

## When the complaint is Attention Deficit Hyperactivity Disorder

Quando a queixa é Transtorno de Déficit de Atenção e Hiperatividade

Cuando la queja es Trastorno por Déficit de Atención e Hiperactividad

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**Abstract:** The Attention Deficit Hyperactivity Disorder (ADHD) emerges as a justification for problems in schooling, often resulting from a quick and superficial evaluation. The variation in the number of ADHD reports between 2015 and 2020 in public schools was investigated, showing an increase of 594%. The biologizing conception of ADHD is questioned, the consequence of which is medicalization. It proposes the development of attention and voluntary control of behavior in the set of psychological functions. The importance of planning based on the cultural-historical conception is pointed out, as well as the urgency of public investment in teacher qualification.

**Keywords:** Teaching and learning processes. Medicalization. Attention Deficit Hyperactivity Disorder. Special Education.

**Resumo:** O Transtorno do Déficit de Atenção e Hiperatividade (TDAH) emerge como justificativa para problemas na escolarização, sendo muitas vezes resultado de uma avaliação rápida e superficial. Diante disso, neste estudo, investigou-se a variação no número de laudos de TDAH, entre 2015 e 2020, em escolas públicas, constatando-se um aumento de 594%. Questiona-se a concepção biologizante do TDAH, cuja consequência é a medicalização. Propõe-se o desenvolvimento da atenção e do controle voluntário do comportamento no conjunto das funções psicológicas. Aponta-se a importância de um planejamento fundamentado na concepção histórico-cultural e a premência de investimento público na qualificação docente.

**Palavras-chave:** Processos de ensino e de aprendizagem. Medicalização. Transtorno de Déficit de Atenção e Hiperatividade. Educação Especial.

**Resumen:** El Trastorno por Déficit de Atención con Hiperactividad (TDAH) surge como justificación de los problemas en la escolarización, siendo muchas veces el resultado de una evaluación rápida y superficial. Se investigó la variación en el número de reportes de TDAH, entre 2015 y 2020, en escuelas públicas, observándose un aumento del 594%. Se cuestiona la concepción biológica del TDAH, cuya consecuencia es la medicalización. Se propone el desarrollo de la atención y el control voluntario de la conducta en el conjunto de funciones psicológicas. Se destaca la importancia de la planificación basada en la teoría histórico-cultural, así como la urgencia de la inversión pública en la formación docente.

**Palabras clave:** Procesos de enseñanza y aprendizaje. Medicalización. Trastorno por Déficit de Atención e Hiperactividad. Educación especial.

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## Introduction

The constant complaints from teachers regarding attention and indiscipline in elementary and high school reveal that it is common for teachers to refer students to medical services, describing behaviors such as excessive agitation, inability to maintain attention, and difficulty in self-regulation. These referrals result, in most cases, in reports of Attention Deficit Hyperactivity Disorder (ADHD; in portuguese language, *Transtorno do Déficit de Atenção e Hiperatividade* - TDAH).

However, this diagnosis has been made and described ignoring the cultural and social barriers that permeate the regulation of attention, disregarding the development of the individual and his higher psychological functions (HPF; in portuguese language *Funções Psicológicas Superiores* - FPSs) in their entirety (Caliman, 2008). And what until the last decade of the twentieth century was, with rare exceptions, considered a passing, childhood disorder, is now classified as ADHD, a psychiatric disorder that may constitute a lifetime label (Caliman & Domitrovic, 2013).

There are controversies in the analysis of this issue, which are based on the conception of man, the world, and the society that supports them. Therefore, it highlights the importance of reflections and research on this issue, which, in addition to its pedagogical consequences, brings social and economic impacts.

The education of people with disabilities in Brazil was marked, until the twentieth century, by the denial of access to any form of systematized school education and, subsequently, by the assistentialist service in segregated services, organized as a substitute for common education (Capellini & Mendes, 2007). The overcoming of this excluding schooling process, which hurt the constitutional precepts, occurred from the struggle against traditional hegemonic conceptions, based on the understanding of psychic development with emphasis on the biological aspect.

From the nineties of the last century, following the international movement for inclusion, which "[...] has as its precepts the right of everyone to attend regular school and the appreciation of diversity" (Alves & Guareschi, 2012, p. 33), the concern with inclusive practices began to take shape in Brazil (Mendes et al., 2011). At the same time, the neurological interpretation of the disorder became widely accepted and the world witnessed an explosion of publicity about ADHD and its medicalization (Eidt & Tuleski, 2010), as well as the exacerbation of this type of teacher complaint.

Against this perspective, studies based on the Cultural-Historical Theory sought to question the neurobiological perspective, anchored in the understanding that social and historical laws are more determinant in human development than biological laws, given the plasticity of the neurological system and the way the learning process occurs, which determines this development (Leontiev, 1978).

At the threshold of the third decade of the 21st century, about four decades have passed since the ADHD publicity explosion. Many studies have been developed, sometimes defending the neurobiological perspective, sometimes criticizing it, and proposing a primarily pedagogical understanding of the issue<sup>1</sup>.

From the legal point of view, the Operational Guidelines for Specialized Education Care (SEC; in portuguese language *Atendimento Educacional Especializado* - AEE) at the national level were regulated by Resolution No. 04/2009 (Brazil, 2009, p. 1), which assigns as its purpose, "[...] complement or supplement the student's education through the provision of services, accessibility resources, and strategies that eliminate barriers to their full participation in society and development of their learning.

It should be noted that Article 4 of Resolution No. 04/2009 (Brazil, 2009) excludes students diagnosed with specific functional disorders, among them ADHD and others, previously considered by Resolution No. 02/2001 (Brazil, 2001) as subjects entitled to SEC. However, in the State of Paraná, Deliberation No. 02/2016 (Paraná, 2016) and Instruction No. 09/2018 (Paraná, 2018a) set standards for serving public students in Special Education, including students diagnosed with ADHD, in Multifunctional Resource Rooms (MRR; portuguese language *Sala de Recurso Multifuncional* - SRM). The "[...] literature points out that the teacher's role is to help diagnose possible disorders that interfere with learning, one of them being ADHD" (Santos, 2019, p. 9). As a hypothesis, it is assumed that if the teacher refers students for evaluation with a suspicion of ADHD, it is because he expects clinical help to deal with this situation, most often medication, given the explosion in sales of drugs with methylphenidate as a basic component. The survey conducted in drugstores in Brazil, from 2007 to 2012, "[...] proved that the growth was 50% in sales in four years, between September 2007 and October 2008 were sold 1,238,064 boxes, and between September 2011 and October 2012 1,853,930 boxes" (Andrade et al., 2018, p. 109).

On the other hand, if the emphasis is placed on the clinical aspect, it means that the pedagogical aspect is not being given the necessary importance in dealing with this issue. Thus, this research is justified to reflect on the current alternatives for the understanding of this disorder. From this intention, two objectives are derived: 1- To quantify the variation in the number of enrollments of students diagnosed with ADHD in the state public school system, from 2015 to 2020, through the analysis of data from the School Registration System (SRS-PR; in portuguese language *Sistema de Registro Escolar* – SERE-PR). 2- To investigate which material the Special Education teacher uses to plan and organize his work with students with ADHD.

Initially, we will briefly present the biologizing conception that often underlies the complaint of ADHD and then question it based on the Cultural-Historical Theory.

Next, we present data from field research to verify to what extent the teacher complaint about

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<sup>1</sup> Santos (2019), with the terms ADHD and hyperactivity, located between 1992 and 2017 in the Digital Library of Theses and Dissertations 1,234 Brazilian theses and dissertations, 82 of which were in the field of Education.

ADHD still exists and to investigate how the enrollment of students with this condition has evolved in the last five years.

Research is then presented analyzing, from the individual assessment and the guidance provided by the specialized pedagogical team that works in the Regional Teaching Center of Cascavel (PR), regarding the students indicated by the teacher with suspected ADHD, how this assessment has been received by teachers in the state public network and to what extent the teacher uses it to organize his planning and consequently the pedagogical work.

We conclude by reflecting, considering the results of the field research, on the pedagogical consequences of the analyzed conceptions, resuming the initial problematization, i.e., which of the two conceptions that circulate in the school and academia has been the basis of the teacher's teaching activity.

### **Theoretical divergences: the naturalizing conception**

In the naturalizing conception ADHD, like other disorders, is understood as a mental disorder whose causes would have biological origin and would manifest as early as Kindergarten, and as a disorder requires a psychiatric approach, and may last throughout life. According to the DSM-5 (American Psychiatric Association, 2014, p. 32, emphasis added):

ADHD is a neurodevelopmental disorder defined by impairing levels of inattention, disorganization, and/or hyperactivity-impulsivity. Inattention and disorganization involve *inability* to stay on task, appearance of not listening, and loss of materials at levels inconsistent with age or developmental level. Hyperactivity-impulsivity involve excessive activity, restlessness, *inability* to remain seated, intrusion into the activities of others, and *inability* to wait-symptoms that are excessive for age or developmental level. In childhood, ADHD often overlaps with disorders generally considered "externalizing" such as oppositional defiant disorder and conduct disorder. ADHD often persists into adulthood, resulting in impairments in social, academic, and occupational functioning.

This definition presents a description of observable symptoms. The term disability is mentioned several times, and the electronic dictionary of the Portuguese language puts capacity as a synonym for: propensity, predisposition, tendency, inclination, aptitude, vocation, terms that suggest something a priori of birth (Dicionário Online de Português, 2022).

According to this conception, a child who presents unwanted behaviors, such as marked restlessness and/or inattention, would have a disorder, since it would be normal for the child to follow the teaching guidelines at school. Thus, the complaint involving such disorders would justify the referral to specialized centers of pediatric psychology and neurology.

It is also interesting to check the DSM-5 guidance on "diagnosis" (American Psychiatric Association, 2014, p. 22, emphasis added):

A mental disorder is a syndrome characterized by clinically significant disturbance in an individual's cognition, emotional regulation, or behavior that reflects a dysfunction in the psychological, biological, or developmental processes underlying mental functioning. Mental disorders are often associated with significant suffering or disability that affects social, occupational, or other important activities. An expected or culturally approved response to a common stressor or loss, such as the death of a loved one, does not constitute mental disorder. Social deviance in behavior (e.g., of a political, religious, or sexual nature) *and conflicts that are primarily concerned with the individual and society are not mental disorders unless the deviance or conflict is the result of a dysfunction in the individual as described.*

The definition of disorder, from the medical perspective, according to the DSM-5 guideline makes it clear that conflicts that are primarily concerned with the individual and society are not considered mental disorders. Therefore, only those behaviors whose cause is biological are considered.

This perspective is understood as idealistic, since it involves an abstract understanding of the human psyche, apart from social and economic determinations. In this premise, what is out of the norm, or the hegemonic conception of normality, is understood as individual dysfunction, resulting from organic malfunction, that is, the attention is diverted from the historical and social problems that interfere with the schooling process. Consequently, it is believed that drugs can solve these problems.

In this innatist conception, human development is understood as organic maturation that occurs "[...] regardless of the context, the social environment, and the relationships in which the child is inserted, [which] is radically opposed to the conception of development and learning in the approach of Cultural-Historical Psychology" (Eidt & Tuleski, 2010, p. 139).

In the school context, ADHD has been used as a justification for problems such as grade repetition and school failure which, in fact, reveal difficulties in the appropriation of scientific concepts for numerous possible causes. The individual is stigmatized, pointing him or her as abnormal, and, furthermore, it is sought through justifications that disregard the social, to affirm the pathology, which consequently leads to medicalization.

Moysés and Collares (2010) introduce the term *pathologization*, as a neologism derived from *pathos*, i.e., disease. It refers to transforming into a physical, biological disease something that has a social origin. As a "sick person," the student needs to be *medicated*. Medicalization is the clinical resource for an alleged remission of the symptom.

The professionals who medicate are unaware of the school context and do not understand how failure or success in the learning process are determined by institutional and political

mechanisms, and one can add even by issues involving the teacher-student-classroom relationship itself (Eidt & Tuleski, 2010). The conceptions of childhood, psychism development and learning, with emphasis on the biological and innate aspect, lead teachers to resort to health services to seek medical diagnoses requiring the control of student behavior through medication, without seeking to understand "[...] the social plots that corrupt and dehumanize childhood" (Luengo, 2010, p. 58).

### **The cultural-historical conception: attention and regulation of behavior as higher psychological functions**

The Cultural-Historical Theory, whose main representatives are Lev Semionovitch Vygotsky (1896-1934), Alexander Romanovich Luria (1902-1977), and Alexei Leontiev (1903-1979), in opposition to the inatist conception, understands that man is constituted in his social relations, that is, man is not born human.

The production process of this man does not occur genetically or hereditarily, although it is based on a biological basis. It is a dialectical relationship that goes through the appropriation of knowledge that enables human beings, by appropriating culture, to be produced by it and to produce their own history. It is a process that depends fundamentally on another human being that teaches, and on the possibilities arising from social relations:

The psychism is determined by people's real life, that is, by their activity within a given social class, in a specific historical time. Social relations are structured, organized, and maintained on the basis of relations of production and reproduction of the material conditions of existence. (Eidt & Tuleski, 2010, p. 131).

In other words, according to the conditions and social relations experienced, each man appropriates the ways of using the material instruments that circulate in his context, as he performs the necessary activities that constitute his life. Also, in this process, each man gradually appropriates concepts, that is, the words that mediate these procedures. These signs that man appropriates, called psychological instruments, constitute his vocabulary, and will allow him not only to express his ideas, but also to communicate and think about distant objects and situations in time and space (Vygotsky, 1995) and, consequently, to self-regulate his behavior.

Thus, children's possibilities of representing the world in thought depend on the concepts - signs and meanings - that the child appropriates. And in this process, by mastering the knowledge and techniques that humanity has historically produced, the child becomes humanized. That is, the child internalizes the material ways to develop the activities that circulate in his context, regulating his behavior. As someone teaches him, he learns how to do the activities of his social group.

As these mediators - the signs - are appropriated, acquiring a meaning for the child, his



language develops and his thought is formed, directly assisting in the formation of higher psychological functions that are eminently human, because the language will act as a mediator in the man's relationship with objects and with other people, allowing him greater awareness and expanding his possibilities of planning and self-regulation.

It is of fundamental importance to understand that the child internalizes what circulates him/her, because it is in the social relationship, in the collective, that his/her subjectivity is constituted, that is, the higher psychological functions only become intrapsychic from intersychic relationships. What and how to pay attention, therefore, is a learned process, not in an isolated way, but articulated to what the being perceives of the world, what he memorizes, what and how he expresses himself, and what he thinks, based on the information and concepts he has appropriated in his relations. In this way, this child, in social interactions, appropriates culture and gradually humanizes itself.

The self-regulation of attention is a psychological function that stems from the development of consciousness, which corresponds to the verification of the result of actions and operations that the activity involves, according to their needs and goals, and the production of necessary corrections and deviations. For Silva and Loos-Sant'Ana (2017, p. 476), this psychological function:

[...] undergoes a long and irregular process of transformation, in which external (cultural/symbolic) support structures become internal structures and psychological functioning; language (a culturally and socially constructed set of signs) acquires a central role in the development of self-regulatory capacities; changes depend on a developmental process deeply rooted in the relations between individual history and social history.

Because it is the result of a complex social-historical process, guided by interaction with others in different activities, the development of self-regulation requires the important contribution of the schooling process, which pedagogically organizes learning, therefore, promotes child development, since the child is developing when learning.

In this way, the teacher's fundamental role in the student appropriation of cultural behaviors and scientific concepts taught at school is highlighted. This understanding is crucial, because it enables the confrontation of naturalistic and biologizing conceptions, which, when faced with problems or difficulties in learning school content, place the emphasis on neuronal aspects and propose solutions that legitimize the pathologizing and medicalization at school.

Therefore, for the Cultural-Historical Theory, which opposes the idealistic conception of human development, the SPFs, which include the voluntary control of behavior and attention, are not endogenous processes that happen internally and spontaneously, but depend fundamentally on the appropriation of cultural signs, made possible by the constant mediation of other men.

Thus, when it is understood that the humanization process occurs in the child's participatory relationship in its historical and cultural context, through the appropriation of objectivations historically produced by humanity (instruments and signs) and depend more on these than on

their genetic heritage to develop, it is necessary to redefine the concept of attention. Consequently, the ADHD phenomenon nowadays needs to be reconfigured, requiring new studies, analysis, and understanding.

As Eidt and Tuleski (2010) alert, it is necessary to understand the ADHD phenomenon, not from elementary psychological functions, common to humans and animals, but from HPF, which are developed by the appropriation of human culture. At this point, the teacher has a fundamental role, because it is mainly through him and his performance as a mediating agent that this appropriation occurs.

Therefore, there are conceptual differences between the two positions presented: the biologizing conception and the conception proposed by the Cultural-Historical Theory. And the number of diagnosed and consequently medicated children depends on which of the two presented conceptions guides the teaching work.

### **The dissemination of ADHD Diagnoses**

Even in the face of so many disagreements around the topic, Eidt and Ferracioli (2007, p. 95) stated: "[...] research shows the unbridled growth in the number of supposed carriers of the condition in question [...]", as well as Eidt and Tuleski (2010, p. 130) pointed out that ADHD diagnoses were reaching "epidemic proportions".

After another decade, this research is presented, aiming to reflect on the impacts of the advances of academic discussions based on the cultural-historical conception on the weaknesses in the concept of ADHD, from the investigation about the variation in the number of students with ADHD reports, as well as the SEC teacher's procedure for planning their work.

To answer these questions, we developed a field research study, presented below, based on Cascavel (PR), understanding that by analyzing what happens in a city, we will have data from a significant part of the whole, which represents part of the reality of Paraná and perhaps of Brazil.

### **Methodology**

The field research was submitted to the Ethics Committee on Research with Human Beings of the State University of Western Paraná (*Universidade Estadual do Oeste do Paraná - Unioeste*) and approved under number 3.359. 602, qualitative and exploratory, aimed to answer two questions: (ii) quantify the variation in the number of enrollments of students diagnosed with ADHD in the state public school network from 2015 to 2020, through the analysis of SRS-PR data; (ii) investigate which material the Special Education teacher relies on to plan and organize his work with students with ADHD.



Initially, through online consultation in SRS-PR, we identified the students enrolled in SEC in each educational institution in the Cascavel Regional Center, which covers 18 municipalities in 2020. However, this report did not specify the complaint related to each student. Thus, it was necessary to consult the student's individual enrollment history, in which we considered as subjects those in which there were indications of ADHD, in addition to identifying from which year the student started attending the SEC. The data collected were tabulated, quantifying the number of enrollments in the years 2015 to 2020.

The remaining data were collected through semi-structured interviews, with audio recording and de-recording of the content, involving 27% of schools in the city of Cascavel in the state public network, with Special Education teachers working in SEC. Ten state schools were selected, two from each region of the city of Cascavel (PR), being the one with the highest and the one with the lowest scores on the Basic Education Development Index (BEDI; in portuguese language *Índice de Desenvolvimento da Educação Básica - IDEB*).

The script for the semi-structured interview involved initial questions about the teacher's background, time of performance, and professional experience in other levels of education, and questions about the pedagogical process involving students with ADHD. The question selected for this article referred to the teaching procedure for planning, asking teachers to describe how they work with these students.

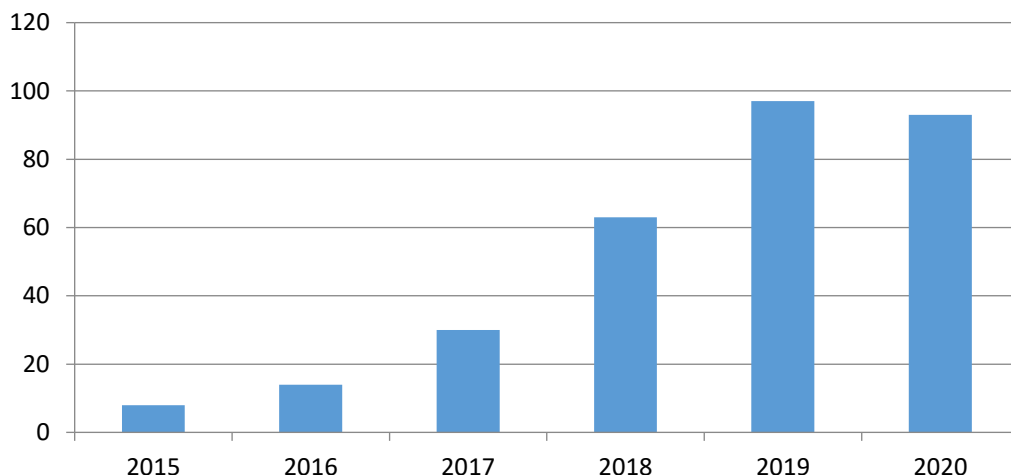
It is noteworthy that the 11 Special Education teachers who participated in the study had different backgrounds: 55% graduated in Pedagogy and the others graduated in Literature (9%), History (9%) Mathematics (9%), Biological Sciences (18%), all with graduate courses in specific areas of Special Education (Brazil, 2001). As for the length of time they had been teaching, it was observed that they were experienced teachers since 90.7% had more than five years of teaching experience.

## Results

Chart 1 summarizes the data found:

**Chart 1**

Number of students enrolled in the AEE in the Cascavel state network with ADHD reports from 2015 to 2020 in the state network or in the Regional Education Center



Source: Elaborated from data collected by the authors.

It can be considered that, from the publication of Deliberation No. 02/2016 (Paraná, 2016), in 2016, there is an increase of 75% in the number of enrollments of students with ADHD reports, compared to 2015. The curve remained upward and growing until the year 2019, which if compared to 2016 showed a difference in the number of these enrollments of 594%. Until the date of data collection, five students who attended the service in the Resource Room in 2019, still did not have their enrollments effective in 2020 for this service, however, because of the pandemic, the enrollments were suspended.

The data collected shows that the path of school pathologizing is still widely used to justify the problems in learning school content, which is evidenced by the significant increase in the number of students enrolled in the SEC with ADHD diagnosis. Given the sharp increase in the number of students enrolled in the SEC, we questioned how the special education teachers who participated in the study conducted their pedagogical work with students in the SEC.

Since 2003, the Regional Education Center, which coordinates the pedagogical actions of public schools in the state network of Paraná, in a geographical area involving 18 municipalities, has a sector responsible for receiving teaching complaints related to ADHD, among others, called Regional Center for Specialized Pedagogical Support (RCSPS; in portuguese language *Centro Regional de Apoio Pedagógico Especializado* - CRAPE).

Initially, the RCSPS evaluated students with problems in the schooling process, classifying them according to their psychological and pedagogical functioning, based on the clinical model (Pelizzetti & Carvalho, 2007). However, throughout its history, this evaluation process has undergone significant changes. Currently, it starts in the

school context, an indispensable step to the role of RCSPS, which has as one of the functions the complementation of the evaluation process in the school context with the participation of a multidisciplinary team composed of specialist teachers in Special Education and Psychologists.

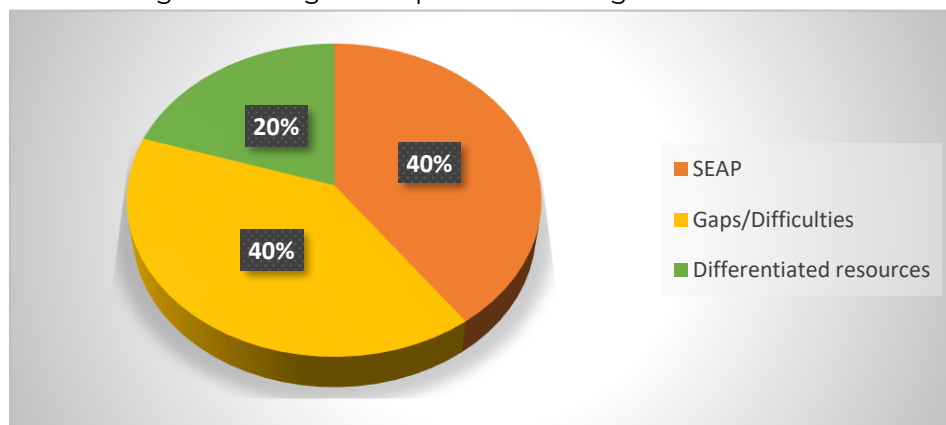
At the end of this evaluation, this team sends it to the teachers who work in the schools and had referred their students, along with guidelines to help them prepare the Specialized Education Attendance Plans (SEAP; in portuguese language *Atendimento Educacional Especializado* - PAEE) for each student.

To analyze how the Special Education teachers who participated in the study conduct the pedagogical work with students in SEC, we took as a basis the procedure they use to guide the teaching process, from the return of the psychoeducational evaluation conducted by RCSPS, since the intentionality in the pedagogical process is considered of fundamental importance from the perspective of the Cultural-Historical Theory.

The results are shown in Chart 2, below:

**Chart 2**

Methodological strategies adopted in working with students with ADHD



Source: Elaborated from data collected by the authors.

It was found that 40% of teachers rely on the SEAP to guide the teaching process, which they prepare based on the information they have about the student and the information provided by RCSPS, involving the actions and resources necessary for the learning process of students with ADHD.

Many Special Education teachers (40%) stated that they plan their work based on the learning gaps and difficulties in school content that are recurrent in students in general. It is understood that this is an approach more focused on fulfilling the task of working with the content since these teachers are not considering the diagnostic work used in the evaluation in the school context.

It was also verified that 20% of the teachers support the pedagogical process with differentiated

resources such as games and coloring activities. Their answers, detached from the pedagogical aspects and the objectives of the teaching work, seem to reveal a lack of commitment to the basic function of the school, which would be the transmission of scientific knowledge.

## **Analysis and discussion of the results**

The teachers (40%) who reported developing their teaching activities based on the PAEE, listed in this document the methodological approaches that enable the development of attention, which derive from this process of pedagogical assessment, in which the students' needs are evident, essential elements for the preparation of the SEAP, guiding the efficiency of the work to be performed in the SEC.

It is understood, in the light of the Cultural-Historical Theory, that attention is a psychological function, resulting from the process of human development, and thus depends circumstantially on the quality of the educational process, i.e., the planning of specific tasks directed to this end. Given this, it is understood the relevance of the SEAP as a tool to guide the work with students with ADHD.

It is imperative to consider that the school and teachers must enable conditions for students to develop "[...] increasingly awareness and control of their behavior, so that they can propose, intentionally and deliberately, to focus attention on the process of appropriation of school content" (Meira, 2019, p. 230).

In this sense, in an interview, one of the teachers pointed out: "[...] when we receive the feedback that he needs the Resource Room, we first assess this student, get to know, and make the individual service plan, where we have to check what the content gaps are, what he needs" (MRRT-01<sup>2</sup>).

This idea is reinforced in other statements of specialist professionals who work in the Resource Room: "[...] in this care plan I always address [...] the content to be worked during the school year according to the pedagogical report of the student's assessment and according to the analysis that we do" (MRRT-02); "[...] first is to know the documentary part, go to the secretariat to know what there is of the student's document, assessments, medical reports, so we can build his care plan [...]" (MRRT-05).

The preparation of the PAEE is one of the assignments inherent to the Special Education teacher and guides their actions according to Instruction No. 09/2018 (Paraná, 2018a), assuming the participation of everyone involved with the student: regular education and Special Education teachers, school teaching staff and clinical professionals. It contains information about the

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<sup>2</sup> We assigned the acronym MRRT (Multifunctional Resource Room Teacher), followed by the numbers 1, 2..., to the Special Education teachers participating in the study to ensure anonymity.

student, specifies the student's needs for curricular flexibility, and organizes collaborative work.

The evaluation and the collaborative work among professionals are the essential elements that make it possible to plan and replan pedagogical actions (Paraná, 2018a; 2018b). In this sense, the specialist teachers comment: "[...] we do all the work based on this work plan, which over time and during the year we reorganize according to the need" (MRRT-02); "everything in this plan changes according to the year, suddenly this student is overcoming we are advancing or suddenly we have to resume" (MRRT-01).

In Class Councils, Special Education teachers present the results obtained about the objectives proposed in the PAEE, and based on the suggestions presented, the necessary actions for the next school period are replanned (Paraná, 2018a; 2018b).

Special Education teachers (40%) were found to plan their work based on the learning gaps and difficulties in school content that they observe in the student. However, they did not report discussing, with other teachers who serve the student, the systematized planning of activities that would be developed in SEC. The articulation between the teaching professionals who serve the student with disabilities/ special educational needs in SEC is considered essential (Honnef, 2018; Szymanski & Teixeira, 2021) because only in this collective occurs the strengthening of the work aimed at the psycho-intellectual development of this student.

Another aspect detected in the work with students with ADHD indications relies on differentiated resources such as games and coloring activities (20%), as one of the teachers' states: "we play some game, [...] any game that helps them I do. I give them two activities, crossword puzzles, all different things [sic] from the classroom, [...] I make them color drawings" (MRRT-06).

The activities developed by those who think like MRRT-06, reveal weaknesses in the educational work, which hinder the development of SPF of students "clinically diagnosed" with ADHD. The educational act requires intentionality, planning, systematization, verification of the real needs presented by the students, as well as the fusion with the scientific knowledge being worked on in regular education. In the report of this group of teachers, it was not evident that the procedures adopted are planned and described in the students' SEAP. The teachers' discourse seems to reveal that these referrals are improvised, proposed at the moment of the class.

Also concerning data analysis, it was observed that 60% of the interviewed teachers did not mention the SEAP as a formal part of the process of serving students who attend the SEC. Therefore, we may ask: Has the SEAP been materialized in these schools as an indispensable tool to work with students with disabilities or ADHD?

Finally, considering that schooling is essential for the development of higher psychic functions - including attention and will, which are the focus of this article - and that the learning process of scientific concepts promotes this development, it is assumed that the teacher intentionally plans his or her actions for this purpose. These actions, mediated by instruments and signs, enhance the development of human functions, activating a whole group of processes that could

not be developed without the learning of school contents. However, without a plan that supports it, the pedagogical process is adrift, as well as its result.

## Conclusions

Some authors and specialists consider ADHD a chronic mental disorder that manifests itself in early childhood education and evolves throughout life, which is why more and more children are referred to pediatric neurology and psychology centers. In this sense, many students are diagnosed by health professionals, or labeled by their teachers as having this disorder, without a more thorough evaluation.

It is necessary to emphasize that not every agitated child should be labeled as hyperactive. Although the first evidence of hyperactivity, according to some authors can be observed in infants and are more prominent in children in the preschool or school phase, inattention and agitation are characteristics that are part of child behavior. Excessive restlessness can result from several situations in the child's life, as well as other behavioral problems.

However, in the school context ADHD is still being used as a teacher's justification for problems in students' schooling, as we can see a 594% increase in the number of students enrolled with ADHD reports in the last five years in the studied city. By not establishing a difference between ADHD and the need for behavior regulation, the referral of children to health services, directed by teachers, continues to be increasingly frequent, blaming them for not learning and exempting them from the analysis of the school and social contexts.

Against this procedure, it is understood that psychoeducational research must start from the analysis of the students' schooling process, in an explanatory way, focused on pedagogical aspects, understanding that the self-control of attention and behavior is learned and can only be learned if they are taught.

From the perspective of the Cultural-Historical Theory, as the child appropriates the culture and scientific concepts that surround him/her, he/she develops his/her HPF and thus his/her conscience, expanding the ability to self-regulate, learning to channel his/her agitation and attention to the learning activities he/she develops at school.

In this sense, according to the legal and guiding documents, the PAEE is a fundamental tool to guide the practice of teachers working in SEC. In the state of Paraná, the production of the SEAP is regulated in accordance with the national legislation and guiding documents prepared by the State Department of Education and the Department of Special Education (Paraná, 2018a; 2018b). It is reiterated that legal and guiding documents, both in the national and state sphere, highlight the preparation of the SEAP as one of the duties inherent to the function of the Special Education teacher, who works in the MRR.

It should also be considered that the psychoeducational assessment in the school context



should constantly focus on the quality of mediation offered, the different resources used, as well as the methodological diversity of the teacher. However, for the evaluation to play this role, its constant articulation with the planning of the teaching work is necessary.

Based on these precepts, the evaluation becomes an essential element to the SEAP, since it guides the intentional organization of the pedagogical process, essential for the possible overcoming of schooling problems for all students. Certainly, random interventions that do not start from the educational needs of the students, not based on an organization of the teaching activity that is the result of reflection and systematization from the perspective of pedagogical praxis, will hardly reach the expected results.

Considering that voluntary attention is constituted throughout the individual's development process, as the student appropriates scientific knowledge and develops his psychological functions as an integrated bundle, requires caution in the superficial observation of behaviors considered inattentive. It requires that we stop linking them to neurological problems as a principle, since such behaviors may occur more frequently due to the quality of the mediations to which the individual has had access, than due to brain dysfunctions. Therefore, it is important to consider the mediations in which this student participates, both in and out of school.

The development of these functions does not occur spontaneously, just because the child is growing from the chronological point of view. It is a learning process that results from collaborative work - intentionally planned in the face of hyperactivity, distraction, or other difficulties in the learning process of school content, which promotes, through the appropriation of scientific, artistic, and technical concepts that constitute the knowledge historically developed by men, the development of the bundle of functions specific to the human gender, among which is the children's self-regulation.

When the school does not fulfill its social function of transmitting scientific content, which enables learning and human development, it creates new demands (problems) that are taken as health services (Meira, 2019), resulting in the search for medical diagnoses and solutions to explain these problems that are of social order.

It was found that, in the school space, medicalization has often replaced the teaching and learning processes, consolidating the idea that the problems in the schooling process (learning difficulties) and behavior are linked to disorders or disabilities that students may have. This biologizing conception results in the referral of this public, which presents inadequate behavior according to the school, to health services for diagnosis and treatment, thus characterizing the medicalization of and in education.

Therefore, public policies that promote a state process of continued teacher education are recommended, which understands man as a being that is constituted in social relations, so that the teacher can gradually take possession of the understanding of attention as a function that needs to be developed in the pedagogical process.

The research showed that understanding ADHD in the biological conception, as proposed in the

DSM-5, leads to a limitation in the pedagogical work. When ADHD is understood as a disorder, a biological disability, the emphasis is shifted to the solution of the problems the student is facing, to medicine, to medicalization, instead of reviewing the pedagogical process in its different aspects. The development of the student's self-regulation is inhibited since it is suggested that the solution would be in medicine.

We conclude by emphasizing Education's commitment to the cultural development of people with or without special educational needs. Expanding the possibilities of greater awareness, allows the unveiling of the apparent, and favors a social insertion that contributes to humanization, so that each student can apprehend the world and intervene in it towards greater social justice.

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