclusive education system and specialized educational care, *Saúde Debate*. 43(4), 244-255 (2019). <https://doi.org/10.1590/0103-11042019S420>
- [7] Brasil, Presidência da República, Lei nº 9.394 de 20 de dezembro de 1996. Estabelece as diretrizes e bases da educação nacional. Diário Oficial da União, Brasília, (1996). Retrieved December 14, 2021 from http://www.planalto.gov.br/ccivil_03/leis/l9394.htm
- [8] Fundo Nacional de Desenvolvimento da Educação, Ministério da Educação (BR), Decreto nº 6571, de 17 de setembro de 2008. Revogado pelo Decreto nº 7.611, de 2011. Dispõe sobre o atendimento educacional especializado, regulamenta o parágrafo único do art. 60 da Lei no 9.394, de 20 de dezembro de 1996, e acrescenta dispositivo ao Decreto nº 6.253, de 13 de novembro de 2007, Diário Oficial da União, Brasília, (2011).
- [9] Estado de São Paulo, Secretaria de Educação, Resolução SE 68, de 12 de dezembro de 2017, Dispõe sobre o atendimento educacional aos alunos, público-alvo da Educação Especial, na rede estadual de ensino. Retrieved December 08, 2021 from http://siaue.edunet.sp.gov.br/ItemLise/arquivos/68_17.HTM?Time=21/12/2021%2010:48:00
- [10] Silva, N. V., and Silva, C. S. R., Estratégias de intervenção para a inclusão da criança com transtorno do espectro do autismo na educação infantil, *Cad. Intersaberes*. 9(18), 171-187 (2020). Retrieved November 24, 2021 from <https://www.cadernosuninter.com/index.php/intersaberes/article/view/1279>
- [11] American Psychiatric Association (APA), Manual diagnóstico e estatístico de transtornos mentais: DSM-5. 5ª ed. Artmed, Porto Alegre (2014).
- [12] Araújo, P. M. M., and Rosado, A. C. S., A importância do profissional de psicopedagogia na inclusão de crianças autistas na sala de aula, *Cinted*, Porto Alegre (2018).
- [13] Vilarinho-Rezende, D., Souza Fleith, D., and Lima Soriano Alencar, E. M., Challenges in dual exceptionality's diagnosis: a case study, *Rev. Psicol. (Lima)*. 34(1), 61-84, (2016). <http://dx.doi.org/10.18800/psico.201601.003>
- [14] Renzulli, J. S., O que é esta coisa chamada superdotação, e como a desenvolvemos? Uma retrospectiva de vinte e cinco anos. *Rev. Educ. Espec.* 27(52), 75-131 (2004). Retrieved December 21, 2021 from <https://www.marilia.unesp.br/Home/Extensao/papah/o-que-e-esta-coisa-chamada-superdotacao.pdf>
- [15] Brasil, Ministério da Educação, Resolução nº 4, de 2 de outubro de 2009, Institui Diretrizes Operacionais para o Atendimento Educacional Especializado na Educação Básica, modalidade Educação Especial. Retrieved December 21, 2021 from http://portal.mec.gov.br/dmdocuments/rceb004_09.pdf

- [16] Oliveira J. S., Santos K. M. X., and Santos C. R., Benefícios da natação para a criança autista: Um estudo de caso. *Vita et Sanitas*. 15(1), 74-89 (2021). Retrieved December 21, 2021 from <http://fug.edu.br/revistas/index.php/VitaetSanitas/article/view/205/231>
- [17] Teixeira L. M. D., and Fernandes P. R. S., Efeitos da musicoterapia na comunicação, socialização e imaginação em crianças com perturbação do espectro do autismo: Um estudo de caso em Rebordosa – Portugal, *Perspect. Diálogo*. 8(16), 149-163 (2021). Retrieved October 31 from <https://periodicos.ufms.br/index.php/persdia/article/view/10755>
- [18] Sá F. A., Souza A. D., Silva Júnior E. B., and Veloso e Silva R. RV., TEAMAT: um jogo educacional no auxílio da aprendizagem de crianças com autismo baseado no método ABA, *Rev. Sist. Comput.* 17(1), 89-97 (2017). Retrieved December 21, 2021 from <https://revistas.unifacs.br/index.php/rsc/article/view/4955/3180>
- [19] Kanner L., Autistic Disturbances of affective contact, *Nervous Child*. 2, 217-250 (1943).
- [20] Balasubramanian N., and Wilson B., Games and Simulations, *Society for Information Technology and Teacher Education International Conference*, v. 1 (2006).
- [21] Fernandes M., and Nohama P. Jogos Digitais para Pessoas com Transtornos do Espectro do Autismo (TEA): Uma Revisão Sistemática, *Rev. Iberoam. Tecnol. Educ. Educ. Tecnol.* (26), 72-80 (2020). <https://doi.org/10.24215/18509959.26.e8>
- [22] Barreto A. C. F., and Rocha D. S., Covid 19 e educação: resistências, desafios e (im)possibilidades, *Rev. Encantar*. 2, 1-11 (2020). <http://dx.doi.org/10.46375/encantar.v2.0010>
- [23] Brasil, Ministério da Educação, Parecer CNE/CP nº 5/2020, aprovado em 28 de abril de 2020, Reorganização do Calendário Escolar e da possibilidade de cômputo de atividades não presenciais para fins de cumprimento da carga horária mínima anual, em razão da Pandemia da COVID-19. Retrieved November 19, 2021 from http://portal.mec.gov.br/index.php?option=com_docman&view=download&alias=145011-ppc005-20&category_slug=marco-2020-pdf&Itemid=30192
- [24] Assembleia Legislativa do Estado de São Paulo, Decreto nº 64.862, de 13 de março de 2020, alterado pelo Decreto nº 64.864, de 16 de março de 2020, Dispõe sobre a adoção, no âmbito da Administração Pública direta e indireta, de medidas temporárias e emergenciais de prevenção de contágio pelo COVID-19 (Novo Coronavírus), bem como sobre recomendações no setor privado estadual, *Diário Oficial* (2020). Retrieved November 19, 2021 from <https://www.al.sp.gov.br/repositorio/legislacao/decreto/2020/decreto-64862-13.03.2020.html>
- [25] Assembleia Legislativa do Estado de São Paulo, Decreto Estadual nº 64.982 de 15-05-2020, Institui o Programa Centro de Mídias da Educação de São Paulo - CMSP e dá providências correlatas. *Diário Oficial Executivo*, 1 (2020). Retrieved November 19, 2021 from <https://www.al.sp.gov.br/repositorio/legislacao/decreto/2020/decreto-64982-15.05.2020.html>
- [26] Rolim M. S., and Antero K. F., Relato de experiência: a importância dos laços afetivos no processo de ensino e aprendizagem de crianças com Autismo, IV CONEDU (2017). Retrieved November 12, 2021 from <https://editorarealize.com.br/artigo/visualizar/38546>
- [27] Balestro J. I., and Fernandes F. D. M., Caregivers' perception of children with Autism Spectrum Disorder regarding to the communicative profile of their children after a communicative orientation program. *CoDAS*. 31(1), e20170222 (2019). <https://doi.org/10.1590/2317-1782/20182018222>
- [28] Hutman T., Siller M., and Sigman M., Mothers' narratives regarding their child with autism predict maternal synchronous behavior during play, *J. Child. Psychol. Psychiatry*. 50(10), 1255-1263 (2009). <https://doi.org/10.1111/j.14697610.2009.02109.x>
- [29] Wetherby A., Woods J., Morgan L., and Holland R., Building partnerships using innovative technologies, 2015 Training Institute on Autism Florida State University Recent Advances in Evidence-Based Practice for Autism Spectrum Disorder, Pp. 3, (2015).
- [30] Matos E. C. A., and Lima M. A. S., Jogos eletrônicos e educação: notas sobre a aprendizagem em ambientes interativos. *Novas Tecnol. Educ.* 13(1), 1-10 (2015). <https://doi.org/10.22456/1679-1916.57595>
- [31] Braga M., Realidade virtual e educação, *Rev. Biol. Ciênc. Terra*. 1(1), 1-8, (2001). Retrieved November 19, 2021 from <http://joaootavio.com.br/bioterra/workspace/uploads/artigos/realidadevirtual-5155c805d3801.pdf>
- [32] Cotidianum, Kick The Buddy é um jogo que pode gerar muitos prós e contras. (2019). Retrieved December 21, 2021 from <https://cotidianum.com.br/kick-the-buddy-e-um-jogo-que-pode-gerar-muitos-pros-e-contras.html>

- [33] Albuquerque J. D. S., Dias L. M., Souza P. M. B., and Cajú K. A., Games na terapia de linguagem em crianças com TEA: uma interface com a crise sanitária, *Arch. Health.* 2(3), 287-298 (2021). <https://doi.org/10.46919/archv2n3-008>
- [34] Feldman C, Relatos sobre autismo: um estudo sobre narrativas em primeira pessoa. Rio de Janeiro, Ph.D. Thesis, Universidade do Estado do Rio de Janeiro, Brazil. Pp. 97 (2013).
- [35] Moita F., Henrique L., Candido V., and Medeiros F. M., Design e desenvolvimento de um game assistivo para autistas, VI Congresso Brasileiro de Informática na Educação (CBIE 2017), Anais do XXVIII Simpósio Brasileiro de Informática na Educação (SBIE 2017), Pp. 1057-1066, (2017). <https://doi.org/10.5753/cbie.sbie.2017.1057>
- [36] Barbosa HFA, Análise do recurso a novas tecnologias no ensino de autistas, ISEP, Ph.D. dissertation, Instituto Politécnico do Porto, Instituto Superior de Engenharia do Porto. Portugal. Pp. 94 (2009). Retrieved November 19, 2021 from https://recipp.ipp.pt/bitstream/10400.22/3079/1/DM_HugoBarbosa_2009_MEI.pdf
- [37] Rotta N. T., Ohlweiler L., and Santos Riesgo R., Transtornos da aprendizagem: abordagem neurobiológica e multidisciplinar. Artmed Editora, São Paulo, (2015).
- [38] Aguiar E. C., Gomes V. O., Sarinho V. T., and Santana-Bahia-Brasil F., QuizTEA-Uma proposta de desenvolvimento de quiz digitais para indivíduos portadores do transtorno do espectro autista, XVII Brazilian Symposium on Computer Games and Digital Entertainment (SBGames), Pp. 276-281, (2018). <https://doi.org/10.5753/sbcas.2019.6262>
- [39] Chen Y. W., Bundy A., Cordier R., Chien Y. L., and Einfeld S., The experience of social participation in everyday contexts among individuals with Autism Spectrum Disorders: an experience sampling study, *J. Autism. Dev. Disord.* 46(4), 1403-1414, (2016). <https://doi.org/10.1007/s10803-015-2682-4>
- [40] Buemo B., Alli F., Iracet J. V., Ribas L., Pereira R., Krueel C. S., Guazina F. M. N., and Carlesso, J. P. P., Autism in the School Context: The Importance of Social Insertion. *Res. Soc. Dev.* 8(3), e2783822 (2019). <https://doi.org/10.33448/rsd-v8i3.822>
- [41] Koffer Miller K. H., Mathew M., Nonnemacher S. L., and Shea L. L., Program experiences of adults with autism, their families, and providers: Findings from a focus group study, *Autism.* 22(3), 345-356 (2018). <https://doi.org/10.1177/1362361316679000>
- [42] Daniels H., Vygotsky e a pesquisa, Edições Loyola, São Paulo, 272, (2011).
- [43] Reis S. M., Baum S. M., and Burke E., An Operational Definition of Twice- Exceptional Learners: Implications and Applications, *Gifted Child Q.* 58(3), 217-230 (2014). <https://doi.org/10.1177/0016986214534976>
- [44] Vilarinho-Rezende, D., Souza Fleith, D., and Lima Soriano Alencar, E. M, Challenges in dual exceptionality's diagnosis: a case study, *Rev. Psicol. (Lima).* 34(1), 61-84, (2016). <http://dx.doi.org/10.18800/psico.201601.003>
- [45] Alencar E. M. L. S., and Guimarães T. M., Dupla excepcionalidade, Superdotação e Transtorno de Asperger: contribuições teóricas, *Amazônica.* 10(3), 95-108 (2012). Retrieved November 19, 2021 from <https://dialnet.unirioja.es/servlet/articulo?codigo=4047470>
- [46] Pereira J. D. S., and Rangni R. A., movie scenes from “the imitation game”: reflections on the invisibility of double exceptionality in social contexts. *APRENDER – Cad. Filosofia, Psic. Educ.* 13(21), 76-89 (2019). Retrieved December 21, 2021 from <https://periodicos2.uesb.br/index.php/aprender/article/download/5608/4233/10148>
- [47] Jonhson RA, A portrait of being artistically talented with Asperger's syndrome: A retrospective case study, Indiana, Ph.D. Thesis, University of Indiana, United States. Pp. 195 (2010).
- [48] Soares Coutinho-Souto W. K. Y., and Souza Fleith D., Inclusão educacional: estudo de caso de um aluno com dupla excepcionalidade, *Rev. Psicol.* 39(1), 339-379. <http://dx.doi.org/10.18800/psico.202101.014>
- [49] Bittencourt I. G. S., and Fumes N. L. F., "I shouldn't have gotten out of there! I like to study!": The challenges of people with Autism Spectrum Disorder for schooling, *Res. Soc. Dev.* 10(5), e12610514681, (2021). <https://doi.org/10.33448/rsd-v10i5.14681>
- [50] Rodríguez-Naveiras E., Cadenas M., Borges A., and Valadez D., Educational Responses to Students With High Abilities From the Parental Perspective, *Front. Psychol.* 10, 1187 (2019). <https://doi.org/10.3389/fpsyg.2019.01187>
- [51] Rodríguez-Naveiras E., and Borges M. A., Programas extraescolares: Una alternativa a la respuesta educativa de altas capacidades, *Rev Educ. Desarro.* 52, 19-27 (2020). Retrieved December 21, 2021 from https://www.cucs.udg.mx/revistas/edu_desarrollo/anteriores/52/52_RodriguezBorges.pdf

- [52] Kozleski E. B., Yu, T., Satter A. L., Francis G. L., and Haines S. J., A never ending journey: Inclusive education is a principle of practice, not an end game, *Res. Pract. Persons Severe Disab.* 40(3), 211-226, (2015). <https://doi.org/10.1177/1540796915600717>
- [53] Muega M. A., Inclusive education in the Philippines: Through the eyes of teachers, administrators, and parents of children with special needs, *Soc. Sci. Diliman.* 12(1), 5-28 (2016). Retrieved December 21, 2021 from <https://journals.upd.edu.ph/index.php/socialsciediliman/article/view/5230/4700>
- [54] Pimentel S. C., and Nascimento L. J., A construção da cultura inclusiva na escola regular: Uma ação articulada pela equipe gestora, *EccoS. Rev. Cient.* (39), 111-114 (2016). <https://doi.org/10.5585/eccos.n39.3841>

AUTHOR'S BIOGRAPHY



Sônia Maria Maciel Lopes, is a Graduated in Letters - Portuguese and English, with specialization in Portuguese Language and Literature; Graduated in Pedagogy with Specialization in Educational Management, School Management and Qualification in Mental Disability; Specialization in LIBRAS; Specialization in Autistic Spectrum Disorder - ASD; Specialization in Clinical and Institutional Psychopedagogy; Professor at Faculty FUTURA/FAVENI in Votuporanga; Full Professor at Escola Estadual "EnnyTereza L. Fracaro"; Acting as Coordinating Teacher responsible for the initial and final years of Elementary and High School (2001-2008) and Coordinating Teacher responsible for Special Education, Votuporanga Region Education Board (since 2002); Experience in teacher training and execution of projects in the SEDUC-SP folder at the regional level; Member of the Study Group - RAIS (Comprehensive Service Network for the Gifted) - Ibilce /UNESP/SJRP; Member of the Social Sciences and Health Research Group - CEDES - FAMERP - SP.

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