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## SCHOOL PHYSICAL EDUCATION IN DISTANT LEARNING: AN INTEGRATIVE REVIEW IN THE PANDEMIC CONTEXT OF COVID-19

### EDUCAÇÃO FÍSICA ESCOLAR EM EAD: UMA REVISÃO INTEGRATIVA NO CONTEXTO PANDÊMICO DA COVID-19

Cristiano Vieira Santana<sup>1</sup>, Ana Luiza Barbosa Anversa<sup>2</sup>, Yedda Maria da Silva Caraçato de Sousa<sup>3</sup>, Vânia de Fátima Matias de Souza<sup>2</sup> e Amauri Aparecido Bássoli de Oliveira<sup>2,4</sup>.

<sup>1</sup>Bahia Federal Institute of Education, Science and Technology, Salvador-BA, Brazil.

<sup>2</sup>State University of Maringá, Maringá-PR, Brazil

<sup>3</sup>Cidade Verde University Center, Maringá-PR, Brazil

<sup>4</sup>Catholic University of the Maule, Talca, Chile

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#### RESUMO

A prática pedagógica em Educação Física Escolar, surpreendida pela pandemia, foi obrigada a se adaptar e aprender como se comportar no novo cenário educacional. O objetivo deste trabalho foi (re)conhecer a transposição didática dos docentes de Educação Física Escolar em relação ao uso das Novas Tecnologias de Informação e Comunicação (NTICs) para o ensino, em especial no período de pandemia da COVID19. Para tal, elaboramos um estudo de natureza qualitativa, de cunho exploratório, com foco metodológico na revisão integrativa do estado da arte acerca da Educação Física Escolar em contexto virtual/remoto. A busca de produções científicas centrou-se nas bases de dados Scopus (Elsevier) e Web of Science. Identificamos e selecionamos 16 artigos que revelaram subcategorias de análises basilares para o avanço na compreensão da realidade didática no contexto pandêmico. Concluímos que se faz necessário um progresso no volume de estudos acerca da realidade virtual/remoto sobre Educação Física Escolar; que o ensino em realidade virtual/remoto é um fenômeno multifacetado, de múltiplas abrangências, não apenas como subcategoria da Educação, mas como um novo fenômeno formativo caminhando a pari passu com a própria, em função de suas particularidades; e que essa nova realidade, confunde, causa receios, e ao mesmo tempo empolga pela sua dinâmica.

**Palavras-chave:** Educação Física, Escola, Prática Pedagógica.

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#### ABSTRACT

Pedagogical practice in School Physical Education, surprised by the pandemic, was forced to adapt and learn how to behave in the new educational scenario. The objective of this work was to (re)learn about the didactic transposition of Physical Education teachers in relation to the use of New Information and Communication Technologies (NICTs) for teaching, in the period of the COVID-19 pandemic. To this end, we developed a qualitative study, of an exploratory nature, with a methodological focus on the integrative review of the state of the art about School Physical Education in a virtual/remote context. The search for scientific productions focused on the Scopus (Elsevier) and Web of Science databases. We identified and selected 16 articles that revealed subcategories of analyses that provide a basis to advance the understanding of didactic reality in the pandemic context. We conclude that progress is needed in the volume of studies on virtual/remote reality on School Physical Education; that teaching in virtual/remote reality is a multifaceted phenomenon, with multiple scopes, not only as a subcategory of Education, but as a new formative phenomenon walking side by side with the latter, due to its particularities; and that this new reality confuses, brings about concerns and, at the same time, excites for its dynamics

**Keywords:** Physical Education, School, Pedagogical Practice.

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#### Introduction

The world was surprised by a pandemic (Covid-19) that made society completely change its behavior in all spheres. Among these changes, the most drastic one was home confinement, in which social interaction, sporting and recreational activities, leisure and, in particular, the educational process had to be limited, resulting in a major impact on the pedagogical process<sup>1</sup>.

In this context, and considering its resulting demands, teachers, students and families had to adapt to the new educational scenario, which ended up destabilizing their routine, that

is, leading them to make use of procedures and behaviors for which they were not yet adequately prepared.

The prolonged confinement to which everyone was subjected required new formats of teacher-student-content interaction from educational policies, remotely, by means of the most varied types of media, such as video conferences, live and recorded classes, questionnaires and, in this case of physical education, practical tasks that could be carried out at home<sup>1</sup>. Therefore, teachers needed to quickly learn how to create, adapt and reproduce their classes using available digital technologies. Students had to learn how to receive these classes and the addressed knowledge in their homes individually – they and their computers –, in isolation. Families had to learn to live with this new monitoring requirement according to the different ages of their children, that is, the younger they were, the greater the need for supervision.

This configuration resulted in a flood of proposals, experiences, reconsiderations and a necessary rethinking of the educational function, its role, and the way in which it has always developed, as the new demands determined this.

After nearly two years of experiencing this situation and the prospect of continuity for a long time, much has changed, and many things and actions must be reviewed in education and teaching practice. With conviction, it can be said that education will not be the same, regardless of the return to face-to-face classes, as much has been learned from virtual resources, whose richness and potential in the educational process were proven, since digital technologies are taken as an instrument to foster discussions, interactions and sharing of information, as well as learning beyond the formal education context<sup>2</sup>, which may encourage students to take a leading role in the learning process, an action demanded by current educational policies.

Within this logic and the established precepts, there is a need to understand how teachers adapted didactically in relation to the demands of the virtual process, by making use of technological resources and considering the peculiarities of the field. Thus, matrix research was adopted, which takes as its initial procedure an analysis of the scientific scenario, through an integrative review of productions from the last 10 years, with the aim of (re)learning about the didactic transposition of Physical Education teachers in relation to the use of New Information and Communication Technologies (NICTs) for teaching, especially during the COVID-19 pandemic period.

## Methods

This is a qualitative research, of an exploratory nature, whose methodological focus was an integrative review of the state of the art regarding School Physical Education in a virtual/remote context, rescuing practices that were already being adopted by the curricular component, and analyzing how they were fostered/improved in the emergency remote teaching scenario.

Initially, we decided that the research problem would be the didactic transposition actions of teachers in School Physical Education beyond the classroom context, and which were used and/or improved in the search for adaptations to the new social context, demanded from the public health scenario. This way, we defined that the research should answer the following starting question: What is the situation of the teaching didactic transposition in School Physical Education in the virtual/remote context? What resources were already being used by teachers in the field, and how were they rescued/fostered in light of the imposed educational need?

It adopted the search for scientific productions in the Scopus (Elsevier) and Web of Science databases, for understanding that these platforms are the largest databases of peer-reviewed literature productions in the fields of education, technology, social sciences, and humanities.

We set up a default search on the Scopus (Elsevier) and Web of Science platforms using the term “Distance Learning Physical Education”, excluding results that did not meet the following criteria: i) studies published in the last 10 years (2013 to 2022); ii) original articles; iii) studies establishing a direct relationship with the object defined by this research work; iv) studies addressing the scenario of School Physical Education.

Based on parameterized results, we used three categories as analysis filters:

- a) Studies that highlight in their objectives and methods the experiences and pedagogical strategies of teachers in a School Physical Education virtual classroom, before and during the pandemic period.
- b) Studies that point out in their objectives and methods an analysis of guidelines and/or legal regulations in the School Physical Education virtual classroom.
- c) Studies that present methods and analysis of teaching practices that differ, specifically, the didactic action of the Physical Education teacher in the transition from the face-to-face environment to the virtual one.

## Results

Upon entering the default search using the phrase “Distance School Physical Education”, we found 651 literary productions linked to the Scopus (Elsevier) database. By refining the search with the insertion of filters corresponding to the inclusion criteria already identified, we reduced the number of productions to 78. When analyzing the 78 productions found, and after appropriate filtering, we identified 9 productions compatible with the categorization of the research data. The same procedure was carried out with the Web of Science database, closing the integrative review at 16 qualified productions for an analysis that matches the proposed objectives, as shown in Chart 1:

Authors	Title	Category	Subcategory	Country
Petrušič et al, 20211	Effective Physical Education Distance Learning Models during the Covid-19 Epidemic	Experiences and strategies	Efficiency of teaching models and differentiated virtual environments	Slovenia
Qu, 20182	Application of network technology in distance education curriculum-take the football course as an example	Experiences and strategies	Efficiency of teaching models and differentiated virtual environments	China
Mujica Johnson & Orellana Arduiz, 20223	Emociones de profesoras de Educación Física chilenas en el contexto de pandemia: estudio de casos	Experiences and strategies	Teaching behavior in the context of virtual classes	Chile
Bernabé Martín & Fernández-Río, 20214	Integrando Facebook en el Modelo de Educación Deportiva: Una experiencia práctica	Experiences and strategies	Efficiency of teaching models and differentiated virtual environments	Spain
Hortigüela-Alcalá et al, 20215	Physical Education in the COVID-19 context. A tale from teachers of different educational stages.	Experiences and strategies	Efficiency of teaching models and differentiated virtual environments	Europe

Authors	Title	Category	Subcategory	Country
Miragem & Almeida, 20216	Potencialidades e limitações da educação física no ensino remoto: O efeito pandemia no componente curricular	Didactic action	Instruction and/or theorization of teaching practice in the virtual/remote environment	Brazil
Zheng et al, 20217	Research on blended learning in physical education during the COVID-19 pandemic: A case study of Chinese students	Experiences and strategies	Efficiency of teaching models and differentiated virtual environments	China
Vilchez et al, 20218	Teachers and school health leaders' perspectives on distance learning physical education during the COVID-19 pandemic	Experiences and strategies	Judgment of teachers and students about the realities and experiences lived in the virtual environment	USA
Ng et al, 20219	Teachers' preparedness to deliver remote adapted physical education from different European perspectives: Updates to the European standards in adapted physical activity.	Didactic action	Instruction and/or theorization of teaching practice in the virtual/remote environment	Europe
Machado & Fonseca, 202110	Docência em Educação Física Inclusiva: esgotamentos vividos no contexto do ensino remoto brasileiro	Didactic action	Experiences and perspectives of teachers regarding their pedagogical actions in the virtual/remote environment.	Brazil
Machado et al, 202011	Educação Física escolar em tempos de distanciamento social: panorama, desafios e enfrentamentos curriculares	Experiences and strategies	Teachers' discourse in the context of virtual classes	Brazil
Teixeira et al, 202112	Educação Física Escolar na Pandemia da Covid-19: Experiências no Ensino Médio do Nordeste Brasileiro	Didactic action	Experiences and perspectives of teachers regarding their pedagogical actions in the virtual/remote environment.	Brazil
Quaranta & Pires, 201313	Histórias de vida e experiências docentes no estágio supervisionado de licenciandos em Educação Física - modalidade EAD.	Didactic action	Instruction and/or theorization of teaching practice in the virtual/remote environment	Brazil
D'Elia & D'Isanto, 202114	Outdoor movement education in primary school during COVID-19 pandemic in the synthetic perceptions	Experiences and strategies	Judgment of teachers and students about the realities and	Italy

Authors	Title	Category	Subcategory	Country
	of primary school university training student.		experiences lived in the virtual environment	
D'Elia & D'Isanto, 2021 <sup>15</sup>	Primary school physical education in outdoor during COVID-19 pandemic: The perceptions of teachers.	Experiences and strategies	Judgment of teachers and students about the realities and experiences lived in the virtual environment	Italy
Irfannuddin et al, 2021 <sup>16</sup>	Virtual national workshop: preparation of multimedia modules for physical education teachers in accordance with COVID-19 prevention procedures	Didactic action	Instruction and/or theorization of teaching practice in the virtual/remote environment	Indonesia

**Chart 1:** Articles on integrative review collected from the SCOPUS and Web of Science databases

Source: The authors

Based on the findings, systematized in the summary table, and on the categories listed, it was found that 62.5% (10) of the productions point to teaching experiences and strategies in the School Physical Education virtual classroom, followed by 47.5% (6) of productions linked to the specificity that differentiates the teaching action of Physical Education teachers from the face-to-face environment to the virtual one. No research related to guidelines and/or legal regulations concerning the School Physical Education virtual classroom was identified.

Regarding the nature of the productions, of the 16 selected ones, 100% are original articles and of a qualitative nature, with 18.75% (3) being articles of a descriptive nature, 12.5% (2), articles of an experimental nature, and 68.75% (11) comprising articles of an exploratory nature. About the origin of the productions, 31.25% (5) are national articles, and 68.75% (11) are international articles, of which six are of European origin, one, of North American origin, one is of Latin American origin, and three are of Asian origin.

## Discussions

Sanches Neto et al.<sup>17</sup> consider that pedagogical practice in Physical Education is based on three thematic blocks: cultural elements; movements; personal aspects and environmental demands, and that “although there are several demands from the environment, only those that directly concern the experience of subjects in interactive teaching and learning situations resulting from classes are significant”<sup>17:310</sup>. Thus, assessing the results found, we consider that the absence of studies analyzing the perspective of legal regulations as to the Physical Education virtual classroom leads us to reflect on whether what is proposed as a standard for a virtual classroom is in fact meeting the specific demands of the field, and what structural, pedagogical and family barriers have been identified in remote Physical Education actions.

The studies categorized within the spectrum of teaching experiences and strategies in the School Physical Education virtual classroom are essentially divided into studies analyzing the judgment of teachers and students on the realities and experiences lived in the virtual environment<sup>8,14,15</sup>; analysis of teachers’ discourse in the context of virtual classes<sup>10</sup>; analysis of teachers’ behavior in the context of virtual classes<sup>3</sup> and; analysis of the efficiency of differentiated teaching models and virtual environments (software, social media, apps)<sup>1,2,4,5,7</sup>.

From the selection of the results found, it is possible to notice that there is a concern, at a global level, in recognizing the ideal modeling of virtual classes in Physical Education, whether through the opinion of its actors, or through the most effective methods for meeting the demands of the school discipline. Machado, Fonseca, Medeiros and Fernandes<sup>11</sup> report the difficulties and challenges faced by these teachers in virtual reality, of which we highlight a lack of expertise and access to information and communication technologies, “the valorization of bodily knowledge to the detriment of other types, and a lack of interaction”<sup>11:9</sup>. These three highlights are notable in the other selected studies, except, at times, the precariousness of internet access – an issue that has been resolved in developed countries.

The study developed by Couto, Couto and Cruz<sup>18</sup> and the data provided by the Brazilian Internet Steering Committee<sup>19</sup> show that inequalities in access to the internet arise from socioeconomic issues and foster digital and therefore educational exclusion, since approximately 1.6 million people in Brazil, aged 9 to 17, do not have access to the internet, which hinders access to school activities and content.

In addition to internet access difficulties, the selected studies highlight the discourse about the harm to interaction between students and the valorization of theoretical knowledge to the detriment of practical knowledge. According to Gutierrez; Tabora and Gama<sup>20</sup>, interaction between peers is a reflection of trust and digital competence, being enhanced through online tools, which are not always free.

The studies categorized into the spectrum of teaching pedagogical action in Physical Education, from the face-to-face to the virtual environment, fit fundamentally into two methods of analysis: instruction and/or theorization of teaching practice in the virtual/remote environment<sup>6,9,13,16</sup>; and analysis of the experiences and perspectives of teachers regarding their pedagogical actions in the virtual/remote environment<sup>10,12</sup>.

About the instruction and/or theorization of teaching practice in the virtual/remote environment, it was possible to observe that the studies aim to understand what methods are applicable to teaching practices in a face-to-face environment, and subsequently suggest and/or implement the adaptation of this practice to the virtual/remote environment. This study perspective is fundamental to scientifically demonstrate that there are didactic/methodological conditions to change the environment without prejudice to the teaching and learning context. On the other hand, Quaranta and Pires<sup>13</sup> reveal that matters of socio-historical memory should not be ignored, and that this could be the crucial point between the success and failure of a new way of teaching.

As for teachers' experiences and perspectives, the articles point to a more measured analysis of what teaching practice entails. In the studies analyzed, the following aspects to be overcome are identified: a lack of contact with students at school; difficulties in carrying out practical experiments in remote teaching; absence of students in synchronous activities; limitations to evaluating learning. It is possible to observe a veiled optimism in the surveys carried out as to the implementation of a new teaching practice. However, in actuality, there are other aspects that require teachers to exercise due caution regarding didactic transposition, the method and the evaluation process, when using instruments linked to virtual/remote reality.

Despite the small production on School Physical Education in virtual/remote reality, we can see that the diversity of objects on the productions is significant. Aspects of fundamental importance to the teaching practice in virtual/remote reality are addressed to understand and give new meaning to this reality and didactic thinking.

One of these aspects was the significant change in three dimensions of school practice: **the space** in which the class takes place; **the form**, from face-to-face to virtual, with the room having the format that the student desires; and **the technique**, which involves teaching didactic action adapted to the new environment.

Teachers faced the new scenario in the sense of maintaining the place of School Physical Education; however, barriers were found in the relationships between families, students and teachers, which were also combined with the difficulties of access and knowledge about the operationalization of ICTs, the valorization of conceptual knowledge to the detriment of bodily knowledge and attitudinal knowledge, and a lack of interaction between subjects, all this standing as undeniable obstacles to teaching success.

This context, considered anomalous in all the studies analyzed, has strong tendencies towards emptying, especially after the health emergency. Nevertheless, the research works make considerations about pedagogical improvement in terms of method, and point out that reality prompted a reanalysis of what we did, with projection of didactic, formative and methodological resignifications.

One needs to understand that this is something else, we live in another time. It is an emergency period, of pandemic, in which one needs to survive. There is no transformation of the school, nor of School Physical Education, nor adaptation or reinvention. Other practices are being experienced. And, to that extent, the curriculum is also different. The effects on subjects and institutions will also be different. It is a teaching process planned and executed by teachers, institutions, students and families, but quite different from the previous one. Beyond good and evil and judging things as right or wrong, it is understood that we are involved in a different process, but one that opens up an opportunity to evaluate what we had in order to plan how we want School Physical Education to be.<sup>11:13</sup>

It is also important to note that scientific productions are concentrated in the three-year period of 2020 to 2022, revealing that the pandemic phenomenon, without a doubt, forced a new scientific look at the technological advent of teaching practices. And in the wake of the volume of scientific productions, we observe that the Brazilian scenario is still austere when it comes to studying didactic aspects of School Physical Education in virtual/remote reality. The reasons may vary – from resistance to believing that this practice is possible<sup>12</sup>, to the psychotechnical limits of the actors who bring the process to life.

## Conclusions

This research sought to shed light on and interpret how academic-scientific productions have addressed the reality of School Physical Education in the virtual/remote context. This search resulted in a volume of 16 productions selected through an integrative review of their data, which revealed subcategories of analysis that provide a basis to advance the understanding of the didactic reality in the pandemic context. Thus, there were three preliminary conclusions about this review.

The first consideration is about the volume of selected productions itself. Concentrated within a three-year period (2020 to 2022), the selected articles reveal that, even in a reality evident since 2020, the analysis of didactic contexts in school Physical Education in virtual/remote reality is still precarious. If we consider the Brazilian scenario, the situation worsens, taking into account social and economic factors related to family structure, work and internet access. Therefore, in the face of this experienced reality, and apparently an indisputably constant one, it is necessary to conduct more studies on this reality, in order to understand and improve it.

The second consideration is about the objects of analysis present in the selected studies. The variation, which spans two more comprehensive categories and six more specific subcategories, shows, in our assessment, that teaching in virtual/remote reality is a multifaceted phenomenon, not only as a subcategory of Education, but as a new formative phenomenon, walking side by side with the latter, due to its particularities. This demands, from initial and

continuing training courses, actions aimed at innovative practices and the use of technologies in the teaching and learning process, in addition to critical and reflective practices that foster the central and autonomous position of students.

Finally, our third preliminary consideration observes the results from the matrix research, which is served by this state-of-the-art survey. Matrix research aims to understand this didactic reality, from the teaching perspective, and perhaps answer fundamental questions for teaching practice in School Physical Education. The pandemic reality inevitably affected the lives of students and teachers. This condition led everyone to an emblematic solution of teaching practice, both in the instrumental aspects and in the interactive reality. The studies analyzed reveal that this reality, now investigated, confuses, brings about concerns and, at the same time, excites due to its dynamics, since methodological strategies were outlined/designed seeking to alleviate the physical distance and barriers established in the teaching and learning process, instigating pedagogical and training rethinking for school physical education.

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**Authors’ ORCID:**Cristiano Vieira Santana- <https://orcid.org/0000-0003-3463-7424>Ana Luiza Barbosa Anversa- <https://orcid.org/0000-0003-4363-3433>Yedda Maria da Silva Caraçato de Sousa- <https://orcid.org/0000-0002-6602-3921>Vânia de Fátima Matias de Souza- <https://orcid.org/0000-0003-4631-1245>Amauri Aparecido Bássoli de Oliveira- <https://orcid.org/0000-0002-2566-1476>**Editor:** Carlos Herold Junior.

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**Correspondence address:** Prof. Dr. Amauri Aparecido Bassoli de Oliveira. Av. Colombo, 5790 - Zona 7, Maringá - PR, 87020-900–Brasil - [amauribassoli@gmail.com](mailto:amauribassoli@gmail.com)