

THE USE OF DISTANCE LEARNING IN CHILDREN WITH ADHD. EDUCATIONAL CRITICALITIES AND PEDAGOGICAL PERSPECTIVES

L'UTILIZZO DELLA DIDATTICA A DISTANZA IN BAMBINI AFFETTI DA ADHD. CRITICITÀ EDUCATIVE E PROSPETTIVE PEDAGOGICHE

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Abstract

ADHD is a neurodevelopmental disorder that groups together subjects who have attention difficulties and/or hyperactivity. Children with ADHD have problems maintaining an attentive focus in traditional teaching and the situation may have become complicated with COVID-19 pandemic. Actually, there are conflicting results in literature. While, on the one hand, some reported the frustration experienced during online school activities, others described distance learning as a very positive experience, especially due to the decrease of anxiety related to the school climate. The purpose of this article is to further investigate the phenomenon, through a qualitative research that has confirmed what has emerged in literature, which underlines the importance of an in-depth study of the phenomenon.

L'ADHD è un disturbo del neurosviluppo che raggruppa quei soggetti che hanno difficoltà di attenzione e/o iperattività. I bambini con ADHD hanno problemi a mantenere il focus attentivo nella didattica tradizionale e la situazione potrebbe essersi complicata con la pandemia da COVID-19. In realtà, in letteratura sono presenti risultati contrastanti; se, da un lato, alcuni hanno riportato la frustrazione vissuta durante le attività scolastiche online, altri hanno descritto la didattica a distanza come un'esperienza molto positiva, soprattutto per la diminuzione dei livelli di ansia correlati al clima scolastico. Scopo del presente articolo è di indagare ulteriormente il fenomeno, attraverso una ricerca qualitativa che ha confermato quanto emerso in letteratura, il che sottolinea l'importanza di un approfondimento ulteriore del fenomeno.

Keywords

ADHD; Distance Learning; Learning; Teaching; Education

ADHD; Didattica a Distanza; Apprendimento; Insegnamento; Educazione

The Attention Deficit Hyperactivity Disorder (ADHD): A Brief Introduction

Attention Deficit Hyperactivity Disorder (ADHD) is a developmental disorder of self-control of neurobiological origin that interferes with the normal psychological development of the child and hinders the common daily activities. The scientific data vary greatly according both to the tools used and the socio-anthropological realities in which the syndrome is studied. (Capodieci, Cornoldi, 2013). According to Fabio, Mecenero e Antonietti (2003) the prevalence of ADHD syndrome is estimated at between 3-5% of the school-age population and specifically children between 8 and 10 years of age seem to be more affected. There is always a higher frequency in males than females, with a sex ratio of 4 males for each female. Girls are thought to make up 10-25% of those with ADHD, although this may be an underestimate due to diagnostic expectations. The phenomenon in females could be underestimated: the symptoms of female ADHD are less disruptive, less externalized and therefore more difficult to identify. Faraone *et al.* (1991) argue that the family history of children and adolescents with ADHD seems similar and that girls with ADHD appear to have increased fear, depression, mood swings, cognitive and language problems.

Numerous researchers agree that ADHD originates from multifactorial causes, a mix of neurobiological disposition, psychosocial elements and environmental risk factors (Nigg, 2006). It is precisely this complex combination that produces an alteration of individual responses to stimuli. As often happens, however, it is very difficult to understand how the different factors interact to produce the disorder. Although ADHD is nowadays quite known, it is difficult to diagnose it. There is a risk, in many cases, of justifying the child's attitudes with the character or behaviours typical of developmental age. In the first instance, it is important to emphasize that ADHD is a real genetic disease caused by the alteration of certain areas of the brain: the right prefrontal cortex and the two basal ganglia are smaller than normal (Sharma & Couture, 2014). This alteration does not involve intellectual disabilities but remains one of the most common neurodevelopmental disorders, characterized by attention difficulties together with behaviours that denote hyperactivity and impulsivity.

The aetiology of ADHD must be sought not only in the genetic and neurobiological components but also in the educational interactions that they play in relation to the individual and environmental elements in which child and adolescents grow (Nigg, Nikolas, Burt, 2010). Evolution towards psychopathological disorders in developmental age can be different. In addition to contemplating the individual characteristics of the subject (temperament) also the quality of the primary relationships of attachment, the parenting educational style, family ecology (critical events, stress and traumas of family life) and contextual (relationships at school and sports) seem to have a positive correlation in the development of ADHD (Nigg, 2006). Studies in the psychoeducational field have always emphasized how the regulatory aspects of the child, in terms of language, executive functions, motivation and response to stimuli, derive and develop thanks to effective parental care and a tuning of the parental figures with the son. Therefore, it is plausible to think that a self-regulation deficit is generated by an inadequate and ineffective support of the parental figures or by a deficient educational alliance with the other educational agencies (Ibidem). According to this perspective, hyperactive behaviour would be a maladaptive response linked to conflict situations, with the generation of anxiety, discomfort and low levels of self-esteem.

A Look at ADHD within School Setting during COVID-19 Pandemic

The manifestations of discomfort that affect attention and control are very many so the scientific community, depending on the diagnostic criteria it chooses, can attribute the ADHD in a more or less extensive way (Doernberg, Hollander, 2016). In a systematic review of 175 studies worldwide on ADHD prevalence among children, the researchers found that 7.2% are diagnosed when using the DSM-V criteria (Thomas *et al.*, 2015). Some studies show that students classified as carriers of ADHD has a poor academic success and drop out of school early (Granite & Graham, 2012). It is well known that children with ADHD have difficulty maintaining their attention in traditional teaching (Hjörne, Säljö, 2019). The pupil with ADHD will implement some behaviors as a result of his diagnostic picture. Based on the prevailing symptoms, it could, for example, be very slow in starting activities (inattentive prevalence) or, on the contrary, be impulsive and hasty

(hyperactive prevalence) so each case must be assessed individually.

The state of emergency caused by the COVID-19 pandemic has led to major changes in teaching, necessarily promoting distance learning strategies. Note 388 of 17 March 2020 from the Ministry of Education, with the subject “Health emergency from new Coronavirus. First operational indications for distance learning activities”, offers important insights into the potential of technological tools in dealing with the difficulties of the COVID-19 pandemic. What has fundamentally changed? Interpersonal distances and spaces related to teaching activity and the communication and relational methods both in the one-to-one relationship among classmates and between the teacher and the class group.

No doubt, many criticalities relating to an immediate transition to distance learning arise from new learning-teaching settings. Because of this, not all pupils can take advantage of adequate technology in their home for various reasons (environmental, economic, cultural). Not all pupils are able to adapt to this new type of learning in the same way, both from a practical point of view (use of technology) and from an emotional point of view (no adult teaches through physical presence). Because of this, students with learning difficulties and ADHD may experience greater problems in the daily organization of home study in the current situation, compared to management of times and breaks, to follow a personalized teaching, to access content adapted to their learning characteristics.

There have been different studies that in recent months have dealt with the quality of the online learning experience for children with ADHD. According to some scholars (Kuhfeld *et al.*, 2020), distance learning has led to some decline in learning outcomes for most students during the early stages of the COVID-19 pandemic and for children with ADHD this loss could have been even more dramatic (Breux *et al.*, 2020). Some research shows that children with ADHD are able to maintain good levels of attention when they are online using videogames (Masi *et al.*, 2021). Although children with ADHD love to spend their time in front of the screen, distance learning does not seem to have involved them (Becker *et al.*, 2020). Children and adolescents with ADHD had significant difficulties with distance learning compared to their no ADHD peers, and about 1/3 of their parents described the activities as “very demanding” (Shah *et al.*, 2021). Parents and children report the frustration that many of them experienced during distance learning, particularly during the first phase of March-June 2020 (Serhan, 2020). Parents of children with ADHD also described distance learning as a positive experience in which children and adolescents with ADHD experienced stability and a state of well-being, as well as improvement in school climate-related anxiety (Bobo *et al.*, 2020).

Distance Learning & Children with ADHD: A Qualitative Research on a Small Sample

The phenomenon was investigated through the qualitative inquiry model (Creswell, 2013). For this reason, it seemed particularly interesting to explore the phenomenon by focusing attention on a limited number of particular events or conditions, as well as their interrelations (Yin, 1993). The study was guided by general hypotheses and theories of the phenomenon already explored in the literature (Bobo *et al.*, 2020; Serhan, 2020; Shah *et al.*, 2021), which acted as a real glue among the qualitative data that emerged, susceptible to possible modifications when the empirical evidences were presented dissonant with respect to the initial hypotheses and theories.

The aim was to better understand the experience of distance learning experienced by some children with ADHD during the COVID-19 pandemic. For this reason, 12 children with ADHD between the ages of 9 and 10 attending class 5 of some Primary Schools in the Eastern Province of Naples were involved, through the use of the semi-structured interview (Atkinson, 1998). The generative research question concerned the understanding of the phenomenon in depth, in order to bring out lights and shadows of distance learning experience experienced by the participants. The semi-structured interviews were conducted in a calm and welcoming manner, with the aim of stimulating a positive and spontaneous attitude of the children interviewed. The entire narratives were audio-recorded with the informed consent of the parents and subsequently transcribed word by word.

The corpus of the interviews was then subjected to content analysis (Krippendorff, 2013) through the use of the

ATLAS-ti 6.0 software (Muhr, 2000). The data analysis followed various phases: *initial coding*, where the narrative texts were analyzed to identify the minimum units of meaning and thematic recurrences; *focused coding*, to identify broader semantic macro-categories through the re-labeling of the data that emerged from the first phase and, finally, *theoretical coding*, which allowed us to build a mature network, able to interrelate the main categories the Core Category, namely the main category that emerged from an inductive conceptual work.

The Network that Emerged from Data Analysis

Data analysis examined the material reported with the aid of conceptual maps and tables that summarize the empirical researches, in order to critically review both the theoretical framework and the hypothesis. It was thus possible to produce a theory on the phenomenon through the Network illustrated in Table 1.

The Core Category has been defined *Distance Learning as Physical Confinement* and it constitutes the heart of the network obtained from data analysis. This category represents the most widespread and rooted dimension, to the point of prevailing over the other components that have characterized distance learning. Other 11 macro-categories spin around the Core Category, connected through semantic links, which allow us to describe and make sense of the cause/effect connections that occurred in distance learning.

The Core Category “is cause of” both *Excessive Parental Supervision* and *Dressing to go to School*, factors that bring out the importance assumed by other contexts of experience during school age. *Excessive Parental Supervision* “is cause of” the *Excessive Effort in Following Lessons* which, in turn, “is cause of” the *Easy Distraction and Inattention* and is part of *More Difficulty to Understand Concepts*. School thus seems to be a context with a high emotional-affective impact, where children begin to experience life contexts for themselves outside their family. In particular, for children with ADHD, the classroom context still manages to leverage their learning, which makes school a context of fundamental importance for children with ADHD, but not only.

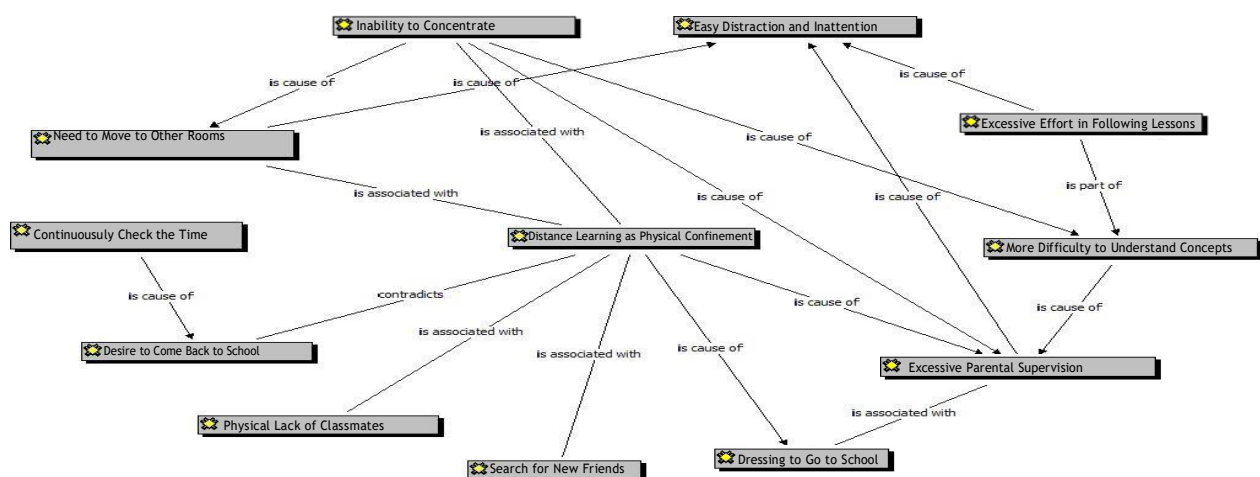


Table 1. The Network that Emerged from Data Analysis with ATLAS.ti 6.0

The Core Category “is associated with” the *Inability to Concentrate*, underlining that the school setting for children with ADHD still remains a place where they can better express and manage their characteristics. This category “is cause of” the *Need to Move to Other Rooms*, which highlights how difficult it is for children with ADHD to sit in front of the computer to follow online lessons adequately. It also emerged that the Core Category “is associated with” the *Search for New Friends*, which refers to the possibility that the school setting offers to make new friends and fit into the social context.

The Core Category “is associated with” the *Physical Lack of Classmates*. It refers to the presence in a physical and real environment of peers who seem to be a valid help in alleviating anxieties and concerns related to the difficulty that children with ADHD have in maintaining attention in the school context. To further highlight the inadequacy of distance learning in our sample we found the category the *Desire to Come Back to School*, which is the direct consequence of the category *Continuously Check the Time*. Thus, emerges the difficulty of the interviewees in maintaining a timing that is appropriate for a teaching experience of this type.

Educational Criticalities and Pedagogical Perspectives

Although many children are particularly inclined to use digital media, this qualitative research found a rather tiredness, a continuous need to be motivated to study and a certain nostalgia for face-to-face lessons, as well as for the daily relationships with classmates and teachers. As is well known, in the pre-pandemic period, pupils with ADHD were followed by specialized schoolteachers, who objectively developed a Personalized Learning Plan to ensure that the child achieved all his goals, trying not to experience a low sense self-efficacy. During distance learning, how could children with ADHD still be able to follow the online lessons?

As emerged from the research, these children have gone through a period full of frustrations, for unfulfilled goals, for too long waits, for requests that are too abstract and far from a physical environment. Unfortunately, the distance learning that was implemented in the lockdown – also thanks to the sudden switch that many teachers had to make, sometimes even with poor digital competences and a certain degree of unawareness – probably failed to take into account the Personalized Learning Plans to which the children with ADHD are subjected, which has led to a uniform teaching approach to the detriment of children with difficulties. This resulted in an inevitable burdensome commitment for the families, who found themselves tutoring these children, often without the appropriate strategies and supports.

Distance learning probably should not be mystified also for this category of subjects, probably the criticalities have emerged in relation to the sudden change that daily teaching has had to undergo, without an appropriate theoretical and epistemological reflection which, instead, should have supported daily activities. Unlike face-to-face teaching, in which the study space is uniform and homogeneous for everyone, at home each student experiences his own reality. It may be important to keep in mind some basic principles of environmental hygiene to remind children with ADHD such as choose an isolated and silent space (not accessible to other family members during study or class) limiting the presence of other objects that may further distract children with ADHD.

It is important to promote and encourage student-teacher interaction through the active involvement of the child. Let's remember that learning passes through and educational relationships, even at distance. Attention times change according to the age of the pupils and are further conditioned by the fatigue of the online mode: the video can tire more easily and, therefore, it is essential to find strategies to actively involve students and attract their attention. For these reasons, it could be important to guarantee all the dispensatory and compensatory measures already provided for in the Personalized Teaching Plans and to better evaluate the requests to be proposed individually, identifying the best facilitation strategies, as more flexible task delivery window, fewer exercises and personal contacts with pupils in greatest difficulty. The new living conditions that COVID-19 pandemic generated urges us to review the self-regulation functioning of this category of pupils compared to the previous one. Pupils accustomed to using the auditory canal over the visual one may have greater difficulties. This is to remember that auditory attention spans, such as visual attention ones, can be further unstable given the changes. In

general, everyone has to deal with their own way of self-regulating: those who are more able to adapt will have less difficulty, while those who are more fragile will be helped to readjust to the situation. The aim of the school and the teachers is then to manage the complexity of reality, where lifelong learning can be the keystone of a constantly evolving professionalism.

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