

Article

Adapted Physical Education in Brazilian Public Schools: A Systematic Review Towards Pupils with Special Educational Needs

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ABSTRACT

Adapted Physical Education (APE) in Brazilian public schools: a systematic review towards children with Special Educational Needs. The main purpose of this review was to verify empirical studies on adapted physical education for all students with special educational needs (SEN) in Brazilian public schools over the past 15 years, hence proposing future research guidelines. A systematic procedure for searching the literature was used to, which covered a total of 28 research-based papers from computerized Scopus database. Mixed methods inquiries were employed in the reviewed studies. The publication descriptor data were quantitatively examined via VOSviewer software (van Eck & Waltman, 2010), while applying the content perspective on the descriptive data to assist the trustworthiness and credibility of the analysis. Results demonstrated that except for Haegele et al (2017)/Meletti & Ribeiro (2104) among the studies, deficiencies exist in past literature relative to the adapted physical education in Brazilian public schools. In practical terms this highlights that the voice of children with special educational needs have not been heard yet in the official literature. Future research might need to consider, despite the mostly favorable consensus about inclusion subject, teachers' feelings, their supports, and resources to effectively conceive adapted physical education programs.

Keywords: inclusion; adapted physical education; public school.

RESUMO

Educação Física Adaptada (EFA) nas escolas públicas brasileiras: uma revisão sistemática a propósito dos estudantes com necessidades educacionais especiais. A revisão teve como principal objetivo verificar a produção científica especializada dos últimos 15 anos relacionada à educação física adaptada destinada a todos os estudantes com necessidades educacionais especiais (NEE), no âmbito da escola pública brasileira. Recorreu-se a um procedimento sistemático, o qual contemplou um total de 28 estudos pesquisados nas bases de dados *Scopus*. Adotou-se o método misto de pesquisa nos termos. A partir dos descritores de pesquisa, os dados foram quantitativamente analisados por intermédio do software *VOSviewer* (van Eck & Waltman, 2010), sobre os quais aplicou-se a análise de conteúdo a fim de garantir a confiança e a credibilidade desta revisão. Os resultados mostraram que, excetuando-se os estudos de Haegele et al., (2017)/Meletti & Ribeiro (2104), praticamente inexistem estudos acerca da educação física adaptada nas escolas públicas brasileiras. Isso põe em questão, em termos práticos, se o atendimento oficial às crianças com necessidades educacionais vem sendo adequado. Embora o tema da educação inclusiva seja amplamente consensual, pesquisas futuras poderiam esclarecer o que pensam os professores, bem como os recursos que empregam a fim de conceber programas de educação física adaptada.

Palavras-chave: inclusão; educação física adaptada; escola pública.



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Introduction

A high-quality education is a central key gateway out of inequalities. Access to inclusive education can provide the tools to develop innovations and solutions to the greatest problems around the world. Globally speaking, inclusive education conceived as an education philosophy has come forth as a meaningful and prevalent tendency in educational settings (Unesco 1994). It has been incorporated in policy-making governments over the past 30 years around the world (Kassar 2016). Inclusion is tied to programs that educate students (disabled or not) with a wide range of differences together (Haegle 2017, Stainback & Stainback 1996). The general agreement with respect to the idea of inclusive education (IE) was primarily established at the 48th session of the International Conference on Education in November 2008 (Unesco 2008). The seeds of collective indifference could be promptly removed once “inclusive education is an ongoing process aimed at offering quality education for all, while respecting diversity and the different needs and abilities, characteristics and learning expectations of the students and communities” (Unesco 2008, p. 18).

The proposal to include children with disabilities in regular schools, whether physical and/or intellectual, is already old. The inclusion of people with educational needs, more than a moral need, becomes a way to reduce the inequalities of contemporary society. Surprisingly, it is still extremely relevant to talk about this subject, in the middle of the 21st century, especially about inclusion in physical education in Brazilian regular education. When carrying out a preliminary survey of the scientific literature on the subject, we noticed an inconsistency on the subject in Brazilian education laws. Since 1961, it has already begun to appear in official Brazilian documents, through the National Education Bases and Guidelines Law (LDB) n° 4.024/61, article 88, that children with any type of disability, at that time called exceptional children, should be integrated into the community through the general education system, as far as possible (Brasil 1961).

In 1971, LDB No. 4024 was modified by LDB No. 5692, which stipulated, through Article 67, a segregated education for those children said to deserve exceptional treatment, with the intention that they receive education under a special regime (Brasil 1971).

In 1990, through the World Declaration on Education for All, nations around the world came to reinforce what had already been stipulated and registered by the Declaration of Human Rights since 1948, that "everyone has the right to education" (UNICEF - BRAZIL 1990).

In 1994, the Salamanca Declaration on Principles, Policy and Practices in the area of Special Educational Needs (UNESCO, 1998), in addition to reaffirming the right of everyone to education as mentioned above, also recalled the Declaration of United Nations Norms on Equality Opportunities for People with Disabilities.

Even in the face of all this worldwide appeal for the inclusion of children with disabilities in regular education, it was only in 2015 that the Brazilian Law for the Inclusion of Persons with Disabilities, Law 13,146, was instituted, which provides in article 27 that: *“education is a right of persons with disabilities, ensuring an inclusive educational system at all levels and lifelong learning, in order to achieve the maximum possible development of their talents and physical, sensorial, intellectual and social abilities, according to their characteristics, interests and learning needs”* (BRASIL 2015).

It was recently instituted in Article 2, item VI of Decree 10,502, which, despite considering equitable and inclusive educational policies, does not eliminate the creation of specialized schools, in order to serve students with special educational needs (SEN) who apparently do not develop adequately when inserted in inclusive regular schools (Brasil 2020a).

The inclusion of students with special educational needs (SEN) into general education programs has been viewed as a nationally climbing trend (Brasil 2006), although stand in Brazilian legal system since 1988 (Brasil 1988). This SEN terminology is currently adopted to refer to disabled students. Nevertheless, it is widely known that to come into possession of efficacy in teaching students with SEN requires qualified groundwork and



experience teaching such students, as they're incontrovertibly dependent on physical education teacher and, more specifically, on the initial teacher trainings (Freire 2008; Carvalho 2004; Bueno 1999). In other words, teachers should be sufficiently afforded to conduct on the implementation of adapted education programs, which are instruments tactically employed in the service of achieving the inclusion of students with SEN, their learning, improvement, and well-being (Winnick 2014).

Much the same as all areas of human knowledge, when considering the students with SEN, Physical Education meets several kinds of challenges and opportunities for scholars and teachers. While much has been increasingly learned about the inclusion in Physical Education (Haeghele & Sutherland 2015), less is known about Adapted Physical Education (APE) and their respective preservice/in-service Programs thus characterized (Richards & Wilson 2020; Winnick 2014). Regarding APE is well considered and penetrates to a wide range of issues on IE, the essential question asked here is: to what extent Brazilian published studies are concerned with APE Programs?

Based on this brief chronological account of Brazilian education legislation, we note that all these laws or decrees, which oblige regular schools to accept students with disabilities, do not guarantee the effectiveness of an inclusive educational practice. According to the Ministry of Education and Culture and the Special Education Secretariat (MEC/SEESP), this practice will only be achieved if the school is prepared to assist these students regardless of their physical and/or intellectual conditions through the training of teachers for this purpose (Brasil 2001).

The aim of this study was to carry out a systematic methodology to assess the "state of the art" with regard to the inclusion of people with educational needs through physical education in Brazilian public schools.

Methods

As research method, quantitative and qualitative (Creswell 2009) were the methodological approaches taken in this systematic review, whose research topic was framed as "Adapted Physical Education". It is noteworthy that the three steps involved in the conduction of such a review were the following: databases to be used identified; criteria for assessing the quality of the studies established; presentation and analysis of the findings.

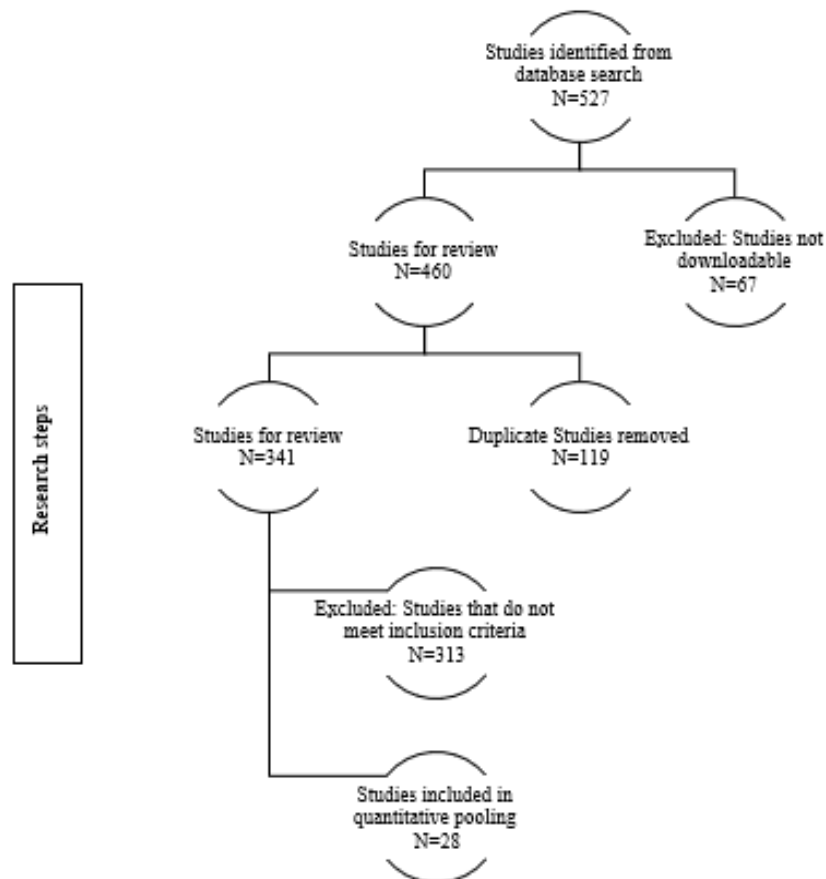
As it is a peer-reviewed journal database, the Scopus was used in this review. Regarding criteria for assessing the quality of the studies, a search online was conducted on September 10, 2022, with the keyword strings "inclusion in physical education", "inclusion in Brazilian public schools", "adapted physical education", "adapted physical education in Brazil", under the headings "abstracts, titles, or keywords fields". As for the inclusion criteria, in this sampling original studies published between January 2007 and September 2022 were enclosed (15-years period); studies in English/Portuguese languages only published in journals, books, master's theses, and doctoral dissertations were left out of the review), gathering a list of 527, but in virtue of author's limitation on database subscription, only 460 of these amounts were in fact downloaded. In the end of a skimming reading, in line with the set of inclusion-exclusion criteria, that quantity was further reduced to an even more achievable 28 that could be scanned for relevant titles (119 duplicate studies removed, 313 were not coordinated with review purposes) as described in Figure 1. Sample final articles were downloaded in *.ris format and then processed using Excel to make it easier their analysis. In addition, VOSviewer is used to envisage and analyze drifts in the form of bibliometric maps (van Eck & Waltman 2010).



Results

In the figure 01 we can observe the first set of results, demonstrating the total number of articles that we were able to find (527 studies) for this topic. However, we were able to retrieve 460 due to the impossibility of downloading 67 articles. Among the 460, 119 were duplicated and then excluded. After application of inclusion criteria, 313 studies were excluded and 28 studies were analyzed in this review.

Figure 1. Flowchart of the literature search process, demonstrating the steps of the systematic review with respective studies.



Source: Authors

By means of VOSviewer publication maps are up to be made, or journal maps found as networks (co-citation) or build-based keyword maps with respect shared networks (van Eck & Waltman 2010) (see Figure 2 below).

After shared network being analyzed via VOSviewer, there were 4 clusters (red, green, blue, and yellow), which showed the tie between the topics worked out by the authors (yellow cluster lacks significance, then not mentioned) (see Box 1).

Colored circle sizes are correlated in a positive way with keyword appearances in the titles and abstracts authors used. Accordingly, colored circle sizes are determined by the frequency of occurrences, i.e, the more often a keyword appears, the greater the colored circle sizes.

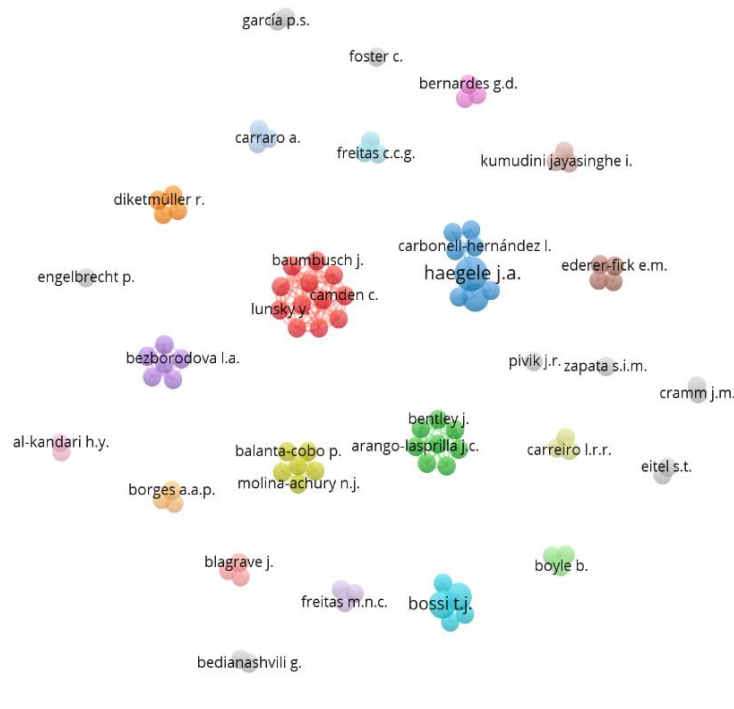


Figure 2. Co-citation. Source: Authors.

Box 1. Topic relationships

Cluster	Cluster 1 (red)	Cluster 2 (green)	Cluster 3 (blue)
Shared network	12 authors	8 authors	8 authors
	Baumbusch, J; Camden, C; Fallon, B; Lunsky, Y; Majnemer, A; Mcgrath, P J; Miller, S P; Sansone, G; Stainton, T; Stumarah, J; Thomson, D; Zwicker, J.	Arango-Lasprilla, J. C; Bentley, J; Bhattacharjya, S; Bogdanova, Y; Jesus, T. S; Kamalakannan, S; Papadimitriou, C;	Carbonell-Hernández, L; Haegale, J-A; Pellerin, S; Pérez-Torralba, A; Reina, R; Roldan, A; Theriot, E A; Wilson, W.J

Source: Authors.

Searched studies were subordinated to the content analysis (Creswell, 2009). As a result, three themes emerged from them: the issue of SEN in Physical Education settings, Brazilian public concern as for inclusion, and inclusion in Physical Education such as recorded in Box 2 below. No Adapted Physical Education in Brazilian educational environments reported; Meletti & Ribeiro (2014) study is rather indirectly related to this issue. Although Haegale et al. (2017) have pointed out the issue of inclusion in Brazil, the authors have not touched in a consistent way upon the business of adapted physical education in the country.

**Box 2.** Content analysis

Themes	References
SEN in Physical Education	Pellerin, Wilson & Haegele (2022); Bredahl (2013); Haegele (2019); Haegele & Sutherland (2015); Kassar (2016); Slee (2011); Atkins (2016); Bryan, McCubbin & Mars (2013).
Brazilian public inclusive education	Meletti & Ribeiro (2014)
Inclusive Physical Education	Wilson, Theriot & Haegele (2020); Coates (2012); Fitzgerald & Stride (2012); Grenier (2011); Haegele et al (2017); Hodge et al (2009); Hodge et al (2013); Maher & Fitzgerald (2020); Morley et al (2008); Haegele (2019); Park & Curtner-Smith (2018); Pennington, Prusak & Wilkinson (2013); Qi & Ha (2012); Reina et al (2019); Richards (2015); Richards & Wilson (2020); Spencer-Cavaliere & Watkinson (2010);

Source: Authors.

Discussion

Inclusive or also called adapted physical education has been explored in studies for a long time. In our searches, we found reports and manuals on adapted physical education programs, supported by the United States Department of Health, Education and Welfare, from different states, dating from 1968 to the present century, with the aim of promoting an accessible source of consultation and training complement for physical educators, or any other professional who works with programs of motor and/or sensory stimuli for children, at that time, named as special (Colorado State Department Of Education, 1989; Mccubbin, 2000; Muller, 1970; National Clearinghouse For Professions In Special Education 1996; Pittsburg Public School 1968; Vodola 1975).

In Brazil, in the 80's of the 20th century, after several meetings, in different national states, which had the purpose of developing awareness about special education in the National Physical Education Policy, the importance of adapted physical education for children with disabilities was emphasized. (Gonçalves et al 2020).

The inclusion of this discipline in the current curriculum of physical education courses was only possible in 1987 after Resolution No. 3/87 (Brasil 1987a) embodied in Opinion No. 215/87 (Brasil 1987b) which allowed courses to be create their curricula according to social demands.

From then on, disciplines began to be demanded, in training courses for physical educators, that deepened the knowledge about children with disabilities, as claimed by the MEC and by the extinct Secretariat of Special Education (SEED), currently called SEESP, and also in the Batatais Letter (Ribeiro & Araújo 2004).

However, are physical education teachers in Brazil and the rest of the world prepared to teach inclusive physical education?

Piletic and Davis (2010) mentioned that, during this period, physical education courses in the United States were facing challenges in meeting the demands of how to better prepare prospective physical education teachers, with highly qualified skills, to teach students with disabilities in physical education, since most of the courses



surveyed in these studies offered only one adapted physical education class with a few hours of face-to-face class per week and a few hours of practice.

According to Nolan et al (2000), practical classes, or also called field experience, are essential to promote better preparation, as well as a better attitude of physical education students in relation to the assistance of students with disabilities. , especially those with mild or moderate mental disorders and with specific learning disorders.

Doulkeridou et al. (2011) also called in their study for a better academic preparation of Greek physical educators, with courses that included both theoretical and practical knowledge and that the Greek ministry of education develop a curriculum for physical education teachers including subjects that address how to teach children women with disabilities and with SEN in inclusive physical education classes, so that physical educators feel more empowered and adequately supported in their methodological strategies.

Another Greek study suggested that physical education teachers, as well as prospective teachers in this area, should learn about the different types of disabilities in order to promote the real integration of atypical children into mainstream education (Mousouli et al 2009)

Pedersen et al (2014) asked the same question mentioned above regarding beginning physical education teachers, who were still under the supervision of a mentor, from two Australian universities, and concluded that students from the university that offered more practice time curriculum were those who felt more prepared and intended to work with students with disabilities, as this extra training time allowed them to have a greater variety of experiences in the way of teaching.

These results corroborate with what had already been concluded in the 1995 Folsom-Meek et al study, that the practical requirement as part of the adapted physical education courses can explain the perceived competence and the general classification of the educational preparation, as well as it can be a predictor of a positive attitude towards the inclusion of atypical students in regular school physical education classes.

After years of debating and stimulating adapted physical education in the world, a Turkish study from 2018 concluded that physical education courses did not contain classes related to inclusive education (Aksakal 2018).

In Brazil, a study was recently carried out (Gonçalves et al 2020) that brought exactly this panorama of the insertion of adapted physical education classes in the curricula of physical education courses and concluded that despite the advances achieved, there is still much to be done, such as, for example, specializing the teachers who teach in this area, since many classes in this discipline were offered by teachers who had not even had education or experience with adapted physical education; organize the curriculum in order to adopt adequate nomenclatures and appropriate contents for teaching students with SEN, work better with extension activities, as well as advance in research and knowledge production.

For this, Tavares et al (2016) suggest a change in the curricula of physical education courses so that the subjects related to adapted physical education are inserted within the various other subjects addressed in the course, as this would avoid a fragmented view of the inclusion.

Only then would it be possible to break with integrationist and segregationist conceptions, allowing the construction of a more diverse and welcoming school for any type of student, regardless of their disability, and with resources aimed at the participation of all (Cunha & Gomes 2017).

However, according to Rizzo and Kirkendall (1995) knowledge and skills alone, acquired by a well-trained teacher, are not enough to reflect successful teaching. It is also necessary to have a positive attitude towards the students they are teaching, especially the atypical students who need accommodation during teaching to meet their learning demands.



In short, most of these studies were elaborated by authors issued from remarkable developed countries, whose investigations represent the mainstream in general inclusive education policies, and their corresponding questions related teacher practices and disabled student interactions towards their experiences lived as way of improving teacher practice and reconstructing student socialization. To be more precise, no author viewed APE for its own sake; each author confined his powerful method to a well-defined problem of tracing inclusive education or analyzing punctually inclusive education structure. However, that was not very revealing to the review major concern.

Conclusion

Clearly, findings of this systematic review demonstrated that, at least by the time its running, the issue related to the Adapted Physical Education in Brazil is still unspecified. Nevertheless, supplementing findings with quantitative data by managing different keywords, for example, could certainly provide a more comprehensive, differentiated understanding of the basis for both training preservice adapted educator and developing in-service adapted educator in Brazilian public schools. It is not being posited that quantitative data should play a distinguished role; rather, it would be assigned a different status to such data because they in turn need further interpretation to lead to new and incredibly unexpected ideas; data do not in themselves constitute a definite analysis: it's well-known that descriptive adequacy, although necessary, is not sufficient at all. Anyway, keywords employed may have limited both number and range of searched studies.

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