

COMPENSATION OF BEHAVIOR DISORDERS ASSOCIATED WITH HYPERACTIVITY THROUGH MANIPULATIVE AND MOVEMENT GAMES

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Abstract:

The purpose of the study was to point to the possibilities of compensating behavior disorders through manipulative and movement games in prepubertal integrated children diagnosed with hyperactivity. The research was conducted as part of project VEGA 1/0769/13 Efficiency of specific exercise reeducation procedures designed to correct hyperkinetic disorders in prepubertal children. Four primary schools over the period of 3 months participated in the research. A sample of 379 students were monitored, of whom 33 were diagnosed with a behavior disorder associated with hyperactivity. To compensate behavior disorders accompanied with hyperactivity children participated in an exercise program consisting of manipulative and movement games during physical education classes, school breaks, mathematics classes and classes of Slovak language and literature. Upon completion of the exercise program teachers assessed the teaching process by filling in a questionnaire. The exercise program was considered successful in terms of minimization of problems occurring at classes attended by integrated children diagnosed with ADHD, which allowed for hypothesis verification. The program contributed to compensation of behavior disorders and hyperactivity in prepubertal integrated children through manipulative and movement games.

INTRODUCTION

Hyperkinetic disorder known as ADHD refers to a disorder diagnosed in students with an attention disorder accompanied by hyperactivity. Teaching integrated children is different from teaching a regular class of children in terms of student-teacher relationship. Integrated children follow an individual education plan teachers have to apply. Students diagnosed with ADHD and behavior disorders associated with hyperactivity demonstrate high activity levels, students are always on the “go”, fidget their hands and feet all the time, squirm in seat, search for objects to play with or to put into their mouth, walk in the classroom [7]. Hyperactivity associated with inattention significantly hinders school work and adversely affects children’s behavior which is assessed as problematic. These manifestations increase the risk of negative attitude towards such children resulting in disruptive and unpleasant impression [2]. Impulsivity of students and a lack of self-control manifests in the following manner: students often blurts out without a reason, are impatient when standing in a queue, frequently butt in conversations, talk excessively, fail to think in advance (response first, thinking second). These issues are often present in situations teachers have to deal with during classes. This disorder is also associated with social immaturity, lack of self-respect, frustration, aggressive

behavior, inappropriate reactions of students which in some cases leads to rejection of such students by their peers.

Within the conducted research compensation refers to correction or reduction of problematic situations during classes by bringing students into appropriate condition to increase the quality of the teaching process. Experts recommend that teachers and educators use reeducation procedures aimed to improve concentration and attention, to suppress impulsive behavior and to train appropriate social behavior stereotypes and skills. One of the possibilities of dealing with this problem is to have children perform an activity they like most.

Movement and movement games are popular with students and physical education is one of the most favorite school subjects. Among major characteristics of movement games are attractiveness, spontaneity, active rest, development of motor abilities and skills, social feeling, morale, will and self-discipline. Study results showed that 100% of boys considered movement games popular [4]. Movement games also help to improve mental maturity of children through acquisition of new knowledge. By games children learn to direct their emotions and not to depend on their surroundings [3]. Children learn to accept teacher's authority, respect his instructions and follow the rules. Children with a behavior disorder consider important the fact that their classmates accept them as members of the group and that they feel just like other students. Teachers feel positive about having a cohesive group of children in the classroom, include less skilled children into class, and discretely praise the most talented children for their strengths in order to highlight exemplary behavior in all aspects of the game [5].

Behavior disorders affecting students' academic achievement, behavior and social relationships require a specific educational approach. ADHD syndrome may be corrected. Physical activities have positive effect on students diagnosed with ADHD (hyperactive children), behavior disorders due to the fact that such activities enhance self-control and reduce impulsivity [1].

'Manipulative and movement games' provide more possibilities for creative teachers. Creative teachers apply the following educational activities: all types of movement games (jumping games, chasing games, hit-the-target games, etc.) and also games designed to develop motor abilities of children. Incorporation of games using various equipment via different types of manipulation are applied as simple manipulative games. The effect of manipulative and preparatory movement games is used to improve motor skills and to correct behavior disorders of integrated children. These games are included in the organizational structure of the daily schedule of the National Educational Program ISCED 1. Manipulative, movement and preparatory sports games are an appropriate form of emotional exercise. Therefore, we assume that manipulative, movement and preparatory sports games are appropriate means of reducing difficulties associated with hyperkinetic disorder in integrated children during educational process [6]. As reported by a similar study, manipulative, movement and preparatory sports games improve self-control and reduce impulsivity of integrated students diagnosed with ADHD in the school setting [1].

THE AIM OF THE WORK

The aim of the study was to compensate behavior disorders associated with hyperactivity in prepubertal integrated children through manipulative and movement games. Research questions and hypotheses:

➤ Do problems with integrated children diagnosed with a behavior disorder associated with hyperactivity really exist and occur?

H1 We hypothesize that behavior disorders and hyperactivity of integrated children disrupt the course of classes.

➤ Are there possibilities for compensating hyperactivity through manipulative and movement games?

H2 We hypothesize that participation in the exercise program consisting of manipulative and movement games will induce compensation of behavior disorders and hyperactivity.

THE MATERIAL AND THE METHODOLOGY

Pedagogical experiment was conducted at four primary schools attended by prepubertal integrated children diagnosed with ADHD. A sample of 379 students participated in the experiment of whom 202 attended schools located in urban areas and 177 students attended schools located in rural areas. Overall, 33 students (boys) were found to be diagnosed with ADHD, i.e. 20 students attending urban schools and 13 students attending rural schools. ADHD was diagnosed in 2 first-grade students, in 9 second-grade students (6 students attending urban schools and 3 students attending rural schools), in 12 third-grade students (7 students attending urban schools and 5 students attending rural schools), in 10 fourth-grade students (6 students attending urban schools and 4 students attending rural schools). The sample of teachers consisted of 38 respondents, of whom 18 teachers worked at primary schools located in urban areas and 2 female teacher assistants and 16 teachers worked at primary schools located in rural areas and 2 female teacher assistants.

The research started in classrooms by observing students' attention, behavior, impulsivity, responses during classes, and teacher's work and by determining problems encountered by teachers during classes attended by integrated hyperactive children diagnosed with a behavior disorder. During structured interviews children provided information about their most favorite school subject, activities and games. The following information was used to design an exercise program consisting of activities popular with children and appropriate with respect to their age. We also suggested incorporating movement games into subject classes referred to by students as unpopular such as mathematics and Slovak language and literature. Changes in students' behavior upon completion of the exercise program were determined using questionnaire information provided by teachers.

RESULTS

Questionnaire data upon completion of the exercise program

Question 1. Teachers were asked to provide information about **focus of students during classes upon completion of the exercise program**. Zero-grade students also participated in the exercise program due to the fact that such classes comprised Romany students coming from less stimulating setting. Female teachers agreed with implementation of the exercise program (EP) in terms of personality development of students through movement games. Overall, 66% of teachers stated that students focused more than before EP, 18% of teachers stated that the level of students' focus was identical to that before EP and 16% of students stated they did not perceive this problem during classes. When filling in the questionnaire before EP, 70% of teachers stated they had to deal with inattention of students (see Figure 1). During interviews, teachers emphasized the fact that inattentive students also include students not diagnosed with a hyperkinetic behavior disorder.

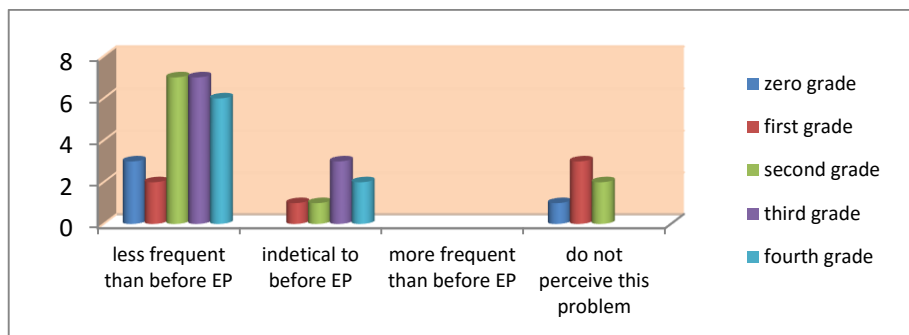


Figure 1. Teachers' answers to the question: Were students not focused during classes upon completion of EP?

Question 2. **Students were inattentive during classes upon completion of EP:** The answers showed that students were more attentive than before EP, which 98% of teachers confirmed by their answers (see Figure 2). Following movement games, students were more attentive during classes as they fulfilled their need to move and expended energy during activities. Therefore, students were more relaxed and silent, paid attention and followed the teacher. When praised by the teacher in terms of their skills during activities, students felt more self-confident. Students were more confident, some of them showed what they were skilled at and thus got more friends in the class. Relationships between students in the class improved.

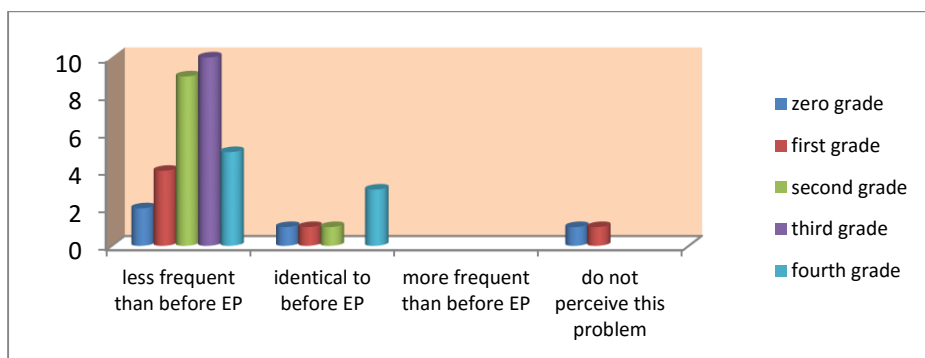


Figure 2. Teachers' answers to the question: Were students inattentive during classes upon completion of EP?

Question 3 in the questionnaire was aimed to determine **how often problems with students' behavior during classes occurred upon completion of EP.** The answers showed that teachers teaching lower-grade classes did not perceive such problems. Overall, 6 teachers stated that behavior problems were identical to before EP and 3 teachers teaching fourth-graders responded positively to this question. It should be noted that 23 teachers stated that behavior problems were less frequent upon completion of EP than before EP. Fourteen teachers stated that the number of behavior problems was identical to the number before EP, but 4 teachers teaching zero-graders did not observe evident changes in their behavior (see Figure 3).

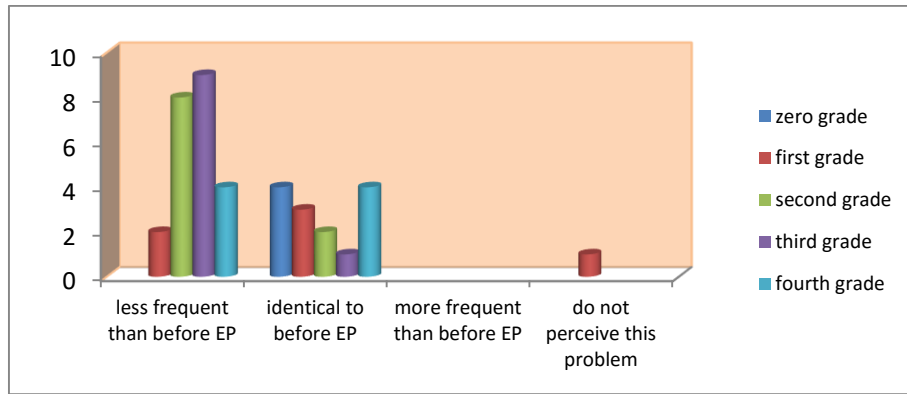


Figure 3. Teachers' answers to the question: How often did behavior problems occur during classes upon completion of EP?

Question 4 was aimed to obtain information about **whether teachers had problems with students' impulsivity during classes upon completion of EP**. Overall, 26 teachers stated that the impulsivity of students reduced upon completion of EP, 11 teachers stated that problem with students' impulsivity was identical to the level determined before EP. However, one teacher teaching zero graders did not observe impulsivity during classes (see Figure 4). Evidently, such behavior is not appropriate in 6- to 7-year-olds in terms of their age.

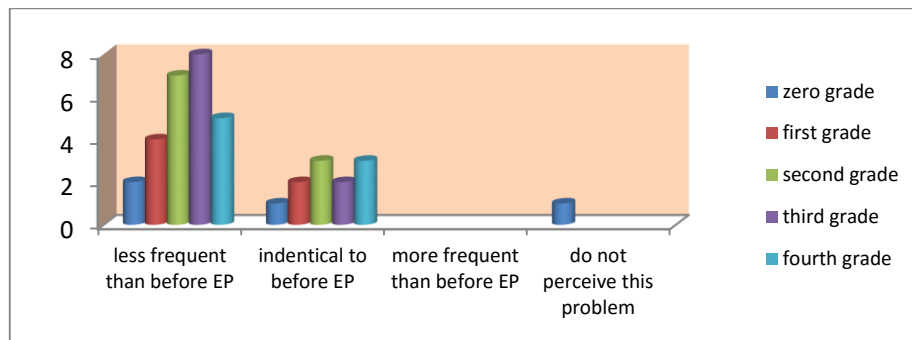


Figure 4. Teachers' answers to the question: Did the students' impulsivity during classes reduce upon completion of EP?

Question 5 was aimed to obtain information about whether **teachers had problems with students' active participation in tasks during classes upon completion of EP**. Overall, 92% of teachers stated they did not perceive this problem during their classes and 8% of teachers (3 teachers) experienced the same number of problems as before EP. Prior to the implementation of EP 87% of teachers reported no problems with activity of their students, which means that this aspect of the teaching process improved. Of 13% of teachers who failed to engage their students in an activity, 8% of teachers reported problems when engaging their students in an activity upon completion of EP. This was supposedly caused by improved attractiveness of movement tasks. Improvement in the teaching process lied in larger volume of movement highly popular with students. Teachers used movement games as source of motivation to learn new information and to acquire new knowledge.

Question 6 was aimed to determine **the occurrence of problems in groups of children upon completion of EP**. This problem was not perceived by 92% of teachers. The fact that students had experienced problems in their class was observed by 8% of teachers. Before EP 74% of teachers experienced problems in their classes. The fact that teachers did not perceive this problem may be attributed to the effect of manipulative and movement games targeted at group cooperation, competitions in groups, teams, which led to improved relationships between classmates. Classmates were able to appreciate also results and sports performances

when playing games, even though grades and problems caused by behavior disorders continued to occur, students got to know the desirable traits of hyperactive students thanks to more frequent cooperation and to acceptance of rules.

Question 7 related to the successfulness of EP was confirmed by 79% of teachers. Overall, 21% of teachers provided a “do not know answer” regarding the success of EP. We assume that these answers were provided by 6 teachers and 4 educational assistants, who did not teach any students diagnosed with ADHD. EP was assessed as successful on the basis of answers proving minimization of problems occurring during classes attended by integrated children diagnosed with ADHD, which confirmed hypotheses 1 and 2. EP induced compensation of behavior disorders associated with hyperactivity in prepubertal integrated children through manipulative and movement games.

CONCLUSIONS

Manipulative and movement games were implemented into the exercise program at selected primary schools to be used to aid teachers – a battery of games, which teachers used during one month. All students benefited from participation in the exercise program. Behavior of integrated students diagnosed with a hyperkinetic disorder improved – tiredness felt by children following the movement game, which achieved its purpose. This confirms the formulated hypotheses. Both classes and school breaks were more attractive and beneficial leading to experiencing more success and to enhancing group cohesiveness in class.

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