

## **INCLUSIVE PHYSICAL EDUCATION IN TIMES OF EDUCATIONAL URGENCY: TEACHERS' PERSPECTIVE IN THE VENETO REGION<sup>1</sup>**

### **L'EDUCAZIONE FISICA INCLUSIVA COME EMERGENZA EDUCATIVA: LA PROSPETTIVA DEGLI INSEGNANTI NELLA REGIONE VENETO**

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#### **Abstract**

Physical Education (PE) represents an important global-growth opportunity for pupils enhancing their physical, cognitive, emotional, and relational well-being. At the same time, the heterogeneity of the classrooms implies that the promotion of inclusive PE is a complex task, and students with special educational needs (SEN) are, more than others, at risk of marginalization. This aspect is particularly relevant in this period of restrictions due to the COVID-19 pandemic in which PE teachers must redesign their activities and the alliance with other educational figures has become an educational urgency.

The aim of this study was twofold: on the one hand, to understand if and to what extent students with SEN participate in PE and how PE teachers collaborate with colleagues, other professionals and families to develop personalized and flexible teaching; on the other hand, to investigate any differences in the use of teaching styles in PE before and during the period of restrictions caused by the COVID-19 pandemic.

In conclusion, the perspective of a voluntary sample of 32 PE teachers from the Veneto Region collected through a self-reported questionnaire is presented.

L'Educazione Fisica (EF) rappresenta un'importante opportunità di crescita globale per gli alunni che possono così migliorare il proprio ben-essere fisico, cognitivo, emotivo e relazionale. Nello stesso tempo, l'eterogeneità delle classi comporta che la promozione di un EF inclusiva sia un compito complesso, e gli studenti con bisogni educativi speciali (BES) risultano, più di altri, a rischio di emarginazione. Questo aspetto è particolarmente rilevante in questo periodo di restrizioni dovute alla pandemia COVID-19, nel quale gli insegnanti di EF devono riprogettare le loro attività, sollecitati a investire sull'alleanza educativa e didattica con le altre figure educative.

Lo scopo del presente studio era duplice: da un lato, comprendere se e quanto gli studenti con BES partecipino alle lezioni di EF e come gli insegnanti di EF collaborino con i colleghi, altri professionisti e le famiglie per sviluppare una didattica personalizzata e flessibile; dall'altro, scoprire eventuali differenze nell'uso degli stili di insegnamento in EF tra prima e durante il periodo di restrizioni causate dalla pandemia COVID-19.

In conclusione, si dà conto degli esiti raccolti attraverso un questionario auto-compilato di un campione, di tipo volontario, di 32 insegnanti di EF della Regione Veneto.

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<sup>1</sup> For attribution reasons, it is specified that: the paper was defined jointly by the authors. Simone Visentin developed *Introduction*; Erica Gobbi developed *Method* and *Results*; *Discussion* was elaborated jointly by the authors.

## **Keywords**

Inclusive physical education; SEN; teaching style; barriers to physical education; co-teaching.

Educazione fisica inclusiva; barriere all'educazione fisica; BES; stili di insegnamento; co-insegnamento.

## **Introduction**

Physical Education (PE) is an essential component in the overall growth of every pupil regardless of needs and abilities (Lieberman et al., 2012; WHO 2015) and it represents a fundamental opportunity in the school setting to support inclusion. It guarantees all pupils the right to gain the benefits deriving from motor practice (Di Palma & Ascione, 2018), and the satisfaction of basic needs through the experience of play, movement, competition, and group life (Altomari et al., 2020). Inclusive PE can bring benefits to the social, emotional, cognitive and moral personal spheres (Qi & Ha, 2012), and this is highly relevant considering that students with special educational needs (SEN) are particularly subject to the risk of exclusion, discrimination (Holland and Haegele, 2021), social isolation and lower motor involvement (Qi & Ha, 2012; Qi & Wang, 2018). To effectively offer inclusive PE, it is crucial that inclusion becomes a priority in the broader school context, and this is a complex task that brings with it challenges and opportunities (Qi & Ha, 2012). A review conducted on studies between 2014 and 2019 noted that although research continues to increase, and positive experiences were found, there are still many situations in which inclusive PE is not present (Holland et al., 2021). For this to happen, resources (curricular or co-curricular activities and relations) which increase the capacity of schools to respond to diversity of all students are needed, without affecting the learning levels and motor performance of typically developing students (Qi & Ha, 2012). It is not enough to physically insert students with SEN into a group: the teacher should create an environment suitable for each pupil, through a design that refers to the perspective of Universal Design for Learning (CAST, 2011) so that each one could be actively involved and develop their potential (Yun & Beamer, 2018).

Thinking at the classroom level, among various resources, teachers could work on adapting teaching strategies and styles to diverse situations. Among the most suitable strategies, the literature underlines the effectiveness of peer tutoring in PE: it allows to improve learning, even of information secondary to the task, helps the class to understand linked actions, creates positive interactions between students (Park et al., 2021) by encouraging collaboration between tutors and tutees, improves motor performance and engagement, increases actively time spent and enjoyment of physical activity (Gobbi et. Al., 2018). Even cooperative learning takes a positive role in PE: the attribution of complementary roles, positive interdependence, discussions carried out in small groups and the incentive to collaborate with peers (e.g. feedback and instructions) favours the effectiveness of this strategy (Lafont et al., 2017).

Moreover, to ensure quality outcomes, it may be useful to invest in co-teaching - a shared strategy of planning, instruction and evaluation - in order to shape a flexible and creative learning environment, in line with the principles of differentiation, personalization, individualization (Ianes & Cramerotti, 2015). Finally, teaching styles (Mosston & Ashworth, 2008) affect learning levels and the inclusion of pupils in PE, which the teacher is called upon to differentiate to promote the students' global growth, not just the motor development (Carraro e Lanza, 2004; Colella, 2016). In general, PE lends itself to an articulated use of styles: from those of reproduction - through which pupils are encouraged to imitate or repeat - to those of production, thanks to which learners are enabled to discover, rework, and create (Goldberger

et al., 2012). The latter, focused on the students, are the most effective in supporting an inclusive climate, where students with difficulties, could increase their self-efficacy, satisfaction and the motivation to physical activity (Chatzipanteli & Dean, 2020; SueSee et al., 2018; Invernizzi et al., 2019).

Going beyond the classroom, a broader inclusive approach is necessary. Inclusion should be supported by a school designed as community engaged in relations with the territory, therefore with families and professionals, "building a qualitative network system that does not isolate individual social nodes, but invests in the construction, maintenance and strengthening of their relationships, actions and interactions as generators of possibilities" (Medeghini, 2013, p. 18). Adopting a collaborative organization, internally and with its surroundings, promotes educational and didactic innovation, increases the bond with the community, encourages different working styles and greater transparency, also in PE (Benetton & Visentin, 2021).

The professional network can be given by the PE teacher who collaborates with:

- support teachers;
- school and extra school professionals: pedagogists, psychologists, social educators, speech therapists, social workers, cultural mediators, coaches and other figures who collaborate in planning and conducting activities following a pedagogical model and a methodological scheme defined and possibly characterized by mutual contamination of teaching practices;
- parents and family members who, given the specific nature of their child, following a methodological scheme and through the common planning of activities and shared management, can make their contribution to enrich teaching.

The possibility for PE teachers to work in a network with various educational figures to plan and implement the curriculum, facilitates the fulfilment of students' needs, improves communication and allows the comparison of problems, issues related to teaching and the exchange of information on good practices (Hunter et al., 2014). This is confirmed in some studies, even in PE (Morrison & Gleddie, 2019), in which the support, collaboration and consultations between the various professionals proved to be a useful element for successful inclusion through sharing information and strategies directed to manage difficult situations, achieve positive results and plan curricular activities (Boyle et al., 2012).

These elements combine to build an inclusive school within the perspective that any or all pupils may require some form of additional support, for a variety of reasons, at some point in their school career. In this way, the potential and strengths of each student is enhanced and celebrated, acting on the context and the related barriers (Di Palma et al. 2017).

All these reflections are even more meaningful if we consider the COVID-19 pandemic we are facing, which has put a strain on students' right to education. With the goal to protect it, in the first period of lockdown, the distance teaching model has been applied in more than 150 countries: this has certainly made it possible to cope with the emergency, but there is also no doubt that PE has been the most thwarted subject, especially as regards practical activity, essential for the fulfilment of the person's educational (Bellantonio & Colella, 2020). In a second phase, with the return to face-to-face teaching at the end of the 2020-21 school year, PE certainly suffered from the organizational limitations imposed by the Italian Prime Minister's Decree of May 17, 2020 – understandable in terms of public health – where it stated that 'For physical education activities, if carried out indoors, adequate ventilation must be guaranteed and an interpersonal distance of at least 2 meters must continue, [...] and that team games and group sports are not recommended in the early reopening of schools, while physical activities are preferred individuals allowing physical distancing ' (Coco et al., 2020). In this

context, teachers were faced with redesigning the PE activities, guaranteeing the mental, emotional, physical and relational well-being of the students (Agosti et al., 2020).

In light of these premises, the purpose of the present study was twofold: first, it aimed to explore and describe current PE teachers' educational settings in terms of students with SEN, their inclusion in PE, and contacts with the professional network that could sustain an inclusive teaching approach; second, the study focused on possible differences on the frequency of use of PE teaching styles from before the pandemic to the COVID-19-related restrictions period. The study is exploratory in its nature and no a priori hypothesis based on previous literature could be made.

## **Method**

### ***Participants and Procedure***

PE teachers of the Veneto Region were invited to fill in a 10-minute-long online questionnaire, available during October and November 2021. In this period PE classes were delivered according to the restrictions imposed to contain the spread of COVID-19. The questionnaire was administered via online survey platforms (i.e., Google Forms) and accessed by participants using a designated link, which was disseminated through PE teachers' social networks, using the snowball sampling technique. All the participants gave their electronic informed consent before being directed to the survey. The research procedures were clearly explained, and participants could interrupt or quit the survey at any point before the submission without explaining the reasons for doing so, avoiding the storage of their data. Neither participant's name or contact information were asked.

A total of 32 PE teachers (6 men, 26 women; mean age =  $43.9 \pm 12.5$  years) answered the questionnaire. Participants' education was twofold: 15 (46.9%) had a higher degree for PE teaching (former type of PE teacher education) and 17 (53.1%) hold a master degree. The same frequencies were reported for PE teaching experience, with 46.9% teaching PE for more than 10 years.

### ***Measures***

The questionnaire comprised two main sections investigating socio-professional information and the teaching styles in PE.

*Socio-professional information.* Socio-professional data, collected to better describe the characteristics of the group, included questions capturing personal and work-related details, and questions about inclusive PE.

a) Regarding personal characteristics, gender, age, type of education, and years of PE teaching experience were asked.

b) Referring to work-related details the PE teachers' position (permanent/temporary), school grade, average number of classrooms and students per classroom were investigated.

c) With regards to inclusive PE, questions capturing average number of students with a SEN per classroom (disability, specific learning disorders - SLD, socio-cultural and linguistic disadvantage), how much these students took part in PE (range 0 "never" to 5 "always"), and the teachers' perceived barriers to inclusive PE were included.

Moreover, co-teaching experience was investigated with a 4-point Likert scale asking how frequently the PE teachers were used to practice the co-teaching with key professional figures (support teachers, PE colleagues, other discipline colleagues, others), and co-teaching perceived importance was assessed by using a 11-point VAS from 0 ("not at all important") to 10 ("extremely important").

Professional network supporting inclusive PE was investigated with a 4-point Likert scale asking how frequently the PE teachers were used to interact with parents, colleagues, support teachers, healthcare workers, social educators, psychologists, child neuropsychiatrists, social workers, others, about the students with SEN.

*Teaching Styles in PE.* PE teachers completed an adapted version of the semi-structured questionnaire investigating self-perception of the frequency of adoption of teaching styles in PE (Invernizzi et al., 2019). The teaching styles were based on Mosston's classification (2002); moreover, the ten styles pertaining to the reproduction and production clusters were accompanied by ten scenarios presenting the essential characteristics of the different teaching styles (Mosston & Ashworth, 2008; Ashworth, 2010) (Table 1). PE teachers were asked to rate on a Likert scale from 1 ("not at all") to 5 ("most of the time") how often they used each teaching style referring to two time periods: before the pandemic and during the current period in which restrictions on PE are imposed to contain the spread of COVID-19.

**Table 1.** Teaching styles and their description used in the questionnaire.

| <b>Spectrum landmark Style<br/>Name within the<br/>Reproduction cluster</b> | <b>Scenarios</b>   |
|---|--|
| Command   | The teacher selects the task that the students perform, the exact pacing and rhythm, equipment, and duration.  |
| Practice  | The teacher selects the tasks, the quantity, and the time limits. The students can practice individually at their own pace.  |
| Reciprocal  | The teacher selects the tasks, the quantity, and the time limits. The students work with a partner, alternating the role of practice to that of observer.  |
| Self-check  | The teacher selects the tasks and designs the criteria. The students individually practice the tasks and check their own performance.  |
| Inclusion   | The teacher selects the tasks and designs multiple levels of difficulty. The students select the level of difficulty that is appropriate to their performance.   |
| <b>Spectrum landmark Style<br/>Name within the<br/>Production cluster</b>   | <b>Scenarios</b>   |
| Guided discovery  | The teacher asks sequenced questions to step-by-step guide the students to discover skills.  |
| Problem solving   | The teacher designs a problem, a situation (single or multiple) that seeks the correct solution (convergent discovery) or multiple solutions to the same problem (divergent discovery). The task is new to the students. |
| Learner-designated individual program                                       | The teacher designates a broad topic. Within that topic, the students produce an individual learning program for accomplishing the goals.  |

|                   |   |
|-------------------|---|
| Learner-initiated | A learner initiates a request to the teacher to plan his/her own learning experience. The student makes all the decisions: selects the topic, designs, executes, and identifies the assessment criteria. The teacher participates when and how the learner requests and promotes the self-evaluation. |
| Self-teaching     | The students, independently from the teacher, make all the decisions, the teacher supervises.   |

**Table 1.** Teaching styles and their description used in the questionnaire.

### *Statistical Analysis*

Descriptive statistics were evaluated for each variable, calculating frequencies for nominal variables and means  $\pm$  standard deviations for quantitative ones. To assess the mean differences of teachers' use of teaching styles in PE from before to during the restrictions, a Repeated Measures Multivariate Analysis of Covariance (RM-MANOVA) was performed, with a two-time (before the pandemic vs. during the PE with restrictions) factorial design. The significance level was set at  $p < 0.05$ , and the analyses were performed using Statistical Package for Social Sciences (SPSS) version 26 (IBM, Armonk, New York, USA).

### **Results**

Referring to work-related details, 53.1% of the participants reported working in middle school, 25% in secondary school, and 21.9% teaching in both school grades, with a permanent (59.4%) or temporary (40.6%) position. PE teachers reported a mean number of classrooms of  $8 \pm 2$  with an average of  $22 \pm 4$  students per classroom.

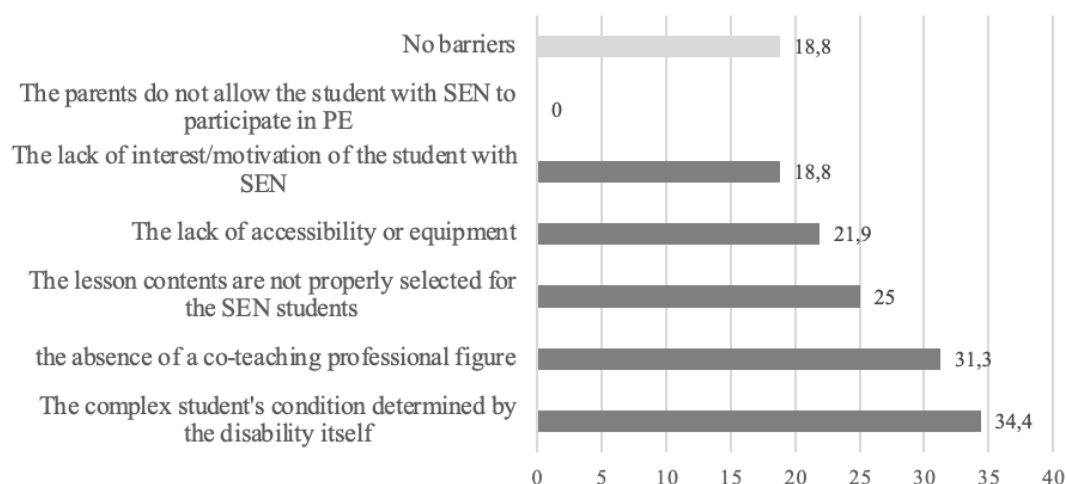
Descriptive statistics about variables related to students with SEN and inclusive PE are presented in Table 2.

**Table 2.** Descriptive statistics of students with SEN per classroom and their engagement in PE as reported by teachers.

| <b>Variable</b>  | <b>Average number per classroom<br/>Mean<math>\pm</math>SD</b> | <b>Average involvement in PE (range 1-5)<br/>Mean<math>\pm</math>SD</b> |
|--|--|---|
| Students with a disability                                 | 1 $\pm$ 0.4  | 4.5 $\pm$ 0.8   |
| Students with a Specific Learning Disorder (SLD)           | 3 $\pm$ 1.0  | 4.9 $\pm$ 0.3   |
| Students with a socio-cultural and linguistic disadvantage | 2 $\pm$ 1.3  | 4.9 $\pm$ 0.3   |

**Table 2.** Descriptive statistics of students with SEN per classroom and their engagement in PE as reported by teachers.

When looking at the barriers hampering PE participation for students with SEN, the teachers could select different options among a presented series of the mostly reported barriers to inclusion. Answers in percentage are shown in Figure 1.



**Figure 1.** Most impacting barriers (% of positive answers) in inclusive PE (teachers can select more than one barrier).

Regarding the perceived importance of co-teaching, participants reported a mean value of  $8.7 \pm 1.1$  with a minimum registered value of 5 and a maximum of 10. However, when asking the feasibility of co-teaching the answers showed a paucity of this modality with 53.1% of participants never or seldom using it. The PE teachers that could practice co-teaching indicated different frequencies for various professionals as showed in Table 3, reporting as other figures for co-teaching: healthcare workers, social educators or external sport specialists.

**Table 3.** The frequency (%) of co-teaching practice with different professionals.

| Professionals           | Never       | Rarely | Sometimes | Often       |
|-------------------------|-------------|--------|-----------|-------------|
| Support teacher         | 31.3        | 21.9   | 18.8      | <b>28.1</b> |
| PE colleague            | <b>65.6</b> | 6.3    | 15.6      | 12.5        |
| Other subject colleague | <b>78.1</b> | 15.6   | 6.3       | /           |
| Other figure            | <b>65.6</b> | 6.3    | 12.5      | 15.6        |

**Table 3.** The frequency (%) of co-teaching practice with different professionals.

When considering the professional network to support the teachers in inclusive PE, it is possible to underline a lack of contacts (Table 4).

**Table 4.** The frequency of contact between PE teachers and different professionals supporting the students with SEN schooling.

| Professionals            | Never | Rarely | Sometimes | Often       | Always, when I need | Not present in the school network |
|--------------------------|-------|--------|-----------|-------------|---------------------|-----------------------------------|
| Parents                  | 9.4   | 21.9   | 15.6      | 21.9        | <b>31.3</b>         | /                                 |
| Other subjects colleague | 12.5  | 21.9   | 9.4       | 28.1        | 28.1                | /                                 |
| Support teacher          | 3.1   | 6.3    | 21.9      | <b>37.5</b> | <b>31.3</b>         | /                                 |
| Healthcare worker        | 28.1  | 18.8   | 21.9      | 12.5        | 15.6                | 3.1                               |
| Social educator          | 53.1  | 12.5   | 12.5      | 9.4         | 6.3                 | 6.3                               |
| Psychologist             | 53.1  | 21.9   | 12.5      | /           | 12.5                | /                                 |
| Child neuropsychiatrist  | 59.4  | 28.1   | 6.3       | 3.1         | 3.1                 | /                                 |
| Social worker            | 62.5  | 25     | 9.4       | /           | 3.1                 | /                                 |

**Table 4.** The frequency of contact between PE teachers and different professionals supporting the students with SEN schooling.

Regarding the different teaching styles that the teachers are used to implementing during their classes, it is possible to see their frequency of use in Figure 2. Considering the differences that the Covid19-related restrictions imposed on PE teaching, the RM-MANOVA revealed that the command teaching style significantly increased from before the pandemic to during the PE with restrictions ( $F = 5.471$ ;  $p = 0.026$ ). The other styles did not report a different frequency of use among the respondents in the comparison before/during the Covid19-related restriction.





**Figure 2.** The frequency of use of the different teaching styles in PE, before the pandemic and during the imposed restrictions. \*  $p < .05$ .

## Discussion

Planning curricular PE activities turns out to be a complex task, because of increasingly heterogeneous classrooms and consequent problems regarding communication, skills and adaptations to ensure the success of the whole group, including pupils with SEN. The main results confirmed this scenario and they stressed the importance of investing in a stronger collaboration among different educational figures involved, shaping a more flexible, accessible and student-oriented teaching environment.

The survey revealed that PE teachers work with quite heterogeneous classrooms and the participation in PE of pupils with SEN, who represent 27% of students, is very high (with an average, on a scale from 1 to 5 points, ranging from 4.5 for students with disabilities to 4.9 for students with SLD or with socio-cultural and linguistic disadvantages).

In an overall positive picture, with almost 20% of teachers not finding barriers to the PE participation of pupils with SEN, respondents identified the type of student's disability as the main barrier to inclusion (34.4%). Alongside this, some obstacles related to the context are highlighted: the absence of a professional figure with whom to co-teach (31.3%), an insufficiently flexible teaching proposal (25%), which probably also affects the perceived inadequacy of spaces and equipment (21.9%). These data confirm recent findings about barriers and facilitators in inclusive PE: on the one hand, the study by Haegele et al. (2021) stresses that teachers' attitudes, their training, the level of professional collaboration and the flexibility of their teaching are above all the main obstacles; on the other hand, the investigation by Haegele and colleagues (2018) emphasizes the lack of equipment and the inadequate presence of support staff. Returning to the present research, the least hindering factor seems to be the student's motivation (18.8%) and the parenting attitude is not considered a problematic element at all.

PE teachers reported to often work alone, if we consider that at least 70% of respondents reported they never, or rarely, co-teach with PE colleagues, teachers of other subjects or other professionals. The collaborative situation with the support teacher is a little more comforting: co-teaching is present, at least sometimes, in 50% of situations. Although not a widespread practice, co-teaching is considered very important to increase the quality of the teaching proposal (with an average, on a 0-10 point scale, of 8.7), in line with what is stated in the literature (Zach, 2020), where co-teaching is seen as a model aimed at differentiating teaching

by respecting the different abilities of the students, their different learning levels, their needs and sports interests, taking care of the relational and emotional aspects.

If we extend our gaze to the broader professional support network, the support teacher represents, together with the parents, the main figure of partnership for PE teachers, as well as teachers of other subjects. Collaboration is much less assiduous with other professionals, starting with healthcare workers and social educators who, in the regional welfare system, are appointed to support especially students with complex disabilities who tend to be the least included in PE.

Looking at the comparison on pre and during COVID-19-related restrictions, the only one teaching style that detects a statistically significant difference was the command style. This outcome can be interpreted in the light of the ministerial organizational restrictions that have forced teachers to a greater structure offering physical activity. On the contrary, despite not reaching statistical significance, the learner-initiated and self-teaching styles act as counterpoint that would suggest a teaching setting more open to pupils' initiative.

Some limitations of the present study should be considered. Because of the limited number of participants, the results, despite being a good description of the Veneto region, cannot be generalized to the Italian inclusive PE situation. Moreover, findings should be interpreted with caution regarding the difference in PE teaching styles because their use before COVID-19-related restrictions was retrospectively assessed and possibly subjected to the risk of recall bias. Despite the limitations, this study contributes to the understanding of inclusive PE in the broad context of the local services and the professional network around the students with SEN. Strategies to enhance the contacts among professionals to support quality inclusive PE should be implemented to reduce the reported barriers. Continuous professional development programs for inclusive PE should be planned with PE teachers to facilitate the use of the most appropriate teaching styles to different learning situations and students' needs. Further research could move from this, investigating how different components of inclusive PE affect teachers and students' outcomes on various personal and academic domains.

In light of present findings and in continuity with the ideas presented in the document "*Education in a post-COVID-19 world: Nine ideas for public action*" (International Commission on the Futures of Education of UNESCO, 2020) and relaunched by the Italian Society of Special Pedagogy (SIPES, 2020), it is essential to strengthen the role of education, investing in differentiated and universal teaching, giving value to collaboration between teachers, promoting the participation of all students also by extending the accessibility of school spaces. To do this, PE, by its nature of universally recognized language, can prove to be a privileged and effective tool (Martiniello & Madonna, 2020).

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