

Pre-Service Teacher education in pedagogical models: the Sport Education case in Spain

Formación inicial en modelos pedagógicos: el caso de la Educación Deportiva en España

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Abstract

The aim of this study was to determine the degree of application of Sport Education (SE) in the education of primary school physical education teachers in Spain. We designed a quantitative and descriptive study using the documentary and bibliometric analysis of the teaching guides of courses related to games teaching. Additionally, a questionnaire was added, which was completed by 31 members of the teaching staff on the courses. The results showed that: i) despite 66.67% of the teachers surveyed stating that SE was included as part of their syllabus in the faculties, only 10% of the curricula made reference to the model in the teaching guide; ii) a third of the teacher education faculties studied did not include SE as part of their syllabus, and, of those that did (66.67%), only three dedicated to it a load of equal to or more than two credits; iii) only 33% of the curricula evaluated included bibliographic references on the model; and iv) a large percentage of the teaching staff were not experts. The findings show that SE has not yet generally been implemented, and with quality, on games teaching courses.

Key words: Physical education, teacher education, occupational socialization, games teaching, content analysis, bibliometrics.

Resumen

El objetivo de este estudio fue conocer el grado de implantación del modelo de Educación Deportiva (MED) en los planes de estudio de formación del profesorado de Educación Física en Educación Primaria en España. Se diseñó un estudio de corte cuantitativo y descriptivo de análisis documental y bibliométrico de las guías docentes de asignaturas relacionadas con la iniciación deportiva. Asimismo, 31 docentes que impartían estas asignaturas cumplimentaron un cuestionario. Los resultados mostraron que: i) a pesar de que un 66.67% de los docentes encuestados afirmaron que el MED se incluía como parte de su temario en las facultades, solo un 10% de los planes de estudio hacía referencia al modelo en la guía docente; ii) un tercio de las facultades estudiadas de formación del profesorado no incluían el MED como parte de su temario, y aquellas que sí lo hacían (66.67%), solo tres dedicaban una carga igual o superior a los dos créditos; iii) solo un 33% de los planes de estudio evaluados incluían referencias bibliográficas del modelo; y iv) un alto porcentaje de docentes no eran expertos. Los hallazgos muestran que el MED no se ha implantado aún de forma generalizada y con calidad en las asignaturas de iniciación deportiva.

Palabras clave: Educación física, formación del profesorado, socialización ocupacional, iniciación deportiva, análisis de contenido, bibliometría.



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Introduction

Modern Physical Education (PE) must respond to the new challenges of a society characterized by constant change. In this sense, there is a demand for quality PE that helps young people 'to acquire the psychomotor skills, cognitive understanding, and social and emotional skills they need to lead a physically active life' (Association for Physical Education, 2008 as cited by McLennan & Thompson, 2015, p. 9). Consequently, different, remodeled forms of PE are needed to address these new challenges, in contrast to the traditional 'one-size-fits-all' methodology proposed by the still hegemonic multi-activity instruction (Kirk, 2013). In recent decades, this methodological transformation has been directed towards a form of PE based on models (Lund & Tannenhil, 2014; Metzler, 2017). The words of Pérez-Pueyo et al. (2021) illustrate this change: 'In recent years, pedagogical models seem to have gradually emerged as a reality in physical education classes. What began as almost an anecdote in the day-to-day life of playgrounds and gyms, led by a few non-conformists of the traditional model at the end of the last century, is now identified as a solid alternative for those teachers that seek to involve their students in the teaching and learning process' (p. 9).

Nonetheless, if we want to effect real, permanent change in schools, pre-service teacher education needs to include cutting-edge methodologies in its content, in order to foster and bolster methodological renewal in the area, allowing us to respond to the new goals. This work focuses on the implementation of the Sport Education (SE) in the curricula for primary school (PS) PE teacher education in Spain.

Sport Education: a pedagogical model that responds to the demands of modern physical education

SE (Siedentop et al., 2020) is regarded as one of the models that 'best responds to the concerns of society and the educational community' (Gutiérrez & García-López, 2008, p. 10). Key characteristics of its design, such as peer teaching, working in small groups, cooperative learning and developing responsibility, lead to its being considered a student-centered approach. Its great contribution to education and to the improvement of PE is extensively supported in the literature (Fernández-Río & Iglesias, 2022) showing how the model responds to most of the proposed goals of PE (Hastie et al., 2011).

Siedentop designed the SE, with the primary aim of providing 'authentic, educationally rich sport experiences for girls and boys in the context of school physical education' (Siedentop, 2002, p. 409). The approach includes six sports features that form part of PE classes delivered under its model: i) the teaching unit (season) is structured in the phases of a sport season, promoting meaningful learning; ii) students are allocated to permanent work groups (teams) during the season, allowing a sense of belonging to prosper; iii) data related to performance and behaviours (e.g., fair

play) are recorded, providing important information for the students' teaching-learning processes; iv) a competition is organized, which provides the purpose of the model with motivation and meaning; v) the entire process is influenced by a festive atmosphere (e.g., team colours, sports rituals, etc.), which is considered one of the features that most enhances motivation; and vi) the season ends with the culminating event, marking the completion of the teaching-learning process. Two educational modifications that enrich the sports experience can be added to the above features: vii) the adaptation of the sport content to the students' developmental level through modified games that favour participation and learning, and, consequently, the success of the participants; and viii) the development of responsibility through students adopting sporting and/or sports organization roles (García López & Gutiérrez, 2017; Siedentop et al., 2020).

Justification of the Sport Education as teaching content in teacher education institutions drawing on the occupational socialization

To analyse the importance of including the SE as content in teacher education institutions, this work uses occupational socialization as a theoretical framework. Occupational socialization is defined as 'all of the kinds of socialization that initially influence persons to enter the field of physical education and later are responsible for their perceptions and actions as teacher educators and teachers' (Lawson, 1986, p. 107). Three phases of the occupational socialization process have been described: i) acculturation, based on the influence prior to entering teacher education institutions; ii) professional socialization, referring to the impact of teacher education programs; and iii) organizational socialization, determined by the influence of the workplace on teachers (Curtner-Smith et al., 2008).

The present study focuses on the second phase, professional socialization. 'Research indicates that physical education teacher education is generally the weakest form of socialization' while acculturation is 'the most potent type of socialization' (Curtner-Smith et al., 2008, p. 99-100). However, McMahan and MacPhail (2007) suggest that professional socialization had a great impact on pre-service teachers in learning to use the SE. Furthermore, pre-service teacher education seems to be a good opportunity to encouraging and motivating towards a future use of the model, as well as in understanding the challenges of organizational socialization (Hortigüela-Alcalá et al., 2020). This idea is reinforced in the work by Vasquez and Wallhead (2023), who showed that professional socialization was the most powerful predictor of the application of the SE by in-service teachers. In this sense, Curtner-Smith et al. (2008) hypothesized that beginning teachers that enter recruits with teaching or moderate coaching orientations and receive high quality education in the SE will seek to apply the model in their

future teaching. The degree of fidelity to the model in its application would seem to depend on the type of school at which they are employed (custodial school culture or innovative school culture). However, teachers, regardless of their entry profile (teaching or coaching orientation), who receive low quality education, will likely not apply the SE, even when teaching in an innovative school setting (Curtner-Smith et al., 2008).

Method

Study design and procedure

A quantitative and descriptive study was designed for a documentary and bibliometric analysis of the teaching guides for the subjects of games teaching (GT) in the curricula of degrees in Primary Education at Spanish universities. A questionnaire was also included, which was completed by the teaching staff that delivered the courses included in the different curricula.

Regarding the procedure, we located the universities and their respective faculties and/or affiliated centres offering the degree through the Spanish government website QEDU (<http://sjiu.universidades.gob.es/QEDU/>). A total of 51 universities were obtained (39 public and 12 private) with 95 faculties or affiliated centres during the 2019-2020 academic year. The curricula of each university were consulted, and all PE courses were listed. To obtain the study sample, all the courses that included knowledge related to sport and GT in the syllabus were identified. For this purpose, we included all the courses that had terms related to sport or its teaching in their titles (e.g., 'games teaching', 'games/sports', or 'sport skills'). We did not include courses that exclusively taught knowledge of other content (e.g., skills, perception, body language, etc.) or content on the pedagogy of PE. However, courses that combined other PE content or pedagogy with sport content were included. The total number of courses listed was 51, across 42 study programs. Subsequently, the teaching staff responsible for the courses under study were contacted by e-mail to request their collaboration. We then designed the data collection instruments and created the databases. Prior to systematizing the bibliographic references, a preliminary analysis of the references included in the teaching guides was conducted with the aim of incorporating only references that included the following sports terms: (1) *sport*, (2) modified games, (3) technique and/or tactics, (4) name of a specific sport, or (5) praxio*. For studies written in languages other than Spanish, each of the titles was reviewed, including those directly related to any of the aforementioned terms. This procedure was implemented because a large number of courses included a combination of types of content, such that a great percentage of their references were not closely related to sport. Finally, the data from each of the teaching guides, the responses of the teaching staff that completed the questionnaire and the academic profile of

the professors who taught the different GT courses on the curricula were analysed.

Sample

Of the total number of curricula ($n = 42$) and courses listed for GT ($n = 51$), full access was obtained for 30 curricula and 39 courses from the 2019-2020 academic year. Additionally, the population consisted of 42 teachers who identified themselves as full professors on the courses and who served as direct contact for the questionnaires. Of the total number of teaching staff contacted for the study, 31 from 27 different curricula completed the questionnaire, representing a response rate of 73.8%.

Instruments

Analysis of the teaching guides

An *ad hoc* record sheet was designed for the content of the teaching guides for the GT courses that made up the curricula. This record sheet had two sections. The first section was designed with the aim of recording the SE as teaching content in the guide, including the following variables: i) title of the course, ii) type of university (public or private), iii) nature of the course (compulsory or elective), iv) year of study (1st, 2nd, 3rd or 4th), v) total credits, vi) total hours, vii) classroom hours, viii) independent study hours, and ix) reference to the SE (yes or no). The second section was devoted to the bibliometric analysis. For each of the references included in the teaching guides, we recorded: i) title of the work, ii) author/s, iii) year of publication, iv) document type (book, book chapter, thesis, or article), v) language of publication, vi) pedagogical model (includes theoretical and/or practical content from pedagogical models), and vi) SE content (includes theoretical or practical SE content).

Furthermore, and taking as a reference the member of staff that taught the course, their academic profile was evaluated. As a measure, we used the publications (research, dissemination, projects, etc.) in which they had participated. For this purpose, the databases and academic profiles of Google Academic, Scopus and Researchgate were used. The professors were classified into one of three defined profiles: i) expert, if they had publications on pedagogical models related to games teaching such as Teaching Game for Understanding or SE; ii) related, if they did not have publications on SE, but had published works on aspects related to sports/games pedagogy; or iii) non-expert, if they had published no games-teaching related works.

Questionnaire for teaching staff

The questionnaire comprised five open-ended questions related to the teaching of the SE in the curriculum of their university and its application in the different faculties or affiliated centres where the course included in the Degree in Primary Education were taught. The questions can be found in Table 1.

Table 1. Teaching staff questionnaire

Questions	
1	Are you familiar with the sport education?
2	Do you teach it on your courses?
3	If so, how many credits do you devote to it?
4	Is this model taught on any other course?
5	Is sport content taught on other courses in your degree course? (If so, name of course, and member of the teaching staff responsible for it)

Data analysis

The data obtained were analysed in the IBM-SPSS 21.0 statistical package using descriptive statistics (frequencies and percentages). The information was analysed in two blocks closely related to the sources of information: teaching guides and teaching staff.

Teaching guides

The content of the teaching guides was analysed in terms of the two sections presented in the 'content record sheet' instrument (see instruments). The purpose of the analysis of the first section was to learn about the inclusion of the SE as teaching content in the GT courses included in the curricula. To this end, the inclusion of the terms 'Educación Deportiva' and 'Modelo de Educación Deportiva' and their respective translations (Sport Education and Sport Education Model) were reviewed and analysed to identify them in the teaching guides. Next, the frequency and percentage of guides that explicitly included SE as teaching content were calculated. Additionally, the characteristics of the courses including the SE content and the section in which it was included were described. Furthermore, and addressing the bibliometric analysis, the frequency and percentage of references containing the SE were calculated, analysing the study variables described in section two of the content record sheet for each of the teaching guides. Finally, and taking as a reference the members of staff that taught the courses, the percentage was calculated for each of the academic profiles assigned.

Questionnaire for teaching staff

In relation to the responses to the questionnaire, we calculated the percentages of credits taught for the SE in each of the faculties or affiliated centres.

Results

Analysis of the content of the teaching guides

The Sport Education as teaching content

Of all the curricula¹ analysed in this work, only three, 10%, made a specific reference to the SE as content in the teaching guides (7.7% of the courses studied). Table 2 shows the characteristics of these courses.

At the University of Castilla-La Mancha, the model was addressed in three sections: i) list of topics, ii) activities or blocks of activities and methodology, iii) assessment criteria and grading. As regards the topics, the model was included in the fifth ('Sport Education Model') of a total of eight. Four elements were described as content: i) 'origin and goals', ii) 'fundamentals of the SE', iii) 'learning to use the SE', and iv) 'scientific foundation'. As regards the activities or blocks of activities and methodology, the students were required to build 'a portfolio from the activities in the sport education season' worth 10% of the total grade for the course. Meanwhile, at the University of Oviedo, the model was only referred to in the contents ('Topic 10. The "Sport Education model)'). Finally, at the University of Huelva, reference was made to the SE in its assessment section, which included a task in topic six related to the model ('list and briefly explain at least 8 elements on which the Sport Education model is based').

Table 2. Characteristics of the courses including content on the Sport Education

University (public/private)	Course	Year of study	Character	Total credits	SE credits	References SE	
						N (specific)	% representation (specific)
University of Castilla-La Mancha (public)	Games teaching	4º	Optional	6	Not specified ¹	6(3)	20% (10%)
University of Oviedo (public)	Educational sport	3º	Optional	6	Not specified	5(1)	26.3% (5.2%)
University of Huelva (public)	Games and sport in primary education	3º	Optional	6	Not specified	0(0)	0% (0%)

Note. SE: Sport Education.¹ Only explicitly assigned 0.24 credits in the section 'Activities or blocks of activities and methodology'.

¹ A curriculum may include various teaching guides that address the teaching of games.

Bibliographic references including the Sport Education

Figure 1 shows the percentages of curricula, teaching guides and bibliographic references that include SE content. The bibliometric analysis showed that 33.3% of the curricula analysed had bibliographic references with SE content, i.e., references that included theoretical and/or

practical content related to the SE, whether or not this was shared with other content (e.g., other pedagogical models). These references were included in a single teaching guide in each curriculum. Of the teaching guides analysed, only 25.64% had bibliographic references with SE content. The total number of references included in the database was 330, with only 2.73% containing the SE.

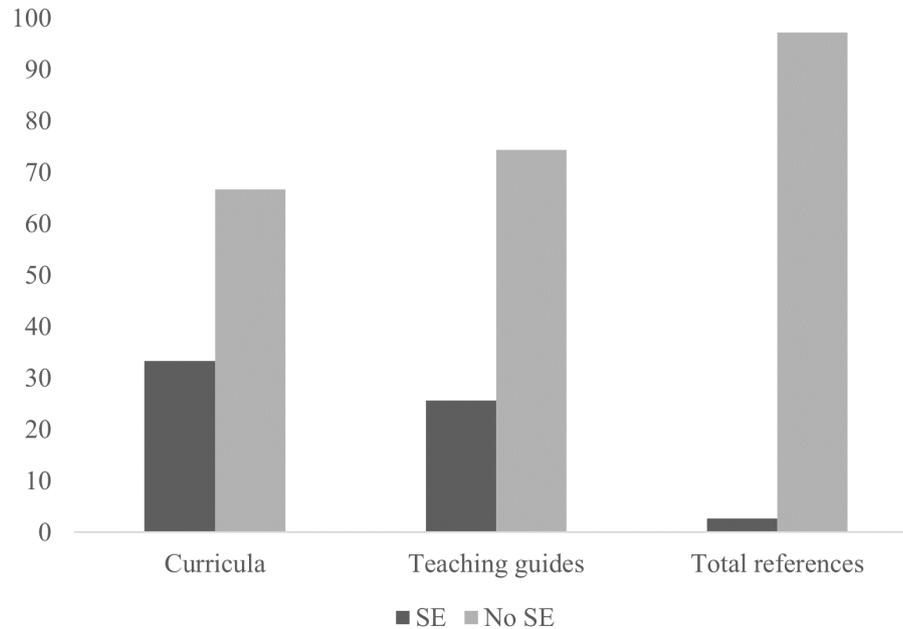


Figure 1. Percentage of curricula, teaching guides and bibliographic references that include the model

Note. SE: Sport Education

Table 3 shows the frequencies of bibliographic references in which SE content was included. Only 44.4% of the SE references were specific to the model, i.e., they did not share content with other content or pedagogical models. With respect to the type of document, only books

and articles were included, showing a clear predominance of textbooks, with 77.78% of the titles cited in the teaching guides. As for language, Spanish (55.56%) and English (44.44%) were the two languages present in the bibliographic references.

Table 3. References that include the Sport Education

	Work Author (years)	F	Type	Language	Specifically SE
1	Aprendiendo a Enseñar Deporte. Modelos de Enseñanza Comprensiva y Educación Deportiva. (García-López y Gutiérrez, 2016; 2017)	6	B	S	No
2	Modelos actuales de iniciación deportiva: unidades didácticas sobre deportes de invasión. (Méndez-Giménez, 2009)	6	B	S	No
3	Modelos actuales de iniciación deportiva: unidades didácticas de juegos y deportes de cancha dividida. (Méndez-Giménez, 2011)	5	B	S	No
4	Modelos de enseñanza en educación física: unidades didácticas de juegos deportivos de diana móvil, golpeo y fildeo y pared. (Méndez-Giménez, 2014)	4	B	S	No
5	Complete guide to sport education. (Siedentop et al., 2004; 2011; 2020)	3	B	E	Yes
6	Sport Education. International Perspectives. (Hastie, 2012)	1	B	E	Yes
7	Sport Education in physical education. Researched based Practice. (Penney et al., 2005)	1	B	E	Yes
8	Sport education, tactical games and cooperative learning: Theoretical and pedagogical considerations. (Dyson et al., 2004)	1	A	E	No
9	El modelo de educación deportiva: aprendizaje de valores sociales a través del deporte. (Gutiérrez y García-López, 2008)	1	A	S	Yes

Note. A: article; S: Spanish; F: Frequency; E: English; B: Book; SE: Sport Education.

Number of credits on the Sport Education reported by teaching staff

A third of the faculties studied did not include the SE, and, of those that reported its inclusion (66.67%), almost

half (41.67%) devoted below 0.5 credits to its teaching. Only three, 8.3% of the total number of faculties analysed, dedicated a course load equal to, or greater than, two credits (Figure 2).

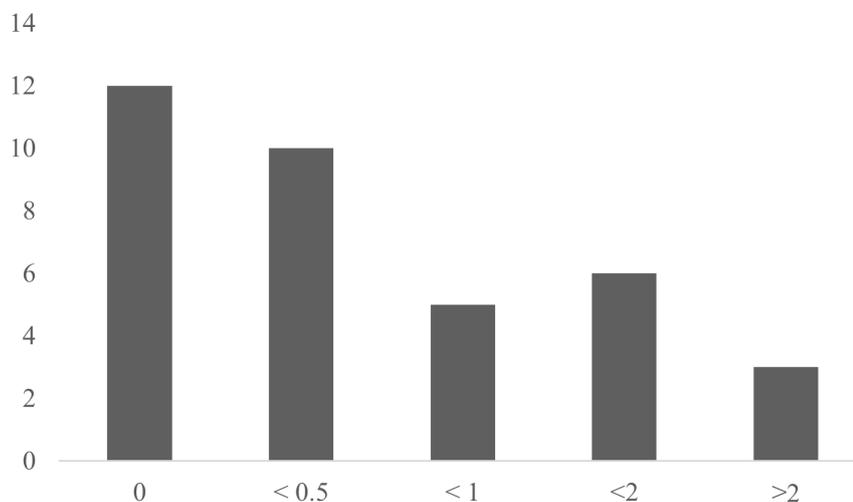


Figure 2. Credits taught on the Sport Education reported by the teaching staff

Note. Results are shown as frequencies.

Academic profile of the teaching game professionals

Our study of the academic profile of the teaching staff showed that 43% of them were experts in pedagogical

models related to sports teaching (SE and/or Teaching Game for Understanding), 12% had a profile related to GT and 45% were not experts in neither methodology nor in sport content (Figure 3).

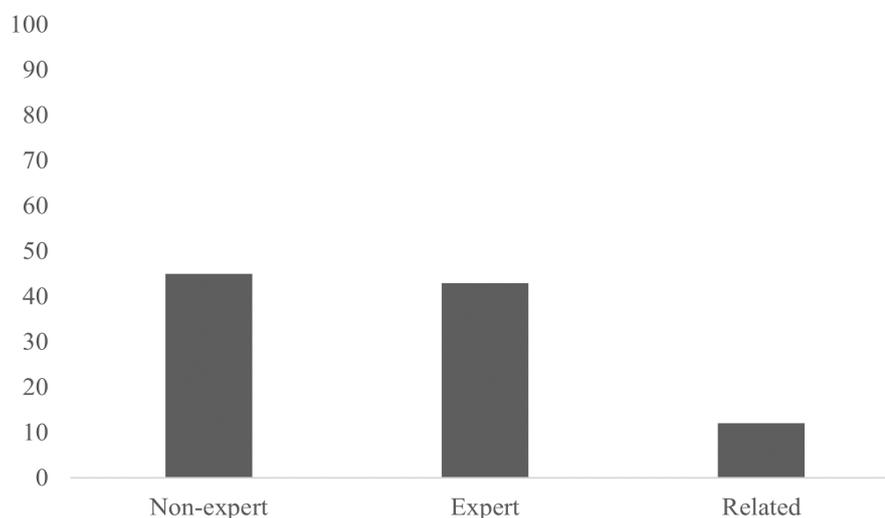


Figure 3. Academic profile of the teaching staff responsible for teaching courses with sport content

Note. Results are shown as percentages.

Discussion

The aim of this study was to determine the extent of the implementation of the SE in the curricula for the education of PE teachers in Spain. Our results showed that pre-service teacher education in the model in Spain is still scant, with substantial discrepancies between the

results obtained from the analysis of the teaching guides and the teaching staff questionnaires. While 66.67% of the teacher staff reported including the SE in their syllabuses, the analysis of the content of the guides showed that the model was only mentioned by 10%. Those that reported teaching the model on their courses gave such content a

low teaching load, thus making it difficult to provide an opportunity for experiential learning. Moreover, and in relation to the bibliographic references, we found that only 2.73% of the total references included SE content, all of which were present in only 10 of the 39 courses analysed. Finally, the academic profile of the teaching staff involved in the different courses was not, in a large percentage, that of an expert in teaching the model. In this sense and taking as a reference the professional socialization phase as a theoretical frame of reference, the results are discussed in relation to the importance given to education and implementing the SE, as well as the factors that the authors consider would enhance its quality.

Despite a large body of scientific and didactic literature having emerged around the SE, highlighting its effectiveness and pertinence, the results of this study show there appears to be a lack of a general updated methodological approach in GT education in Spain. However, the specialized literature has suggested, over the last two decades, the need to include SE in pre-service teacher education given its educational potential (Alexander & Luckman, 2001). The lack of implementation of a pedagogical model that has been so extensively studied and applied worldwide in primary education curricula could be a consequence of the multi-activity curriculum continuing to be predominant in Spain at this level of education. However, pre-service teachers and beginning teachers are key to permanent methodological change in schools.

The responses of the teaching staff show that almost 67% of them reported including the SE as part of the GT curriculum in their faculties. These findings are encouraging when compared with the study by Ayers and Hoursner (2008) conducted in the United States. In their work, of the 96 programs that answered the question on methodology, 50% of the institutions reported employing models, with 26% of the total stating they included the SE. However, and despite the majority inclusion of the SE in the pre-service education of PE teachers reported in this study, its importance as teaching content seems to be low, since the results of the questionnaire showed that the teaching load in most cases is small and, in a large percentage, anecdotal. This credit load might make it complicated to implement the quality SE teaching required to train teachers in the main challenges of implementing student-centered models (Silva et al., 2021).

In this sense, among the recommendations found in the literature on how to teach the SE in pre-service training, a triple perspective can be observed with regard to strategies and methods: (1) university setting (e.g., debates, reading articles and participation in seasons); (2) teaching practice at schools (e.g., teaching the model to students in schools); and (3) intermediate strategies (e.g., watching a film about the model or peer teaching) (Curtner-Smith, 2012, p.156). Curtner-Smith (2012) notes the effectiveness of these strategies when developed in 'packages' and suggests that the more experience pre-service teachers have in learning

the model, the greater will their learning be. At the level of the university strategies previously mentioned, the opportunity for students to experience the SE as learners (Deenihan et al., 2011; Hortigüela-Alcalá et al., 2020) under the philosophy and framework of 'living the curriculum' (Oslin et al., 2001) is of great importance. In this sense, frequent, early exposure seems particularly appropriate (Stran & Curtner-Smith, 2010).

Additionally, and as factors of the quality of SE teaching, the bibliographic references and academic profile of the teachers evaluated in this work could be added to the teaching load analysed above. In relation to bibliographic references, which could provide students with the opportunity to independently study the model in depth, our findings show that the curricula included a very limited number of bibliographic references alluding to the model. Secondly, and as regards the academic profile of the teaching staff, our study revealed that a large percentage of those that taught sport content were not experts. This could be a limitation, since 'teacher educators would be required to possess considerable expertise in both the areas of the content they are teaching and the curriculum or instructional model that they are teaching through' (Deenihan et al., 2011, p. 65). In addition, one of the main limitations that pre-service teachers have when applying the SE in their teaching placement is the lack of knowledge and expertise applying the model from cooperating teachers, despite their mentoring and support has been shown to be of great significance (Deenihan & MacPhail, 2017; McMahon & Macphail, 2007). The support of experts in teaching the SE, and who advocate its application in and since university contexts, as well as the presence of educated cooperating teachers (Deenihan et al., 2011), could lead to an increase in the probability of pre-service teachers applying the model in their future teaching practice, regardless of their acculturation (teaching or moderate coaching orientations) or future organizational socialization (custodial school culture or innovative school culture) (Curtner-Smith et al., 2008). Therefore, high-quality is a key aspect in the pre-service teacher education to facilitate the pedagogical renewal of schools (Vasquez & Wallhead, 2023).

Conclusions

The literature attaches great importance to the professional socialization phase in the teaching and future application of the SE, and so we believe that the dissemination of the model would be more effective in Spain if its inclusion in the curricula were greater and of better quality. We also believe that the SE should be taught by experts in sports pedagogy with experience in implementing the model. Additionally, a sufficient percentage of credits should be ensured to allow for the introduction of a large number of strategies and methods for learning the model. Among these, we might highlight "living the curriculum", learning to teach it and having

opportunities to apply it. Moreover, it would be useful for pre-service teachers to find sufficient references in the teaching guide to allow them to delve more deeply into the content.

In addition, it is worth noting that SE would be more efficiently disseminated if the pre-service teacher training were complemented by the monitoring and professional development of in-service teachers. An example of this type of initiative might be that implemented by the autonomous community of Castilla-La Mancha (Spain), which has responded to this need for a pedagogical updating of GT through three elements that have included the SE in: i) the pre-service teacher education at the University of Castilla-La Mancha, ii) the autonomous community's regulations (pedagogical guidelines. Decree 54/2014) and iii) professional development through programs for the promotion of physical activity and communities of practice. This has led to the model becoming widely applied across the region (Gutiérrez et al., 2020; Gutiérrez et al., 2022).

The significance of the results raised in this study suggests the need to develop a broader analysis of the physical education teacher education, which might allow us to have an in-depth perspective of what and how future teachers are taught. Thus, the updating of education based on the implementation of pedagogical models in PE is more likely to become a reality if, among their practices, teacher trainers and curricula include teaching of pedagogical models that entails not only a theoretical framework of such models, but also the teaching of their application; in short, what they are and how they are taught. As a limitation of this study, it is worth noting that our evaluation of the teaching profile did not include teaching experience, only academic achievements through publications.

In conclusion, SE is a model with proven benefits and one that is expanding worldwide expansion. Nonetheless, it seems to be included with quality in only a small percentage of the curricula for pre-service teacher training, which calls into question the scope, dissemination, and application of pre-service teachers in their future teaching practice. Our findings suggest there is much room for the updating of PE pre-service teachers' education in GT in Spain.

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