

# PARALYMPIC SPORT AT SCHOOL: A LITERATURE REVIEW

*ESPORTE PARALÍMPICO NA ESCOLA: REVISÃO BIBLIOGRÁFICA*

*DEPORTE PARALÍMPICO EN LA ESCUELA: REVISIÓN DE LITERATURA*

Tiago Borgmann\*, José Júlio Gavião de Almeida\*

## Keywords

Review.  
Special Education.  
Physical Education.  
Sports.

**Abstract:** Paralympic sport is the main means for disseminating disability sport, also present at school. The term Paralympic Education includes educational activities related to that movement. The main forms found were the Paralympic School Day (PSD) in Europe and Physical Education classes in Brazil. After a bibliographical review of original articles, changes were found in general aspects related to the inclusion of students with disabilities in Physical Education classes. The subject still lacks studies and proposals appropriate to the cultural context for fostering paralympic sport in the academic and school spheres.

## Palavras-chave

Revisão.  
Educação especial.  
Educação Física.  
Esportes.

**Resumo:** O esporte paralímpico é o principal meio de divulgação do esporte adaptado, presente também na escola, sendo o termo Educação Paralímpica agregador das atividades educacionais relacionadas a este movimento. As principais formas de inserção encontradas foram: o Dia Paralímpico Escolar (DPE), na Europa, e as aulas de Educação Física, no Brasil. Após levantamento bibliográfico de artigos originais, foram encontradas mudanças nos aspectos gerais relacionados à inclusão de alunos com deficiência em aulas de Educação Física. Esta temática ainda carece de estudos e propostas adequadas ao contexto cultural para fomentação do esporte paralímpico no âmbito acadêmico e escolar.

## Palabras clave

Revisión.  
Educación Especial.  
Educación Física.  
Deportes.

**Resumen:** El deporte paralímpico es el principal medio de difusión de los deportes adaptados, también presentes en la escuela, siendo el término Educación Paralímpica el que engloba todas las actividades educativas relacionadas con este movimiento. Las principales formas de inserción encontradas fueron: el Día Paralímpico Escolar (DPE), en Europa, y las clases de Educación Física, en Brasil. Después de un levantamiento bibliográfico de artículos originales, fueron encontrados cambios en los aspectos generales relacionados con la inclusión de alumnos con discapacidad en clases de Educación Física. Este tema aún carece de estudios y propuestas adecuadas al contexto cultural para fomentar el deporte paralímpico en el ámbito académico y escolar

\* State University of Campinas. Campinas, SP, Brazil.  
E-mail: tiagoborgmann@hotmail.com

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## 1 INTRODUCTION

Paralympic sport, the main medium for publicizing disability sport through the Paralympics – the world's top event for people with disabilities – is present in contemporary society in several settings (MARQUES *et al.*, 2009), as well as Special Olympics<sup>1</sup>, Deaflympics<sup>2</sup> and adaptive sports.

Due to the success of the Paralympic Games and the growth and development of the Paralympic Movement, the need emerged for an educational discipline: Paralympic Education (INTERNATIONAL PARALYMPIC COMMITTEE, 2006), an umbrella term for all educational activities related to the movement (KUDLÁ EK; JEŠINA; JANE KA, 2009).

The International Paralympic Committee encourages educational, scientific, cultural and research activities that contribute to the development of the Paralympic Movement's values such as the Paralympic School Day (PSD) program, in order to raise schoolchildren's awareness and understanding about people with disabilities around the world (INTERNATIONAL PARALYMPIC COMMITTEE, 2006; PANAGIOTOU *et al.*, 2008).

The program was implemented in some European countries in 2003 (SCHELL, 2006), based on values of respect for sporting achievement, respect for and acceptance of individual differences, sport as a human right, and training and social support in sports (INTERNATIONAL PARALYMPIC COMMITTEE, 2006; PANAGIOTOU; KUDLÁ EK; EVAGGELINOU, 2006; PANAGIOTOU *et al.*, 2008).

Thus, this study aimed to find national and international efforts related to Paralympic Education in original articles, books, abstracts, theses and dissertations, written in English and Portuguese, which covered Paralympic sport or its teaching in the school environment, through individualized literature review (GIL, 2002).

## 2 PARALYMPIC EDUCATION

The term Paralympic Education integrated Paralympic ideals into a formal educational system, working as a pedagogical method to develop a positive attitude toward people with disabilities in children and young people in school Physical Education activities, stressing the importance of respect for individual differences (INTERNATIONAL PARALYMPIC COMMITTEE, 2006).

Thus, Paralympic Education has the following goals: to create understanding of and positive attitudes toward people with disabilities; to help young people understand the right to autonomous development and equal participation; to raise awareness about the Paralympic Movement's ideas and educational value; and to support and create education programs and resources in multiple languages and forms of communication (INTERNATIONAL PARALYMPIC COMMITTEE, 2006).

The first material related to the term was *The Paralympics: An overview of the Paralympic Games and people who Participate*, prepared by the Organizing Committee of the 1996

<sup>1</sup> Global sporting event directed only to people with intellectual disabilities, held in a different period to the Paralympic or Olympic Games, with summer and winter editions. It has its own goals, mission and vision, and athletes competing on equal divisions in each sport, according to individual skill levels, allowing everyone the chance to win (BRITAIN, 2010).

<sup>2</sup> World games for people with hearing disabilities, including summer and winter editions (DEPAUW; GAVRON, 2005). The sports played are identical to conventional competitions, but sound commands are replaced with visual ones (CRAFT; LIEBERMAN, 2004).

Atlanta Olympics. The main goal was to create general awareness about people with disabilities, highlighting similarities, differences, encouraging them to see sport as an option for leisure and personal development, and to stimulate interest in physical activity as a lifestyle choice for better health (INTERNATIONAL PARALYMPIC COMMITTEE, 2006).

Due to the success of the first material, another document was prepared for the 2000 Sydney games: *Set the Limits*, whose main goal was to raise athletes with disabilities' awareness and understanding and to generate commitment by young Australians toward the Special Olympics, as well as the 2002 Salt Lake City and the 2006 Turin Winter Games, called REACH and Kids Village respectively. For the former, the organizing committee scheduled activities and programming that would provide learning opportunities for students and teachers of the state of Utah. As for the Italian city, the Paralympic Education program was highly successful before and after it happened, in promoting Paralympic values in the region where the Games were held (INTERNATIONAL PARALYMPIC COMMITTEE, 2006).

The 2004 Athens Paralympic Games marked the first active collaboration of the International Paralympic Committee in organizing for program *The Paralympic Games from 1960 to 2004*. The material was intended to teach Paralympic Education for primary and secondary education students, educating them for a better society (EVAGGELINO, 2006; INTERNATIONAL PARALYMPIC COMMITTEE, 2006; SCHELL, 2006; XAFOPOULOS; KUDLÁ EK; EVAGGELINO, 2009).

Greece was the first country not only to develop an educational material for the Games, but also to include an extra hour for Physical Education called Olympic and Paralympic Education in the curricula of all its schools between 2002 and 2003. The program was intended to promote Olympic and Paralympic values and positive attitudes about inclusion of disabled students in class for students without disabilities and Physical Education teachers (DOULKERIDOU; EVAGGELINO; KUDLÁ EK, 2006; 2010; EVAGGELINO, 2006).

The program was implemented in 7,400 schools in the country – 1,000 in Cyprus and 2,000 worldwide. For its implementation, over two thousand Physical Education teachers were hired to teach primary and secondary education students (EVAGGELINO, 2006).

Under the *Ability vs. Ability* educational program of the UK Paralympic Committee, the *Get Set* material was launched for the 2012 London Olympic and Paralympic Games (MANSELL, 2010). Through their national Paralympic committees, other countries launched their programs for Paralympic Education, such as Canada's *Petro-Canada Paralympic School Programme*, Australia's *Telstra Paralympic Education Programme*, and Belgium's *School Project* (INTERNATIONAL PARALYMPIC COMMITTEE, 2011a).

With these global initiatives, the primary means for publicizing Paralympic Education has been the Paralympic School Day (PSD), one of the first educational activities not related to the games organized by the International Paralympic Committee (INTERNATIONAL PARALYMPIC COMMITTEE, 2006).

### 3 PARALYMPIC SCHOOL DAY

Started in late 2003, after the International Paralympic Committee's Sports Science Committee's interest in introducing the Paralympic Movement in schools, the Paralympic School

Day (PSD) expanded in the following year after establishing partnership with the European Paralympic Committee and starting the two-year pilot project in six European countries (Germany, Belgium, Greece, Latvia, Czech Republic and Sweden) (SCHELL, 2006; PANAGIOTOU *et al.*, 2008).

Through an event organized within schools, the PSD raises awareness and understanding about people with disabilities and sport in a creative, dynamic, fun and flexible way. The concept was developed and spread in several schools around the world (INTERNATIONAL PARALYMPIC COMMITTEE, 2006; XAFOPOULOS; KUDLÁ EK; EVAGGELINOU, 2009).

From the vision and the mission of the International Paralympic Committee, the following values for the Paralympic School Day were established:

**Box 1** - Values established for the Paralympic School Day.

1 Respect for sporting achievement.	
1.1	To become aware of different sports and adaptations.
1.2	To gain knowledge about sport classification and disability.
1.3	To experience meeting elite athletes with a disability.
2 Respect and acceptance of individual differences.	
2.1	To become aware of individual differences.
2.2	To gain knowledge about persons with a disability.
2.3	To experience being different.
3 Sport as a human right.	
3.1	To become aware of the fact that persons with a disability have the right to take part in sport.
3.2	To gain knowledge about ways to practice inclusive Physical Education.
3.3	To get experience with accessibility and inaccessibility.
3.4	To experience a positive attitude toward the participation of persons with a disability in sport.
4 Empowerment and social support in sport.	
4.1	To experience success and failure (and the related emotions).
4.2	To gain knowledge to use appropriate ways of reinforcement.
4.3	To experience stories of athletes with a disability.

Some colors have been ascribed to each of these values: Blue – respect for sporting achievement; Green – Respect for and acceptance of individual differences; red – Sport as a human right; and yellow – Empowerment and social support in sport. In addition, groups of activities are suggested for implementing the PSD, divided into the values established, and each activity has its explanatory card (INTERNATIONAL PARALYMPIC COMMITTEE, 2006), as shown in the table below:

**Box 2** – Suggested activities for each value of the Paralympic School Day.

N.º	Title and activity	Values
01	Athletics: Practicing Athletics (track and field) skills.	Respect for sporting achievement.
02	Boccia: Practicing Boccia skills.	
03	Goalball: Practicing Goalball skills.	
04	Sitting Volleyball: Practicing Sitting Volleyball skills.	
05	Wheelchair Basketball: Practicing Wheelchair Basketball skills.	
06	Wheelchair Rugby: Practicing Wheelchair Rugby Skills.	
07	Winter Sport: Alpine Skiing, Cross Country Skiing or Ice Sledge Hockey.	
08	A Fairy Tale: Class discussion about inclusion.	Respect and acceptance of individual differences.
09	Vision: Simulating blindness/visual impairment.	
10	Photo Game: Experiencing similarities and differences.	
11	Equipment: Obstacle course - how to use adapted equipment.	
12	Accessibility: Discovering the school's accessibility.	
13	Table Tennis: Practicing Table Tennis skills.	Sport as a human right.
14	Football: Practicing adapted Football skills.	
15	Dance: Practicing inclusive dancing.	
16	Paralympic Games: Video presentation and discussion on the Paralympics.	
17	Quiz: Gaining knowledge about Paralympic sports and athletes.	
18	Athlete Story: Meeting an athlete with a disability.	Empowerment and social support in sport.
19	Classification: Examining functional classification in Paralympic Sport.	
20	Art: Reflecting through art.	

Source: INTERNATIONAL PARALYMPIC COMMITTEE. Paralympic School Day Manual. 2006, p. 9.

The event is divided into three stages: before, implementation and after the SPD. The first phase has a dual mission: to provide the participants with background information and to plan for the implementation of a PSD. The second phase is implementation of the Paralympic School Day activities. The third phase continues the educational process by expanding knowledge and experience acquired in activities (INTERNATIONAL PARALYMPIC COMMITTEE, 2006).

In the period preceding the completion of the PSD, of two months at most, Physical Education teachers must prepare students with accurate and realistic information about disabilities, specially emphasizing the population's rights without a medical focus. The activities should aim at simulation and examples of being disabled, and value individual differences, together with the program (INTERNATIONAL PARALYMPIC COMMITTEE, 2006).

In addition to these aspects, at this phase it is necessary to organize the implementation of the event, including assessment of conditions in schools (students, teachers, "leaders", volunteers, environment and materials), and plan the activities to be developed, such as opening and closing ceremonies, selecting those involved, and creating groups (INTERNATIONAL PARALYMPIC COMMITTEE, 2006).

After completing preparations, the Paralympic School Day itself is held, taking into account time needed to move between venues and their organization for the next groups (INTERNATIONAL PARALYMPIC COMMITTEE, 2006), as shown by the example in the table below.

**Box 3** – Example of Programming for the Paralympic School Day.

GROUPS	1	2	3	4	5	6
OPENING CEREMONY						
45 minutes	Athletics		Boccia	Art	Vision	Dance
45 minutes	Boccia	Vision	Athletics		Art	Vision
45 minutes	Dance	Boccia	Vision	Dance	Athletics	
LUNCH BREAK						
45 minutes	Quis		Art	Vision	Dance	Boccia
45 minutes	Art	Dance	Quis		Boccia	Art
45 minutes	Vision	Art	Dance	Boccia	Quis	
CLOSING CEREMONY						

Source: INTERNATIONAL PARALYMPIC COMMITTEE. Paralympic School Day Manual. 2006, p. 14.

As the Paralympic Games have their mascots, symbols of good luck to reflect the culture or nature of the host country, the program has *Spirit the Bird*, representing the "Spirit in Motion", motto of the Paralympic Movement – a reference to the spirit of athletes overcoming their limits (INTERNATIONAL PARALYMPIC COMMITTEE, 2006).

**Figure 1** – Mascot of the Paralympic School Day, Spirit the Bird.



Source: INTERNATIONAL PARALYMPIC COMMITTEE. Paralympic School Day. 2011b.



Even though the PSD is held in a day, the continuity of the experience is beneficial, through monitoring, expanding the experience and knowledge to real situations. Students' age should be considered, as well as the environment and teachers' cooperation, in order to expand the impact of the PSD, through research and reflection on the subject, taking into account the values developed (INTERNATIONAL PARALYMPIC COMMITTEE, 2006).

#### 4 PARALYMPIC SPORT AT SCHOOL

Paralympic sport was developed in schools in some countries. One of the first initiatives was held in Atlanta, USA, lasting three years, as a result of the 1996 Paralympic Games. Students with visual and physical disabilities participated in activities with their peers without disabilities. The activities, which consisted of viewing videos, participating in Paralympic sports and interacting with mentors, were scheduled in regular Physical Education classes, lasting 45-55 minutes and including all students in the class (WILHITE *et al.*, 1997).

Other studies showed the presence of Paralympic sport in schools, especially in the PSD format, according to the manual proposed by the International Paralympic Committee (INTERNATIONAL PARALYMPIC COMMITTEE, 2006), in partnership with local universities. These events were organized as the following structures: Ten stations of 15 minutes each (PANAGIOTOU; KUDLÁ EK; EVAGGELINOU, 2006; PANAGIOTOU *et al.*, 2008, 2009), Six stations of 40 minutes (VAN BIESEN; BUSCIGLIO; VANLANDEWIJCK, 2006; XAFOPOULOS; KUDLÁ EK; EVAGGELINOU, 2009), four main stations with two activities each (JEŠINA *et al.*, 2006), three stations of 45 minutes each (LIU; KUDLÁ EK; JEŠINA, 2010), and 30-minute stations (VIDAL *et al.*, 2011).

According to the International Paralympic Committee (2006), during the creation of the PSD, 35 PSDs were implemented in six different European countries, with activities varying significantly from 15 minutes to two hours. However, regardless of the time allotted for activities, a time for reflection should be considered. Thus, it is suggested that the optimal duration of each activity is 40 to 45 minutes, as shown in Table 3 above.

Different activities were carried out in each study, but they were established by the International Paralympic Committee (2006). As examples, Panagiotou, Kudlá ek and Evaggelinou (2006) and Panagiotou *et al.* (2008) included ten intervention activities in the program: Human Rights, Paralympic Games, Accessibility, Rating, Sitting Volleyball, Goalball, Paralympic Boccia, Wheelchair Basketball, Painting, and Athletics. Xafopoulos, Kudlá ek and Evaggelinou (2009), in turn, divided participants in six groups, which passed through stations of the following activities: Paralympic Sports, Ice Hockey, Mobility on Wheelchair, Wheelchair Basketball, Meeting with athlete, and Boccia.

In other studies, Paralympic sports were included in schools through practical activities during Physical Education classes. In Brazil, in Campinas, SP, the experience of Goalball and Sitting Volleyball was provided to 4<sup>th</sup>-graders during two two-month periods (SALERNO; ARAÚJO, 2008). In Santa Maria, RS, the opportunity to experience Athletics for the visually impaired, Wheelchair Basketball, Goalball and Sitting Volleyball was provided for 3<sup>rd</sup> graders in 14 classes (LEHNHARD; PALMA, 2011).

Also in Brazil, Garcia (2009) developed educational activities with Goalball, Sitting Volleyball and Paralympic Boccia with 61 students from two 5<sup>th</sup> grade (6<sup>th</sup> year) classes of a state school in São Carlos, SP. In the same city, with a pedagogical approach to Sitting Volleyball, Miron (2011) developed a program of games and recreational activities on that sport with 120 students from two 5<sup>th</sup>-grade and one 6<sup>th</sup>-grade classes of a state school, in eight meetings with each class.

## 5 STUDIES CONDUCTED AND RESULTS PRESENTED

The selected studies were found through individual literature review, without using databases, choosing original articles related to the inclusion of Paralympic sport in school for children and youth without disabilities, written in English and Portuguese. Summaries of events, manuals and final graduation papers, dissertations and theses were excluded at this point, focusing on scientific articles since they present studies in their entirety, as well as standard structures, methodological details, and peer review.

**Table 4** - Studies conducted on Paralympic sport at school (part 1).

Author(s)/ Year	City/Country	Aim(s)	Tool(s)	Subjectos
Wilhite et al., 1997	Atlanta, USAs.	Evaluating "Paralympic Day in Schools".	Specific questionnaire	704 youth (62 with and 642 without disabilities), aged 11 and 21 (14.2).
Ješina et al., 2006	Olomouc, Czech Republic.	Evaluate the PSD on changing attitudes toward inclusion of students with disabilities.	CAIPE-R and Adjective Checklist	48 children from 4th and 5th grades; 27 boys and 21 girls, aged 9-12; mean 10.7 and 10.6 years respectively.
Van Biesen; Busciglio; Vanlandewijck, 2006	Belgium	Investigating the influence of the PSD, gender, previous exposure and competitive aspects in the attitudes of students without disabilities toward inclusion of students with disabilities.	CAIPE-R	196 students, 100 boys and 96 girls from three different primary schools, aged 8-13.
Panagiotou; Kudláek; Evaggelidou, 2006	Serres, Greece.	Analyzing the effects of PSD in changing attitudes of children toward inclusion of students with disabilities in Physical Education classes.	CAIPE-R	247 students, 117 boys and 130 girls, from 5th and 6th grades in five urban primary schools, aged 10-12; 178 students (86 in the experimental group and 92 in the control group) came from three non-inclusive schools and 69 (32 in the experimental group and 37 control) came from two inclusive schools.
Panagiotou et al., 2008	Serres, Greece.	Examining the effects of PSD in attitudes and the differences between genres of students without disabilities from 5th and 6th grades toward inclusion of children with disabilities in Physical Education classes.	CAIPE-R	178 students; 83 from 5th grade and 95 from 6th grade, including 86 boys and 92 girls, general mean age $11.53 \pm 0.5$ ; $11.48 \pm 0.5$ for boys and $11.59 \pm 0.5$ for girls; 86 were in the experimental group and 92 were in the control group.



<b>Salerno; Araújo, 2008</b>	Campinas, Brazil	Proposing the teaching of adapted sports in Physical Education classes.	Observation form (class diary)	Students from 4th grade.
<b>Panagiotou et al., 2009</b>	Serres and Florina, Greece.	Studying the PSD in attitudes of 5th and 6th-grade students toward inclusion of students with disabilities in Physical Education classes.	CAIPE-R	310 students, 148 from 5th grade and 162 from 6th grade; 143 boys and 167 girls from seven primary schools, with mean age of $11.52 \pm 0.5$ ; 181 were in the experimental group and 129 the control group.
<b>Xafopoulos; Kudlá ek; Evaggelinos, 2009</b>	Ostrava, Czech Republic.	Investigating the effects of PSD on attitudes of children in an international school toward inclusion of peers with disabilities.	<i>CAIPE-R and Adjective Checklist</i>	71 children; 42 boys and 29 girls; mean age $11.33 \pm 2.91$ and $11.17 \pm 3.23$ respectively.
<b>Liu; Kudlá ek;</b>	Ostrava, República Tcheca.	Determinar a influência do DPE nas atitudes de estudantes frente à inclusão de pessoas com deficiência; analisar as teorias da Educação Paralímpica em ambiente escolar.	CAIPE-R e <i>Adjective Checklist</i>	36 crianças, 17 meninos e 19 meninas, com média de idade de $11,88 \pm 0,49$ e $11,68 \pm 0,48$ anos, respectivamente.
<b>Ješina, 2010</b>	Ostrava, Czech Republic.	Determining the influence of the PSD on attitudes of students toward inclusion of people with disabilities; analyzing theories of Paralympic Education at school.	<i>CAIPE-R and Adjective Checklist</i>	36 children; 17 boys and 19 girls; mean age $11.88 \pm 0.49$ and $11.68 \pm 0.48$ respectively.

Source: Prepared by the authors.

Table 4 includes studies on the presence of Paralympic sport at school as well as the cities and countries where they were conducted, their aims, instruments used and description of the subjects of each study. The following table includes the methodology used and the main results found in those studies.

**Table 5** - Studies conducted on Paralympic sport at school (part 2).

Author(s)/Year	Methodology	Results
<b>Wilhite et al., 1997</b>	Pre- and post-test, with a one-week interval from the intervention.	Commitment to sport and leisure for all; students with disabilities were less likely to agree with the importance of their participation in activities with their peers without disabilities.
<b>Ješina et al., 2006</b>	Pre-test, intervention and post-test.	Positive effects of the PSD; average in CAIPE-CZ and low in Adjective Checklist.
<b>Van Biesen; Busciglio; Vanlandewijck, 2006</b>	Pre- and post-test, with an interval of one week from the intervention.	Two schools had positive effects; girls had more positive attitudes than boys; more competitive students had lower scores; previous experience with people with disabilities had no effect on positive attitudes toward inclusion.
<b>Panagiotou; Kudlá ek; Evagelinou, 2006</b>	Pretest, intervention and posttest.	Non-inclusive schools: positive effect on attitudes of children without disabilities in the general aspects; inclusive schools: non-significant decrease in the score of students' general attitudes.
<b>Panagiotou et al., 2008</b>	Pre- and post-test, two weeks apart.	Positive differences in the experimental group in general attitudes after PSD; no differential effects between boys and girls.
<b>Salerno; Araújo, 2008</b>	Research, development of concepts and experience of Goalball and Sitting Volleyball.	Proposal for teaching adapted sports in school.
<b>Panagiotou et al., 2009</b>	Pre-test, intervention and post-test.	Statistical difference in the experimental group only in overall attitudes, while there were no differences in specific attitudes.
<b>Xafopoulos; Kudlá ek; Evagelinou, 2009</b>	Pre-test, intervention and post-test.	Significant differences only in overall attitudes among girls, through the Adjective Checklist; other changes were not significant.
<b>Liu; Kudlá ek; Ješina, 2010</b>	Pre- and post-test, with a one-week interval from the intervention.	Girls with more positive attitude toward people with disabilities; decrease in the score of attitudes toward adapted sports rules.

Source: Prepared by the authors.

## 6 DISCUSSION

In order to achieve the proposed objectives of this study, we found initiatives related to Paralympic Education and the presence of Paralympic sport in Physical Education classes in

scientific articles, teaching materials, conference proceedings, graduation final papers, dissertations and theses.

The Paralympic School Day (PSD), the main channel to publicize Paralympic Education, needs updates and revisions in the program after studies have been conducted, since the first actions were taken in 2003 and the manual (INTERNATIONAL PARALYMPIC COMMITTEE, 2006) was released in 2006. Likewise, besides being present in school as an event (WILHITE *et al.*, 1997; JEŠINA *et al.*, 2006; VAN BIESEN; BUSCIGLIO; VANLANDEWIJCK, 2006; PANAGIOTOU; KUDLÁ EK; EVAGGELINOU, 2006; PANAGIOTOU *et al.*, 2008, 2009; XAFOPOULOS; KUDLÁ EK; EVAGGELINOU, 2009; LIU; KUDLÁ EK; JEŠINA, 2010; VIDAL *et al.*, 2011), Paralympic sport could be used as curriculum content for Physical Education, as has been seen in some Brazilian initiatives (SALERNO; ARAÚJO, 2008; GARCIA, 2009; LEHNHARD; PALMA, 2011; MIRON, 2011).

A large part of the articles found come from Europe, with a predominance of the countries that started with the PSD program – Greece (PANAGIOTOU; KUDLÁ EK; EVAGGELINOU, 2006; PANAGIOTOU *et al.*, 2008, 2009), Belgium (VAN BIESEN; BUSCIGLIO; VANLANDEWIJCK, 2006) and Czech Republic (JEŠINA *et al.*, 2006; XAFOPOULOS; KUDLÁ EK; EVAGGELINOU, 2009; LIU; KUDLÁ EK; JEŠINA, 2010). By and large, these studies were designed to evaluate the effects of the event on the changes of attitudes toward the inclusion of students with disabilities in Physical Education classes.

In the other countries, the United States (Wilhite *et al.*, 1997) stands out as a pioneer in the promotion of adapted sports in school for people with and without disabilities, and with a purpose similar to European studies, as well as Brazil (SALERNO, ARAÚJO, 2008), with proposals for promoting the teaching of Paralympic sports in school also for children without disabilities.

Studies focused mainly on the effects of the PSD program on children without disabilities toward inclusion of students with disabilities in Physical Education classes used the Children's Attitudes toward Integrated Physical Education – Revised (CAIPE-R) (BLOCK, 1995) and the Siperstein's Adjective Checklist (SIPERSTEIN 1980 cited in Jesina *et al.*, 2006).

The Children's Attitudes toward Integrated Physical Education – Revised (CAIPE-R) is a questionnaire validated in the United States and used to evaluate the attitudes of children without disabilities toward inclusion of colleagues with disabilities in Physical Education classes, in general and in sport-specific aspects (BLOCK, 1995). It has versions adapted to European sports and cultural realities (basketball replacing baseball in the sport-specific items 9-13 of the original version), in consultation with the author of CAIPE-R and approved by three European experts in the field (PANAGIOTOU; KUDLÁ EK; EVAGGELINOU, 2006), applied in the Czech Republic (CAIPE-CZ) (JEŠINA *et al.*, 2006; XAFOPOULOS; KUDLÁ EK; EVAGGELINOU, 2009; LIU; KUDLÁ EK; JEŠINA, 2010), Greece (PANAGIOTOU; KUDLÁ EK; EVAGGELINOU, 2006; PANAGIOTOU *et al.*, 2008, 2009), Portugal (CAMPOS; NOBRE; FERREIRA, 2010) and Belgium (VAN BIESEN; BUSCIGLIO; VANLANDEWIJCK, 2006).

The Siperstein's Adjective Checklist, in turn, developed to evaluate children's judgments of attributes of colleagues with disabilities, based on the choice of 34 adjectives, reveals positive and negative opinions and feelings (JEŠINA *et al.*, 2006). That tool was applied in the Czech Republic (JEŠINA *et al.*, 2006; XAFOPOULOS; KUDLÁ EK; EVAGGELINOU, 2009; LIU; KUDLÁ EK; JEŠINA, 2010).

Some research instruments were specifically created to achieve the objectives of the study of Paralympic sport in question, such as the questionnaire (WILHITE *et al.*, 1997) and the observation record (SALERNO; ARAÚJO, 2008).

In general, research subjects were European boys and girls without disabilities from 4<sup>th</sup> to 6<sup>th</sup> grades, aged 8-13. The only exception was the study conducted by Wilhite *et al.* (1997), including ages up to 21 and American children with and without disabilities.

As for the methodology used in the articles, most authors used experimental research (THOMAS; NELSON, 2002) with pre- and post-tests, with PSD, but in different formats. Studies by Panagiotou, Kudlá ek and Evaggelinou (2006) and Panagiotou *et al.* (2008; 2009) showed similar structures with application of CAIPE-R before and after the intervention in experimental groups and Physical Education classes in control groups, using the same PSD structure in the three studies.

As the only study that covered adapted sport as content of Physical Education classes, Salerno and Araújo (2008) presented an educational proposal applicable to the school context, with student participation, research on the topic and formulation concepts, and experience with Goalball and Sitting Volleyball.

The results of the PSD showed positive effects after implementation of the program in all cases, but these changes happened on the general aspects related to the inclusion of students with disabilities in Physical Education classes (JEŠINA *et al.*, 2006; VAN BIESEN; BUSCIGLIO; VANLANDEWIJCK, 2006; PANAGIOTOU; KUDLÁ EK; EVAGGELINOU, 2006; PANAGIOTOU *et al.*, 2008; 2009; XAFOPOULOS; KUDLÁ EK; EVAGGELINOU, 2009). According to Loovis and Loovis (1997), programs that include information, games and group discussion on disability can contribute to change attitudes of children without disabilities.

There were significantly negative changes in the specific sporting aspects related to adapted rules (LIU; KUDLÁ EK; JEŠINA, 2010), since, according to Kalyvas and Reid (2003), children did not accept adapted rules in sports because they are not as challenging and interesting.

Higher positive effects were also found in girls' attitudes than in boys' through CAIPE-R (VAN BIESEN; BUSCIGLIO; VANLANDEWIJCK, 2006; LIU; KUDLÁ EK; JEŠINA, 2010) and the Adjective Checklist (XAFOPOULOS; KUDLÁ EK; EVAGGELINOU, 2009), as presented in previous studies (TRIPP; FRENCH; SHERRILL, 1995; LOOVIS; LOOVIS, 1997; SLININGER; SHERRILL; JANKOWSKI, 2000). However, Panagiotou *et al.* (2008) found no differences between boys and girls toward inclusion of students with disabilities in Physical Education classes, as well as Kalyvas and Reid (2003).

According to the results of the articles examined, more competitive students had lower CAIPE-R scores (VAN BIESEN; BUSCIGLIO; VANLANDEWIJCK, 2006), believing that the activity decreased in intensity with a participant with less skills (BLOCK, 2000<sup>3</sup> cited in VAN BIESEN; BUSCIGLIO; VANLANDEWIJCK, 2006). There was also no influence of prior exposure to people with disabilities on attitudes toward inclusion of students with disabilities in Physical Education classes (VAN BIESEN; BUSCIGLIO; VANLANDEWIJCK, 2006), in disagreement with the hypothesis of the said study.

3 BLOCK, Martin E. *Including children with disabilities in regular Physical Education*: a guide for practitioners. 2<sup>nd</sup> ed. Baltimore: Brooks, 2000. p. 104-231.

With the use of Paralympic sports at school, involving policy, culture and long-term inclusive practice as proposed by Salerno and Araújo (2008), there is an alternative possibility to improve children's attitudes toward inclusion of disabled students in Physical Education classes and hence their acceptance of adapted rules in practical activities, especially by boys, as found in some studies (JEŠINA *et al.*, 2006; VAN BIESEN; BUSCIGLIO; VANLANDEWIJCK, 2006; PANAGIOTOU; KUDLÁ EK; EVAGGELINOU, 2006; PANAGIOTOU *et al.*, 2008; 2009; XAFOPOULOS; KUDLÁ EK; EVAGGELINOU, 2009; LIU; KUDLÁ EK; JEŠINA, 2010).

## 6 CONCLUSION

Paralympic sport has developed gradually on the world stage in competitive, technological, academic and educational contexts. The latter – the focus of this study – is perceived as a recent domain with great potential for exploration and expansion.

Because the term Paralympic Education is not widely known, it still lacks international and national publicity to reach all areas related to Paralympic sport, mainly the academic one, so that new studies could be conducted and the term could become known to many people.

Paralympic sport seeks its identity at schools, as well as the Paralympic Education appropriate to the cultural, educational and national contexts. The results of previous studies have shown positive effects on general issues of the integration of Paralympic sport in school in terms of inclusion of students with disabilities through the PSD. The possibility of using other mechanisms that might generate significant changes in sporting aspects, regarding adapted rules, as well as the creation of inclusive culture, politics and practices at school, have not been evaluated, despite some successful experiences.

The inclusion of Paralympic sport in schools lacks studies conducted in this environment, through distinct proposals, either as an event or as teaching in Physical Education classes, using different sports and pedagogically structured to contribute to students' education in all aspects, promoting paralympic sport in the academic and school environment.

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