

Educational strategies of Physical Education teachers towards students with ADHD in primary school: a cases study

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Introduction

The Attention Deficit Hyperactivity Disorder (ADHD) is, together with the oppositional defiant disorder, the most frequently diagnosed disorder in school-aged children (August, Realmuto, McDonald, Hugeret, & Crosby, 1996).

Nowadays, an over diagnosis of ADHD exists. In Spain, more than 9% of the pupils (5 - 15 years old) are diagnosed with ADHD (Lavigne & Romero, 2010). Martínez-León (2006) confirm that epidemiological investigations indicate that there are significant sex differences in favour of males with a ratio of 2-1 in samples of general population, and 9-1 in samples of clinical origin.

ADHD students are characterized by the difficulty to pay attention to non-selective activities, hyperactivity, impulsivity with uncontrolled reactions and unstable personality, which causes difficulties in learning, work, recreational activities and social environment. Furthermore, this difficulties can be accentuated in unstructured environments (Mulas, Mattos, Hernández-Muela, & Gandía, 2005).

During physical activities, children with ADHD exhibit age-inappropriate features of hyperactivity, excessive impulsivity or problems in lateralization (Reid & Norvilitis, 2000).

Since physical educator teachers (PE teachers) have a privileged position in observing children in many settings, they can be important informants about children's behaviour. There is a lack in the existing literature concerning the knowledge of PE teachers' beliefs about students' emotional and/or behavioural problems in school settings and the impact of these beliefs on their teaching efficacy and behaviour (Efstratopoulou, Janssen, & Simons, 2012).

In this presentation I will show the project design of our research and how it will work. The objectives are: to identify the behaviours patterns in Physical Education (PE)

classes of students diagnosed with ADHD; to analyse PE teachers' education strategies towards students with ADHD; and to describe the effects on students' behaviour because teachers' education strategies.

Methods

As said Latorre (2003), educational research is characterized, among other things, for its complexity and its epistemological difficulty.

Regarding the first feature, the complexity, the author suggests that the educational reality is dynamic and changing and as a result has a higher level of complexity. The second feature is that the aspects that make the epistemological difficulty of educational research are that the events are usually unrepeatable and in them, often multiple variables interact, that difficult to approach any generalization (Latorre, 2003).

In this study we have chosen the interpretive paradigm, which is also known as qualitative paradigm (Albert Gómez, 2007; Soler Prat & Vilanova Soler, 2010), since it aims to focus on the interpretation and understanding of educational phenomena from the meanings and intentions of those involved in the educational context (Latorre, 2003).

Given the nature and purposes of this study, the research method adopted is one of the most important in the development of the social sciences (Bisquerra Alzina, 2004; Latorre, 2003) and one of the most widely used in PE researches (Soler Prat & Vilanova Soler, 2010): cases study.

In this research we are using two different but compatible analytical instruments:

1. Direct non-participative observation instrument (field notes) will be used. 42 entire Physical Education sessions (1 hour each) will be observed.
2. Teachers' interview. The sample consisted of 8 PE teachers with an ADHD students in their class (diagnosis based on DSM -IV- TR), from primary schools from Barcelona (upper primary school, 9-10 years old). To be able to represent all the PE possibilities were chosen:

Table 1. Sample of the study

Sample	More information
4 teachers	boys
4 teachers	girls
4 teachers	from private schools
4 teachers	from public schools
8 teachers	5 years teaching experience

First results (observation)

After analysing the literature and collected related information, has thought it necessary to observe a set of sessions to learn what kind of “behaviour” of students with ADHD are given in physical education classes observed.

To know the behaviour patterns of ADHD students we have structured 4 variables:

Table 2. ADHD behaviours in PE classes

Desirable conducts	Social skills and managing feelings
	School-related skills
	Skills to make friends
No desirable conducts	Inattention
	Hyperactivity
	Impulsivity
	Other situations

A total of 681 behaviours have been observed in 42 PE sessions. The average of the number of observations in each school is 16.21 (DE = 7, 15).

A part of that, in each behaviour observed, we register the PE teachers’ education strategies. The strategies were classified based on behaviour modification techniques (Labrador, Cruzado, & Muñoz, 1993):

Table 2. PE teachers' behaviour strategies used

1. Techniques to maintain and increase conducts	1.1. Positive reinforcement 1.2. Instigation
2. Techniques to reduce or eliminate conducts	2.1. Positive techniques 2.2. Punishment 2.3. Instigation 2.4. Other techniques

Discussion & Conclusion

On one hand, personality of students diagnosed with ADHD is conditioned by this disorder. Symptoms of inattention, hyperactivity and impulsivity involve attitudes and behaviors which often turn into conflicts: disturbing classmates, inattentiveness, striking, insulting... The PE class is usually carried out in a particular context, in which each individual is expressed as he/she is: that is why students with ADHD are shown as they are.

On the other hand, the set of psychosocial interventions, which include behavioural training for parents and teachers; cognitive behaviour modification; training in social skills and academic changes, prove to be an alternative or even a key complement pharmacological treatment (Barkley, 2002; Chronis, Jones, & Raggi, 2006; DuPaul & Weyandt, 2006).

So it is conclude that the relationship of empirical studies in the last decade accepts the desirability of involving multiple contexts and combining different techniques to enhance the effectiveness of psychosocial interventions in students with ADHD. But the generalization of the effects in time is considered "an important issue that still remains to be investigated" (Presentación Herrero, Siegenthaler Hierro, Jiménez Jara, & Miranda, 2010, p. 779).

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