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Giftedness and Attention Deficit Hyperactivity Disorder: inclusive educational practices

Superdotação e Transtorno de Déficit de Atenção e Hiperatividade: práticas educacionais inclusivas

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Abstract

The purpose of this study was to assess the advances and challenges in the process of educational inclusion of three groups: gifted students, students with attention deficit hyperactivity disorder and gifted students with attention deficit hyperactivity disorder. Six students enrolled in common inclusive classes in the public education network of Brazil Federal District, aged between 12 and 17, participated in the investigation. Two school principals, six teachers and six family members, totaling 20 participants, contributed to the elucidation of cases. The results indicate that the implementation of public educational policies, family support, training of professionals specialized in inclusive education and support from specialized educational services favor the three groups of students' process of educational inclusion. It was concluded that the implementation of inclusive educational practices is a complex process that depends on the entire school community.

Keywords: Attention Deficit Disorder with Hyperactivity; Education; Gifted.

Resumo

O objetivo deste estudo foi analisar avanços e desafios no processo de inclusão educacional de três grupos de estudantes: Superdotados, estudantes com Transtorno de Déficit de Atenção e Hiperatividade e estudantes com a dupla excepcionalidade. Trata-se de uma investigação qualitativa, do tipo estudo de caso múltiplo. Participaram da pesquisa seis estudantes matriculados em classes comuns inclusivas da rede pública de ensino do Distrito Federal, com idade entre 12 e 17 anos. Contribuíram para elucidação dos casos: duas gestoras escolares, seis professores e seis familiares, totalizando 20 participantes. Os resultados indicam que a implementação de políticas públicas educacionais, o apoio da família, a formação dos profissionais especializados em educação inclusiva e o suporte do atendimento educacional especializado favorecem o processo de inclusão educacional dos três grupos. Conclui-se que a implementação de práticas educacionais inclusivas é um processo complexo que depende do engajamento de toda a comunidade escolar.

Palavras-chave: Transtorno do Déficit de Atenção com Hiperatividade; Educação; Superdotado.

Human rights within the international framework encompass a movement that enhances the importance of including students with special educational needs in the regular education system (Assembleia Geral da Organização das Nações Unidas, 1948). In Brazil, the legal framework – embodied in the Federal Constitution and international treaties (Organização das Nações Unidas para a Educação, a Ciência e a Cultura, 1994, 2007; Presidência da República, 1988) – ensured specialized educational services to the special education target audience preferably in the common education system, based on the fundamental conditions of equality and equal opportunities principles. Thus, the aim is to identify, develop and organize pedagogical and accessibility resources capable of eliminating any barriers for the full participation of all students in the inclusive regular classroom, yet complying with the individual specificities requirements.

Based on the Brazilian Federal Constitution and the international regulations, the National Policy on Special Education, issued in 2008, set inclusive education as “a political, cultural, social and pedagogical action, undertaken in defense of the right of all students to be together, learning and participating, without any kind of discrimination” (Ministério da Educação, 2008, p. 1). It was therefore acknowledged that special education should work in conjunction with regular education to guide the organization of support networks, the ongoing teachers’ training, the identification of resources and services, as well as the development of collaborative practices to provide better services for this audience. In this sense, schools with such an orientation were considered an effective means of curbing discriminatory attitudes to the extent that they enable the development of plural educational environments that value and recognize the interests, abilities and particularities of each individual.

Studies reveal that the consolidation of inclusive educational practices depends, fundamentally, on the collaboration of the different players involved: principals, teachers, support professionals, school staff, family members, students and, ultimately, society as a whole (Conejeros-Solar et al., 2021; Coutinho-Souto & Fleith, 2021; Foley-Nicpon & Assouline, 2020; Page et al., 2022; Pimentel & Nascimento, 2016). Pimentel and Nascimento (2016) emphasize that the involvement and participation of the entire school community are considered essential factors for the recognition, appreciation and respect for all students, given that the legal norms alone are insufficient to ensure the development and strengthening of inclusive educational practices. For this reason, it is essential that the entire school institution actively participates in the process of including students with special educational needs, given that this task is not carried out by a single individual in isolation, but by the entire community (Conejeros-Solar et al., 2021; Foley-Nicpon & Assouline, 2020; Menino-Mencia et al., 2019).

Pfeiffer and Prado (2021) argue that there are different conceptions of giftedness and, consequently, different ways of conceiving the phenomenon. In the contemporary context, several authors understand that giftedness is a developing process that depends on a multiplicity of factors for its manifestation, as it arises from the interrelationships between the individual and the environment (Gagné, 2004; Renzulli & Reis, 2021; Subotnik et al., 2012). Renzulli’s Three-Ring Model (Renzulli & Reis, 2021), for example, considers that giftedness is the result of the dynamic and non-homogeneous interaction between three dimensions: above-average ability, task commitment, and creativity. According to this perspective, an increase has occurred especially in the last two decades in the number of empirical studies involving the investigation of gifted individuals who have, simultaneously, superior abilities and behavioral, emotional and learning difficulties; such difficulties include Attention Deficit Hyperactivity Disorder (ADHD), Autism Spectrum Disorder (ASD), Central Auditory Processing Disorder (CAPD) and dyslexia. The overlap of these apparently antagonistic characteristics has been called, in the literature, twice-exceptionality (Al-Hroub,

2020; Coutinho-Souto & Fleith, 2021, 2022; Gomez et al., 2020; Pereira & Rangni, 2023; Pfeiffer & Prado, 2021).

ADHD, in turn, has been understood by different scholars as a neurobiological condition characterized by excessive movement, difficulty in controlling impulses and/or a persistent pattern of inattention that affects the individual's overall development (Drechsler et al., 2020; Planton et al., 2021). It refers to a heterogeneous and multifaceted condition resulting not only from biological factors, but also from the individuals' relationship with the environment around them: family, school, work and friends (Hinshaw, 2018), being one of the most frequent disorders in child and adolescent psychiatry (Drechsler et al., 2020). This disorder can lead to school problems and limitations in professional achievements, in addition to causing difficulties in social and family relationships and self-esteem (Planton et al., 2021). Gifted individuals with ADHD are described in the literature as individuals who demonstrate socio-emotional difficulties related to low self-esteem and low self-concept, oscillation between moments of concentrated and diffuse attention, tendency to mask their learning difficulties, social rejection by peers, failure intolerance and difficulty completing tasks and following rules and instructions (Álvarez-Cárdenas et al., 2019; Arizaga et al., 2016).

Regarding the educational practices to support gifted students, the following are the most commonly used: acceleration, school enrichment, and curricular differentiation (Renzulli & Reis, 2020; Schuur et al., 2021). For students with ADHD, compensatory practices have been adopted in the educational setting to minimize their difficulties in maintaining attention, hyperactivity/impulsivity behaviors, and executive functions, such as: planning and executing well-structured classes with clear guidelines on the activities to be developed, dividing schoolwork into smaller tasks with view at promoting concentration, and allowing assessments to be carried out over a longer period of time in a quieter environment with fewer distractions (Organização para Cooperação e Desenvolvimento Econômico [OCDE], 2020; Rohde et al., 2019). Furthermore, regular physical activity, the adoption of a balanced diet and psychotherapeutic support have been used in the follow up of these individuals considering a comprehensive and multimodal perspective to meet their needs, always taking into account the specificities of each particular case (Drechsler et al., 2020; Rohde et al., 2019).

In the specific case of gifted individuals with ADHD, educational support practices, from an inclusive perspective, ought to be supported by the fostering of activities that take into account their strengths, their areas of interest and also the overcoming of their difficulties through a flexible curriculum, personalized learning, extended time for carrying out activities, complying with their asynchronous characteristics, formative assessment to verify learning, the practice of sports and artistic activities, and the construction of a systematic support network based on the establishment of positive interpersonal relationships (Ritchotte & Zaghlawan, 2019). Equipping teachers, specialized support professionals, colleagues and family members with information on the topic of twice-exceptionality can assist in the process of identifying these individuals and, consequently, in the development of pedagogical and socio-emotional support practices that take into account their specific learning needs.

Our study aimed to assess advances and challenges in the process of educational inclusion of three groups – gifted students, students with ADHD, and ADHD gifted students – attending elementary and high school, according to the school principals, teachers, family members, and the students themselves. It is expected that this study can contribute for researchers, educators, support professionals, and family members to (a) promote inclusive educational practices aimed at meeting the socioemotional characteristics and specific learning needs of these groups of students,

(b) develop and implement specialized educational services for these students, and (c) promote public policies aimed at including these students in the regular classroom, particularly ADHD gifted students.

Method

To achieve the proposed study's purposes, the methodological strategy employed was the multiple case study (Certificate of Presentation for Ethical Review [CAEE] 45372621.0.0000.5540). In this qualitative approach, the researcher investigates in depth a particular situation, group or individual in a given real-life context. The information is constructed in detail using different sources: interviews, observations, documents or audiovisual materials (Creswell & Creswell, 2021). According to Alencar (2015), conducting multiple case studies allows the development of theories that can explain a given phenomenon in all its complexity and richness and, for this reason, it can be considered an appropriate method for investigating gifted individuals. Regarding students with twice-exceptionality, it should be noted that, due to the small number of students in this condition found in the school population, much of the research conducted is based on the case study methodology (Pfeiffer, 2015).

Research Setting

The setting in which this study was carried out was: (a) A Multifunctional Resource Room for specialized educational Support for Gifted students (MRR/GS) to construct information regarding the groups of gifted students and ADHD gifted students, and (b) a Learning Support Room to assist students with Specific Functional Disorders (LSR/SFD) to produce information regarding the group of ADHD students, both located in two different schools in the public education network, from the same Regional Education Coordination of the *Secretaria de Estado de Educação do Distrito Federal* (SEEDF, State Secretariat of Education of the Federal District). These services are offered weekly, in the opposite shift (morning/afternoon) to that in which the student is enrolled in the inclusive regular class.

In the specific case of gifted students, MRR/GS specialized educational services are provided in core schools to support such students in developing their higher potential, whether in the school or artistic areas. The services adopt Renzulli's Three-Ring Model, with the collaboration of multidisciplinary teams composed of teachers specialized in the academic and artistic areas, itinerant teachers and school psychologists to provide support to these students in the educational, social and emotional areas. The proposed activities are based on the Triadic Enrichment Model, especially those involving research and project development – typical of Type III Enrichment (Renzulli & Reis, 2020, 2021).

Regarding ADHD students, the LSR/SFD are organized into service centers for elementary and high school students, to offer them support for their learning and/or behavioral difficulties caused by the disorder. For those students, individual intervention programs are prepared by specialized teachers (trained in Psychology or Pedagogy) with the aim of promoting significant pedagogical interventions that foster their development and learning based on their unique characteristics and specific needs. This process involves the participation of itinerant teachers, educational counselors, and the support of pedagogues and psychologists from specialized learning support teams.

Participants

Six students (ST) enrolled in regular inclusive elementary classes and high school classes in the public education system of the Federal District, aged between 12 and 17 years ($M = 14.66$; $SD = 1.96$),

participated in this study. Two were gifted (GS), two had ADHD (ADHD), and two were gifted with ADHD (GS/ADHD). Students were selected by convenience to participate in the study. The initials M., N., F., S., P., and W. were adopted to replace their respective names, in order to preserve their anonymity.

- M. (ST1-GS): gifted in the area of artistic talent, 16 years old, female and enrolled in the 2nd grade High School. M was interested in drawing mystical creatures, animations, languages (English), music, dance and singing. She already won an award in a drawing competition in the Federal District. She has been attending MRR/GS for four years.

- N. (ST2-GS): A 16-year-old female gifted artist enrolled in the 2nd grade high school. N. is interested in painting and drawing landscapes and tourist attractions, reading, and languages (English). She has won national and international drawing awards. N. has been attending MRR/GS for four years.

- F. (ST1-GS/ADHD): ADHD gifted Exact Sciences student, 12 years old, male, enrolled in the 7th grade. F. is interested in mathematics, science, robotics, logical-mathematical challenges and electronic games. He was diagnosed with ADHD by a pediatric neurologist at the age of 8. Two months later, his giftedness was identified. F. has been attending MRR/GS for four years.

- S. (ST2-GS/ADHD): ADHD gifted student in the area of artistic talent, 13 years old, female and enrolled in the 7th grade. S. is interested in drawing, mainly realistic faces and landscapes. In her case, the identification of giftedness occurred at the age of nine. Nine months later, at the age of 10, she was diagnosed with ADHD by a pediatric neurologist. She has been attending MRR/GS for five years.

- P. (ST1- ADHD): 17-year-old ADHD male student enrolled in the 9th grade. P. has difficulties in connection with behavior, attention and organization, as well as limitations in the acquisition of reading and writing skills and logical-mathematical reasoning. He was diagnosed with ADHD at the age of 7 by a pediatric neurologist. He has been attending LSR/SFD for five years.

- W. (ST2- ADHD): An ADHD 14-year-old male student enrolled in the 8th grade. He has difficulties with behavioral aspects and attention, as well as limitations in logical-mathematical reasoning and reading and writing skills. At the age of 10, he was diagnosed with ADHD by a pediatric neurologist. He has been attending the LSR/SFD for five years.

Fourteen participants aged between 34 and 62 years ($M = 53.5$; $SD = 12.02$) contributed to the elucidation of the cases: (a) two school principals (SP1 and SP2); (b) two teachers from MRR/GS (Art Education and Exact Sciences); (c) a psychologist from LSR/SFD; (d) three teachers from inclusive regular classes (Physical Education, Music and Portuguese Language); and (e) six family members (FAM 1 to FAM 6). School principals and teachers were aged between 34 and 56 years ($M = 44$; $SD = 6.18$) and had professional experience ranging from 10 to 26 years ($M = 17.25$; $SD = 6.71$). A school principal (SP1), the LSR/SFD psychologist and four teachers (Artistic Education, Exact Sciences, Physical Education and Portuguese Language) had a *lato sensu* postgraduate course.

Instruments

In this study, semi-structured interviews were conducted with all participants. School administrators, teachers, and family members were asked questions about the progress and challenges faced in adopting educational practices to include gifted students, ADHD students and ADHD gifted students, as well as about the participation of the three groups in specialized educational services offered by the MRR/GS or LSR/SFD. Further, the questions asked to the

students sought to identify their areas of interest and potential limitations, in addition to verifying the support they receive from school professionals (including teachers at the MRR/GS or LSR/SFD) and/or their families to develop their talents and/or to overcome their difficulties. In addition, a documentary analysis of the students' school and development trajectories was conducted in order to characterize the students. The documents reviewed were: (a) assessment reports on the giftedness of gifted students and of ADHD gifted students that were drawn by teachers and a psychologist from MRR/GS, (b) assessment and educational intervention reports for ADHD students prepared by a psychologist and a pedagogue from the specialized learning support team, and (c) medical reports.

Procedures

Initially, authorization was requested from SEEDF to conduct the study in schools with MRR/GS and/or LSR/SFD. The research project was then submitted to and approved by the Human and Social Sciences Research Ethics Committee of the University of Brasilia. Furthermore, before conducting the interviews with the participants, all the scripts were submitted to the evaluation of five judges from the field of giftedness or creativity (five doctoral students with research projects in these areas), with the intention of qualifying and improving the instruments.

The next step involved a personal contact with the itinerant teacher from MRR/GS and the psychologist from LSR/SFD in order to verify the possibility of recommending gifted students, ADHD students and ADHD gifted students to participate in the study. At this meeting, both professionals were asked to schedule individual face-to-face meetings between the first investigator and the school principals, teachers and family members to introduce the purposes of the study, obtain consent and conduct the interviews. We ought to point out that, in the case of the students, this contact was only made after their families had expressly authorized their participation in the study.

The interviews were scheduled to accommodate the best time for all participants, and were conducted in a private area of the MRR/GS and LSR/SFD by the first author of the study. Before starting each interview, the Free and Informed Consent Form (FICF) was delivered to the school principals, teachers and family members. In the case of students, they were delivered the Free and Informed Assent Form (FIAE). All participants read and signed those documents. All participants were assured that participation in the study would not cause them any harm of any nature and that absolute confidentiality would be maintained regarding any information that could potentially identify them.

With the express authorization of the participants, all interviews were recorded and later transcribed in full by the first author to support the information analysis process. The duration of the interviews with the school principals and teachers ranged between 17 to 59 minutes ($M = 39.62$; $SD = 14.26$). With the mothers and grandmothers, the variation was from 26 to 74 minutes (Correção feita substituir a pasta Revista de Nutrição Lote 1 PDF 1 24-0164 = 46.66; $SD = 16.31$). Further, the interviews with the students lasted from 25 to 46 minutes ($M = 31.33$; $SD = 7.78$). After the completion of all interviews, the process of document review of the school trajectory and development of the students in a reserved setting MRR/GS and LSR/SFD was initiated by the first author.

Information Analysis

The information analysis method used was a qualitative content analysis, which consists of a set of communication analysis techniques characterized by systematic and objective procedures for describing the messages' content. Its purpose is to enable the triggering of specific inferences

or casual interpretations about a certain aspect of the speaker's behavioral orientation in communicative contexts. In this study, Bardin's (2016) qualitative content analysis was used, which involves four phases: (a) pre-analysis, (b) coding, (c) categorization, and (d) inference. Initially, the first author listened several times to the audios of the interviews recorded with each participants; she then proceeded to transcribe each of them, thus performing a listening and a floating understanding of all the information that was produced. Based on the listening of the audios and the reading of the transcribed texts, the categories of the results analysis were generated by the first author and reexamined by the second, comparing the analyses performed by the two investigators.

Results

Based on the interviews conducted with the participants, seven categories stood out in relation to the advances in educational inclusion of the three groups of students investigated. The first category concerns the SEEDF Public Policy on Inclusive Education. According to the participants' reports, the implementation of public policies on inclusive education is facilitated by the support of school principals and by the joint action of the different professionals who make up the specialized support teams (psychologists, pedagogues, educational counselors and professionals from MRR/GS and LSR/SFD). "Having resource rooms, educational guidance and learning support teams within your school makes the team integrated, where one supports the other" (SP1).

The second category refers to the Participation of the Three Groups of Students in Specialized Educational Services. By consensus, the participants positively evaluated the participation of the three groups of students in the specialized educational services of the MRR/GS or LSR/SFD. For gifted students and those with ADHD, the services provided by the MRR/GS boost their cognitive and socio-emotional development. "In the resource room, I draw and do something I like. My relationships here in the resource room are easier than at school, because it's a smaller group. So, I can communicate more" (ST2-GS).

In the specific case of students with ADHD, LSR/SFD promotes their cognitive and socio-emotional development by improving their attention and concentration, helping to organize their study routine and enhancing their self-esteem. "This work in the support room helps P. [ST1-ADHD] to overcome his difficulties with complete certainty, including in terms of self-esteem" (FAM 5).

The third category addressed the Training and Experience of Professionals Specialized in Inclusive Education. According to one of the school principals, the MRR/GS teachers and the LSR/SFD psychologist, all of them have specific training in inclusive education, giftedness and/or ADHD, acknowledging their importance for their professional performance and for fostering the consolidation of an inclusive school environment. "Training is essential for us to prepare ourselves to serve this student in a different way. I have been a SEEDF teacher for 24 years" (Artistic Education Teacher).

In the fourth category, the focus was on the Diversity of Interests and Skills of Gifted Students and of ADHD Gifted Students. Regarding gifted students, it was observed that the MRR/GS caters to a diversity of students' areas of interest and skills, which, according to the participants, favors their involvement in different school activities. In addition, it is important to highlight that both gifted students won national and/or international awards in the area of artistic talent.

"N. (ST2-GS) won a drawing award here in Brazil and another abroad. She was the only one who competed from Brazil and she won" (FAM 2).

In the particular case of gifted students with ADHD, one of the students has diverse interests and skills in Mathematics, Science, Games and Animations, considered in the MRR/GS care, which favors the student's academic performance and his engagement in school activities. However, he has limitations in psychomotor skills, which indicates an asynchrony between his cognitive and psychomotor development. The other student in this group has great potential for development in the area of artistic talent and also shows a diversity of interests and skills in other areas of knowledge, such as Science and Literature, evidencing great motivation to learn. However, she experienced a specific learning difficulty in mathematics throughout her schooling process, which culminated in her failure in the 3rd year of elementary school. "F. [ST1-GS/ADHD] is very intelligent. In motor skills, he is a slightly slower student" (Physical Education Teacher).

The fifth category referred to Family Support in the Development of Talent in Gifted Children and Gifted Children with ADHD. Participants highlighted that family support is of fundamental importance for the development of talent and for strengthening the areas of interest of gifted children and ADHD gifted children, especially with regard to emotional and financial family support and also the active participation of parents in their child's school life. "My parents always praised my drawings a lot. They really encouraged me to continue" (ST2-GS).

The sixth category highlighted Family Support in Overcoming Academic Difficulties of ADHD Gifted Students and ADHD Students. According to the family members and to the students themselves, family support helps ADHD gifted students and students with ADHD to overcome their school difficulties, especially with regard to attention and organization. Mothers and grandmothers provide these students with support in carrying out school activities, in addition to emotional support. "My parents try to find a way to help me. They try to explain to me and try to research to help me understand" (ST1-GS/ADHD).

The seventh category involved content related to the Motivation and Interest of Students with ADHD in Practicing Sports Activities. It was observed that one of the students with ADHD, according to his mother and the student himself, had a great interest and motivation to practice sports activities. The student's involvement in sports contributes to improving his self-esteem and minimizing his socio-emotional and attention/hyperactivity difficulties. He even won a judo competition, receiving great encouragement from his family to develop his skills in the sports area. "I love sports. When I practice Physical Education, I just forget everything people comment on me saying that I am nobody, that I'm boring, that I'm arrogant or that I'm ugly. Here, I'm good" (ST1-ADHD).

Regarding the challenges in educational inclusion of the three groups of students investigated, five categories stood out, based on the participants' reports. One of the challenges was associated with the limited training of regular classroom teachers on inclusive education, giftedness and/or ADHD. According to regular classroom teachers, none of them had specific training on inclusive education, giftedness and/or ADHD, despite stating that SEEDF offers such continuing education on these topics and recognizing its importance for their professional performance and for the consolidation of an inclusive school environment. "I don't have this specific training. I think this training is important. I know that SEEDF offers courses and I've been interested in taking them" (Music Teacher).

Another category involving challenge addressed the Socioemotional Difficulties Evidenced by Gifted Students and ADHD Gifted Students. According to the participants, gifted students and ADHD gifted students evidence socioemotional difficulties throughout their development process (shyness, introspection, anxiety or depression). However, it was highlighted by the participants that such difficulties are minimized when they interact with peers who have similar interests to their own,

especially in the MRR/GS environment. “In my work, one of the biggest difficulties I experience with gifted students is precisely this emotional deficiency. A good number of them are either depressed or overly anxious” (Artistic Education Teacher).

Intense and Persistent Socioemotional Difficulties Manifested by Students with ADHD was another category of challenge that emerged in the analysis. According to reports from participants, students with ADHD manifest intense and persistent socioemotional difficulties throughout their development and school education process, especially: low self-esteem, low tolerance to frustration, difficulty in social interaction with peers, difficulty in complying with rules and limits, lack of motivation, aggressiveness and impulsiveness. “They have a low tolerance for frustration, and it’s very high, very significant in ADHD. They also have many differentiated needs in this behavioral aspect” (Psychologist).

Difficulties with Attention/Hyperactivity and Organization exhibited by ADHD Gifted individuals and students with ADHD were highlighted by the participants as a challenge to school inclusion. According to the participants, gifted ADHD individuals and students with ADHD present difficulties with attention/hyperactivity and organization throughout their development and school education process. In the specific case of ADHD gifted individuals, such difficulties are minimized when these individuals are involved in activities that interest them, while in students with ADHD, the behaviors of inattention/hyperactivity and disorganization are manifested in a more intense and widespread manner throughout their school trajectory, regardless of the task they are performing. For both groups, establishing a structured study routine contributes to improving their attention, organization and school performance. “In the case of my gifted students with ADHD, I don’t notice much difference in the production part. When they are in the production moment, they can concentrate and manage their time” (Artistic Education Teacher).

Also mentioned as a challenge was the accentuated learning difficulties of students with ADHD. According to the participants’ reports, students with ADHD have accentuated learning difficulties throughout their school education process, particularly during the literacy period. It is worth noting that both ADHD students experienced failures in their trajectory and, consequently, were in a situation of age/grade gap at the time of the survey. “W.’s biggest difficulty [ST2-ADHD] is learning. I think his learning is very compromised. He couldn’t learn to read. It took him a long time to become literate. So, he failed because he couldn’t learn to read” (FAM6).

Discussion

Specifically in the Federal District of Brazil, SEEDF has assumed a pioneering role in the institution of public policies aimed at specialized educational services for gifted students. Based on the Three-Ring Model proposed by Renzulli, MRR/GS has offered these students, for over 40 years, enrichment activities – in the school and artistic talent areas – with the purpose of providing them with support for the development of their higher potential (Renzulli & Reis, 2020, 2021). In this sense, Renzulli (2021, p. 2) emphasizes that the main purpose of gifted students education is “to increase the world’ reservoir of creative and productive people” who will contribute to innovations in the arts and sciences and in all areas of human endeavor aimed at making the world a better place. This enhances the importance of education networks offering programs aimed at students with varied interests and heterogeneous cognitive and socio-emotional profiles, as is the case of twice-exceptional individuals (Renzulli, 2020).

As to the participation of the principal's team in promoting inclusive educational practices, different studies have highlighted that school principals assume a leadership role in building a culture that responds positively to differences, since, at the local level, they are responsible for driving the effort, commitment and cooperation of the work team for the benefit of the inclusion of each student (Khaleel et al., 2021; Pazey & Combes, 2020). Similarly, the results of our study indicate that, in the scenario investigated, the school principals' activity fosters the implementation of such practices by supporting the actions developed by the professionals of the MRR/GS, LSR/SFD and/or of the common class in favor of the three groups of students who participated in this study, always taking into account individual specificities.

Furthermore, it is worth noting that empirical research conducted in different countries enhances that teachers' training, whether initial or continuous, is essential for the qualified performance of those professionals in establishing successful inclusive educational practices (Prais & Vitaliano, 2022; Song, 2016). According to Song (2016), teachers who participate in training activities on inclusion generally demonstrate more positive attitudes towards this topic, which confirms the importance of actions aimed at training these professionals in serving students who have varied learning and development profiles and needs. Similarly, this study reveals that, the professionals from SRM/SD and SAA/TFE in particular, have adequate training to provide educational support to the three groups of students investigated, which was not the case for teachers in regular classes; thus, the need for greater investment by SEEDF in training initiatives for these professionals is evidenced.

Regarding family involvement, it was found that, by consensus, there was a commitment to offering support to the cognitive, school and socio-emotional needs of the three groups of students who participated in this study, which undoubtedly contributes favorably to their inclusion in the school context. Particularly in the case of gifted students, the family environment has been considered a primary factor for the development of the students' talent, since, usually, the family is the first source of stimulus and motivation for these individuals to manifest themselves (Dixson et al., 2020). In the case of the two gifted students who participated in this study, we ought to emphasize that the family support, in partnership with the school, was fundamental for them to win awards in the area of artistic talent. Finally, it is highlighted that, according to Renzulli (2020), gifted individuals also need, in order to transform potential into performance, to develop and/or improve certain characteristics associated with psychosocial skills, since, commonly, these individuals, in search of self-realization, occupy leadership positions in different social contexts that require the adoption of an ethical stance towards the community.

Conclusion

Based on the results presented, it is concluded that, in the framework investigated, the implementation of inclusive educational practices (for the benefit of the three groups of students) is a complex process because it depends on the involvement and participation of the different players involved: school principals, teachers and family members, as well as the support of professionals from specialized educational services at MRR/ADHD and LSR/SFD. It was found that, in the case of gifted students and ADHD gifted students, the school and family were committed to offering them support for the development of their potential, their talent and their areas of interest, in addition to contributing positively to enhancing their self-esteem and promoting their creativity. Specifically regarding the group of gifted students with ADHD and the ADHD students, we observed that the different school professionals, with the collaboration of the family, provided these students

with adequate support to overcome their difficulties concerning attention, concentration and organization, while at the same time being committed to providing them with assistance in dealing with their socio-emotional difficulties, especially in the case of ADHD students.

It is therefore clear that the implementation of inclusive educational practices must be based on the engagement of the entire school community in partnership with the family, aiming to build an educational environment that is receptive to diversity and respects the individual characteristics. Therefore, we ought to emphasize that the school needs to provide conditions for learning and development for all students in intellectual, academic, social and emotional aspects, rather than a standardized education that imposes static and homogeneous curricular models to be followed rigidly and indiscriminately.

Regarding the practical implications arising from this study, it is recommended that: (a) public policies for inclusive education be promoted from basic education (early childhood education, elementary education and high school) to higher education; (b) the different spheres of government (federal, state, district and municipal) be committed to adopting inclusive educational practices in their education networks that take into account the learning and development needs of each student, considering the importance of offering specialized educational services to gifted students and also to those with specific functional disorders, including ADHD; (c) the provision of continuing education courses for school administrators, specialized support professionals and teachers of the inclusive regular class that address the characteristics and learning needs and cognitive and socio-emotional development of gifted students, students with ADHD and ADHD gifted students; and (d) establishing partnerships between specialized support professionals (MRR/GS and LSR/SFD) and regular classroom teachers for the planning and development of individualized teaching strategies that take into account the learning needs of each student, especially in the context of the inclusive regular classroom.

The following aspects can be highlighted as limitations of this study: (a) the limited number of students in each group investigated, (b) the use of a convenience sample, (c) the impossibility of interviewing a larger number of teachers from the inclusive regular classroom, and (d) the impossibility of conducting observations of the three groups of students in the inclusive regular classroom settings of MRR/GS and/or LSR/SFD. For future studies, we suggest (a) to review the educational practices used in the process of inclusion of gifted students, students with ADHD and ADHD gifted students in other Brazilian states or in other countries, (b) to conduct longitudinal studies to monitor the process of educational inclusion of students with different types of twice-exceptionality and/or specific functional disorders from Elementary School to High School, and (c) to evaluate the impact of a teacher training program in the area of giftedness and ADHD on the processes of identifying and supporting gifted students, gifted students with ADHD and ADHD students.

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