

Comparison of the beliefs of teachers in Aracati (Brasil) and Valencia (Spain) about choosing Olympic combat sports

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Abstract

This study investigates the factors that determine the choice of combat sports by Physical Education teachers, according to what they know, what they think, and what they need of these Olympic modalities. For its realization, we rely on the Teacher Belief questionnaire regarding Combat Sports in the Physical Education classrooms, where the results of 79 teachers from Aracati (Brazil) and 81 teachers from Valencia (Spain) are compared. The main factors that justify their scarce presence refer to the fact that teachers consider their practice risky and dangerous, and that social pressure has a negative influence on these

sports. However, teachers are willing to invest time in learning and understanding the basics of the five Olympic modalities to introduce them in their classrooms.

Keywords

Combat sports, teachers, beliefs, curricular contents

Introduction

Combat sports have a great historical tradition and can be found in different aspects of our lives, including education (Figueiredo, 2006). Several authors point out that practising these sports at school contributes to an improvement regarding work in values, aggressiveness control, stress release, integral formation, social skills and integration, increased physical condition and basic motion skills, respect for the rules and their classmates, as well as responsibility and motivation (Rudy and Jacqueline, 2004; Jurado, 2005; Annichiarico, 2006; Iglesias, Anguera, and González Arévalo, 2007; Barreira, 2012; Cynarski, 2014).

However, the alleged violence that comes with their practice has caused the rejection of numerous public spheres, and pedagogues and teachers of Physical Education (PE) dismiss these sports for their classes (Castarlenas, 1990). Likewise, the lack of proper didactic resources is another reason why these sport modalities are not practised in PE classes (Camerino, Gutiérrez, and Prieto, 2011).

With regard to the selection of combat sports, Robles (2008) establishes five variables: the academic training of the teachers, the experiences and interests of the teacher, the facilities and materials of the school, the demands and interests of the students, and the lack of didactic proposals. These variables can become the cause of the prejudices against combat sports in schools.

According to Scherer and Molina Neto (2000), the selection of content is influenced by a group of factors shaped by the pedagogical practice, the sports life experiences, the initial and continuous training, and the experience of the teacher. In the same line, Silva and Sampaio (2012) state that the pedagogical practice of the teacher can be influenced by their life experience, initial training and even by the lack of facilities and materials, as well as lack of time in the planning and reflexion process. The aforementioned factors prevent the development of other contents, thus restraining PE classes to the best-known sports modalities.

The results of the research by Ruiz-Sanchis and Ros (2014) showed that secondary school PE teachers in Comunidad Valenciana (Spain) pointed out the lack of specific material and continuous training as the main reasons to dismiss Fencing from their contents. The results obtained regarding Olympic boxing were very similar (Rodríguez-Amiguet, 2014). In order to carry out this study, the questionnaire of Teachers' Beliefs regarding Combat Sports in PE classes (CCDCEF for short in Spanish) by Ruiz-Sanchis (2009) was used as a function of three subscales:

1. What does the teacher know about combat sports?

This question is answered with the following five parameters:

- Experiences and interests of the teachers

A huge absence of fight contents in PE syllabi for secondary school is evident (Brousse, Villamón, and Molina, 1999; Ruiz-Sanchis, Bastida, and Ros, 2010, Ruiz-Sanchis, 2012). The study by Villamón, Espartero, and Gutiérrez (2001) with secondary students shows that only 1.3% of the participants received combat contents in PE lessons. Although Games and Sports is the most selected content area by teachers, combat modalities are barely included in syllabi (Robles, Giménez, and Abad, 2010). Team sports are the most chosen, followed by individual sports and lastly by adversary sports, amongst which judo

is the preferred sport (Zabala, Viciano, and Lozano, 2002). According to Castejón (2005) and Akilian (2007), teachers exclude those contents they don't master given to the wrong belief that being a specialist is required to carry out these activities (Camerino, Gutiérrez, and Prieto, 2011). The study by Rego, Freitas, and Maia (2011), shows that 14.3% of the teachers that include combat sports in PE lessons need the help of a specialist.

The study carried out by Villamón, Gutiérrez, Espartero, and Molina (2005) shows the previous experience on combat sports acquired by Sports Science students in Leon and Valencia (Spain). The results of the modalities practised are 37.81% in judo, 25.37% in karate, and 17.91% in taekwondo, while 18.91% practise other combat modalities, showing a clear tendency amongst future teachers towards Oriental sports.

- Academic training of the teachers

Data show that between 17% and 28% of PE teachers don't possess a Sports Science degree (Llamas and Moreno, 2004). However, this is not the only fact that determines the selection of combat contents. For Brouss et al. (1999), PE teachers have barely received any combat sports training. The research carried out by Ruiz-Sanchis, Rodríguez-Amigué, and Tamarit (2014) concludes that teachers don't feel qualified to impart these contents in their PE lessons because they don't master the basic fundamentals of taekwondo nor boxing.

In different studies (Rodríguez-Amigué, Ruiz-Sanchis, and Tamarit, 2015; Luna, Silva, Ferreira, and Ruffoni, 2013; Rego et al., 2011), secondary PE teachers were asked about the reasons behind their decision of not including combat sports in their lessons. The lack of training was the most relevant reason. Hence, the academic training of the teachers is important both for the presence and the absence of combat contents in PE lessons (de Matos, Hiram, Galatti, and Montagner, 2015).

- Risks linked to the practice of combat sports

The statistics of hospital admissions due to sports injuries in combat sports show a low incidence, as exemplifies the 5.2% in Mieres, Spain (Viribay, Álvarez, and Pérez, 2005) and the 2.7% in the General University Hospital of Alicante (Garrido et al., 2009). Although there is a direct contact with the adversary, combat sports are provided with safety elements in order to prevent severe injuries such as: the number of referees per combat and the compliance of the decisions of the referees, the regulations in which the integrity of the athletes prevails, the use of protective equipment especially designed for the sport practice, and high respect for the rules, the adversary, and the referees.

- Masculinization of the woman caused by the practice of these sports

According to Camerino et al. (2011), combat sports are usually considered as reserved for men who want to prove their courage (Moreno, 2011). Tamburrini (2011) explains that women who practice these sports are usually described with masculine attributes that “de-feminize” them. This type of preconceptions damages the participants in combat sports. However, Santana (2002) defends that teachers must break down the masculinization prejudice against these sports. The students have changed their perception regarding the stereotypes linked to these sports modalities and do not see them as masculine (Velázquez and Hernández, 2003).

- Influence of social pressure

As pointed out by Sánchez-García (2009, 12), this fact is “particularly evident in combat disciplines, which represent in themselves a limit situation of “simulated fight” and are sometimes in a compromised situation with regard to the public opinion”. In social media the dangerousness and negativity of combat sports has been highlighted by linking them to the film noir and violence. This situation drives to the preconception, especially by non-initiated people, of combat or fight sports as violent (Sánchez-García, 2009).

2. What does the teacher think of combat sports?

In order to answer this question, two basic aspects of the thought of the teachers are pointed out:

- Violence generated by the practice of this type of sports

As pointed out by Moreno (2011), the original goal of martial arts was to cause the adversary as much pain as possible, even to cause their death. However, the evolution of combat sports has followed the same socializing scheme as humanity. Violence has decreased at the same pace in which humanistic philosophy has influenced sports, thus socializing their practice. According to Figueredo (1997), martial arts and combat sports are defined as a practice of opposition in which the body of the adversary is both the object and the objective of the game. Hence, the interpretation of whether these sports are violent or not depends on each one's personal conception. Several studies, such as those carried out by Carratalá (2002), Ruiz-Sanchis et al. (2010), Thabot (1999), and Camerino et al. (2011), state that the discrimination suffered by combat sports is determined by unjustified causes such as the belief that these activities are dangerous and violent because of the constant opposition and the lack of collaboration between the adversaries. Likewise, Vergara (2001) points out that combat sports are not generators of violence in any way, but their practice can be a tool to channel aggressive behaviours as long as the elements of the sport are presented from values such as responsibility.

- Demands and interests of the students

While planning PE lessons, teachers must take into account the demands and interests of the students (Viciano and Requena, 2002). However, the study by Zabala et al. (2002) showed that the selection of the sports practiced in the lessons was made by the teachers in 83.11% of the cases versus 10.55% in which the decision was made by the students. Only 6.33% of the times the decision was made by both the teacher and the students. In the case of combat sports, these figures difficult their introduction in the lessons given

that 73.2% of the participant students in the study by Ruiz-Sanchis (2012) consider these modalities to be very motivating in their PE lessons.

The most selected sports for didactic syllabi in PE lessons are team sports (Bento and Ribeiro, 2008). According to Rosario and Darido (2005), the reason behind the selection of these modalities are the demands of the students. However, authors such as Perfeito, de Azevedo Guimaraes, Maria, Soares, and Dos Santos (2008) point out that, although 74.9% of students select sport contents for their practice during the lessons, variation and inclusion of new sports and playful activities is necessary.

3. What does the teacher need for the practice of combat sports?

The answer is based in two parameters.

- Facilities and materials of the school centre

Both the facilities and the sport material are essential resources for the development of PE lessons. Viñao Frago and Escolano (2001) point out that the architecture of the school can be considered part of the hidden syllabus. Thus, Viciano and Requena (2002) state that teachers take into account the material and space at their disposal for the lessons. As shown in the study by Robles (2008), 57.6% of the teachers state that the sports selected for PE lessons depend on the material and facilities required.

Castejón (2004) states that sports facilities of the Spanish schools are built for the practice of traditional sports such as football, basketball, and handball. For most of the students, PE is reduced to these three sports and some games, without any experience in combat sports due to the lack of space specific for their practice (Gonçalves, Pagliarini, Almeida, Silva, Cerqueira, and Lima, 2014). Regarding the materials for practice in PE lessons, combat sports are likewise excluded. According to Ruiz-Sanchis et al. (2010), given the specificity of the material, the inclusion of alternative materials is beneficial to carry out their practice.

- Lack of didactic proposals

The research carried out by Camerino et al. (2011) shows that there are few didactic proposals for combat sports. In this sense, Robles (2008, 44-45) states that “in specific literature, we find that didactic proposals related to combat sports that ease their implementation from an educational-training model are very scarce. Likewise, most of the existing proposals are directed to teachers with previous knowledge of combat sports. Thus, Liras (2016) states that nowadays it is not easy to find didactic proposals for these sports. Furthermore, Ruiz-Sanchis et al. (2011) point out the difficulties experienced by the teachers to find didactic resources with an educational and training perspective. According to da Silva Gasparotto and Dos Santos (2013), the increase of studies providing the teachers with materials is necessary for the inclusion of these sports in PE lessons.

Method

This research allows us to know the beliefs influencing the non-selection of olympic combat sports in PE syllabus in Valencia (Spain) and Aracatí (Brasil). Later, the results obtained will be compared applying the CCDCEF questionnaire, by Ruiz-Sanchis (2012). Thus, the following variables (Table 1):

Insert table 1 here

These variables are directly linked to the role of the PE teacher and the selection of the five Olympic combat sports (taekwondo, Olympic boxing, fencing, Olympic wrestling, and judo) for their syllabus in order to find out: what do they know? What’s their opinion? And what do they need in order to include them in their syllabus?

The first question is aimed at finding out whether they know the sports or not, regardless of the rules, whether they’ve practiced them as students at school, their capacity to create a Didactic Unit (DU) and the specific materials at their disposal to practice these sports,

and whether they consider these sports as *masculinising* and/or risky, or negatively influenced by social pressure.

The second question is delimited by the perception of dangerousness of these sports and the aggressiveness derived from them or whether the teachers consider their practice to be expensive. However, aspects such as the motivation they arise in the students, the positive values they encourage, the level of difficulty to teach them, and the appeal of their practice are also considered in this question.

The third question refers to the ability of the teachers to carry out the DU, whether they are willing to invest time in learning these modalities, and getting to know the teachers' perception of the materials, both specific and didactic, as well as whether they consider necessary going to a sports club to receive professional training.

Objective of the study

Knowing and comparing the teachers' beliefs from the knowledge, opinion, and need of the five Olympic combat sports within the school and geographic context of Aracati and Valencia, and the initial and continuous training of the teachers in this kind of sports.

Participants

Primary and secondary teachers from Aracati took part in this study. The sample selection was made given their participation in a teachers' training conference at the Faculdade do Vale do Jaguaribe (FVJ). As for the sample from Valencia, secondary teachers were selected from the participation in courses of the Training, Innovation and Educational Resources Centres (CEFIRE). The inclusion criteria in both cases were:

1. In Aracati, PE teachers of one of the following grades: 6th, 7th, 8th, and 9th grade of elementary school, or 1st, 2nd, 3rd grade of secondary school . In Valencia, PE teachers of 1st, 2nd, 3rd and 4th grade of ESO (secondary school), or 1st and 2nd grade of Bachillerato (secondary school).

2. Teachers belonging to the educational district of Aracati or Valencia.

Sampling of the PE teachers' population

The sample value after adjusting the estimated proportion is 4.96%. Wald confidence interval (IC) is 86% IC (π)= [3.16%; 6.29%] for the teachers from Aracati and [2.76%; 5.52%] for the teachers from Valencia. The sample of 305 teachers from the municipality of Aracati allowed an actual precision of 1.56%, while the sample of Valencia with 413 teachers allowed an actual precision of 1.62%, and a wanted precision of 5.00% for both groups of teachers. This requires a sample of at least 84 participants in Aracati, 79 being the final participation ($n=79$) and at least 98 teachers in Valencia, where the final participation was of 81 teachers ($n=81$).

Instruments

It was done a transcultural translation of the CCDCEF (Ruiz-Sanchis, 2012), which comprises 19 items of closed questions. The delimitation of the variables included in this study is determined by the answer on a Likert scale that allows to classify the individuals depending on the degree in which they possess a certain attribute, with the categories: 1) Nothing, 2) A Little, 3) Enough, 4) Quite a bit 5) A lot.

The transcultural adaptation of the instrument was made through three phases:

1. First Pilot Test

Carried out with 21 Valencian PE teachers in 2014, the analysis of the reliability of *Cronbach's Alpha* method showed an acceptable internal consistency, with a global value of $\alpha = 0.89$, which is adequate for researches on attitudes (Pérez Juste, 1983). In addition, another reliability analysis was performed through the method of halving division, thus obtaining a result slightly higher: 0.90.

2. Adaptation, translation, and back-translation

The process of transcultural adaptation followed the stages of translation, back-translation, and review of the translations by a committee of 3 judges. The committee reviewed the translations and made changes to produce a pre-final version of the questionnaire. The content validity index was verified as $IVC=0.72$. The problems identified by the judges produced changes in item 15 with the change of the technical term “masculinising”, in item 17 with the change of the technical term “philosophy”, and in item 19 with the change of the definition of “social influence”, thus transforming the data as observed in Table 2:

Insert table 2 here

3. Second Pilot Test

The goal was to establish whether the questionnaire could be satisfactorily understood and completed by people of the target population. The possibility of adjustment was considered as 15%, in case the participants had any difficulty to understand or to answer any item of the instrument (Badía, 1995).

The test took place at the Department of Education of the Faculdade do Vale do Jaguaribe (FVJ) in Aracati (Brazil). Data were collected during the PE teachers’ training conference at FVJ, where the participants had 30 min. to fill out and review the items. The participants signed an informed consent form and a copy of the pre-final version of the CCDCEF Questionnaire.

The study was approved in the *Comitê de Ética em Pesquisa nas Ciências Humanas da faculdade do FATECI*. Descriptive statistical analysis was made with SPSS 24.0. The main approach was aimed at the items of the questionnaire that had not been answered satisfactorily. After the CCDCEF Questionnaire (Ruíz-Sanchis, 2012) was translated, there were 19 items that comprised the main characteristics at which the research was aimed. The questionnaire had enough representativeness of the three variables. With the

data obtained after the first pilot test, and without the possibility of carrying out a double application method, an internal consistency analysis was made of the coefficients that were used as consistency and reliability evidence of the test. The analysis of the reliability of *Cronbach's Alpha* method showed an internal consistency acceptable, with a global value of $\alpha = 0.81$.

Procedure

A descriptive analysis was carried out, from which the initial frequency percentage was extracted, in the classification of the CCDCEF Questionnaire (Ruiz-Sanchis, 2012), of the scales of: They Know, They Think, and They Need, of the teachers from Aracati and Valencia. The *T*-student parametric test was carried out in independent samples once the assumptions of normality and homoscedasticity were checked, setting the level of significance in 5% ($p > .05$) for the relationship of significance of the variable “the continuous training in combat sports”.

Results

T-Student for the test scores shows statistically significant differences between the group of teachers from Aracati and the group from Valencia that receive continuous training in combat sports. It is particularly significant the difference in the average score for items 1, 3, 13, and 15 that are part of the subscale “What does the teacher know about combat sports?” as shown in the table 3:

Insert table 3 here

The *T*-Student for test scores found significant differences in the average score for items 4, 7, 10, 16, and 17 that are part of the subscale “what does the teacher think of combat sports?” as shown in Table 4:

Insert table 4 here

Finally, the *T*-Student for the test scores showed significant differences in the average score of items 5, 9, and 18 that are part of the subscale “what does the teacher need from combat sports?” as shown in Table 5:

Insert table 5 here

Discussion

Regarding the question “what do they know?”, teachers from Aracati claim to have practiced Olympic wrestling as students during their PE lessons. Therefore, they have a higher knowledge of the fundamentals of this sport compared to the other modalities, which makes the preparation of a DU easier. The interest of the teachers in grappling sports is confirmed (Torres, 1990) as well as how that interest is reflected in the inversely proportional relationship between the knowledge factor and the negative factors (risk, “masculinization”, and social pressure). However, the teachers point out that the practice of taekwondo and Olympic boxing masculinize their participants, hence making necessary the creation of coeducational fighting activities that allow the participation of both sexes by appealing to their positive values of respect and responsibility (Argudo, 1997). Moreover, they consider the social pressure negatively influences taekwondo, fencing, and Olympic boxing, thus confirming that such activities are risky to their students as stated by Castejón (2005) and Akilian (2007). The teachers exclude the contents they do not master due to lack of knowledge and practice, whereas the teachers that have received continuous training in combat sports conceive these modalities as less risky.

On the other hand, teachers from Valencia claim to know the basics of taekwondo, Olympic boxing and fencing, sports that belong to the Fighting Motion Units (FMU) of hitting (Torres, 1990), unlike the teachers from Aracati, who admit to have broader knowledge of grappling sports. Therefore, we consider the initial training of graduates has been crucial in the design and programming of DUs, due to the existing subjects

focused on this task, as stated by Rodríguez-Amiguet et al. (2015). For this reason, PE teachers consider themselves qualified to design a DU of these modalities. Likewise, they point out that Fencing and Olympic wrestling suffer negative social pressure that affects their selection as PE content. As pointed out by Villamón et al. (2005), after judo was admitted as Olympic sport at the end of the 20th century, several modalities of Eastern fight started to become increasingly popular in the West, to the extent of eclipsing almost entirely wrestling, Olympic wrestling, boxing, and fencing.

The teachers from Valencia that have received continuous training affirm to possess a broader knowledge on basic fundamentals of Olympic boxing and fencing, hence feeling more confident to create a DU on fencing. We consider continuous training plays an essential role in the selection of diverse experiences in school practice by breaking with the dynamic in which combat sports, especially Olympic boxing, are (Rodríguez-Amiguet et al., 2015). Amongst the continuous training courses attended by the teachers are included modalities such as kickboxing and cardio boxing (9%), thus explaining the mastery of the technical-tactical fundamentals of Olympic boxing. However, the lack of specific training on Olympic wrestling might determine the consideration of this activity as dangerous for the students. The teachers that have not received continuous training affirm to know the fundamentals of judo, sport included in the syllabus of undergraduate and master programmes in Spain (Villamón et al., 2001). Moreover, they consider that social influence is negative for Olympic boxing, which suffers the same negative stereotypes linked to boxing practice, as explained by Sánchez García (2009). To these teachers, Olympic boxing and taekwondo *masculinize* their participants, reinforcing the prejudices and negative stereotypes linked to hitting sports

Regarding their opinion about the five Olympic combat sports, teachers from Aracati think the philosophy of taekwondo, boxing, Olympic wrestling, and judo is attractive

given that the opponent is not considered an enemy to defeat, but another athlete that challenges them to overcome themselves and give their best (López-Frías, 2010). Moreover, they think the practice of taekwondo, fencing, Olympic wrestling, and judo fosters positive values, excluding Olympic boxing. To Rajadell (2002), values are influenced by society and in the case of this modality the social attribution is negative. However, this opinion changes in the teachers that have received combat sports training, who believe the practice of taekwondo and Olympic boxing reinforces positive values, thus rejecting the negative preconception and stereotypes.

The teachers in general believe their students would like to learn fencing given that it is an unknown sport to them and to their students, thus confirming the idea of Ruíz-Sanchis (2012) about the motivation the practice of these modalities awakens in PE classes. Likewise, they consider Olympic wrestling a motivating, attractive sport easy to teach. Given that they have a broader knowledge and mastery of this sport, especially the teachers from Aracati, it is confirmed that the preference of contents is influenced by a group of factors that comprise the pedagogical practice, the sports life experiences, the initial and continuous training, and the teaching experience (Scherer et al., 2000). They also believe that taekwondo, Olympic boxing, and fencing stimulate aggressiveness among their students, as stated by Thabot (1999). It is necessary to break with the belief that this kind of sports encourage aggressive behaviour, given that by thinking about Olympic boxing as a dangerous sport for their students, they hold the unjustified discrimination of this sport based on the belief that there is a lack of cooperation between adversaries and that continuous opposition is dangerous (Akilian, 2007).

Nevertheless, teachers without training in combat sports think fencing is motivating for their students, probably due to the lack of social pressure negatively influencing it. Moreover, its practice is considered less risky, as affirmed by Ruiz-Sanchis et al. (2016).

Being the only Olympic modality without weight divisions, strength is not a main component and knock-down is not its goal. Likewise, the materials required for the practice of Olympic boxing, judo, and fencing are considered expensive and hard to find. The inclusion of alternative materials that facilitate their practice in schools would be advisable (Ruiz-Sanchis et al., 2016).

The teachers from Valencia point out that judo's and taekwondo's philosophy makes them appealing to practice. Hence, it is confirmed Eastern combat sports or martial arts awaken more interest than Western sports (Theebom and Knop, 1999), given that martial arts are seen as combat systems preserved and transmitted through tradition. In general, inside their theory there is a system of beliefs, such as Buddhism, and they follow an honor code as well as a conduct code. All of these aspects are regarded by Western people as very interesting. Moreover, for this group of teachers taekwondo, fencing, and judo encourage positive values, thus keeping the perception that these modalities are beneficial for the development of values (Jurado, 2005; Annicchiarico, 2006). The teachers think their students would like to learn fencing and judo, given that several of them have attended continuous training courses and have basic knowledge of fencing, as well as having received initial training in judo during their undergraduate studies.

For both groups of teachers, the practice of taekwondo, Olympic boxing, and Olympic wrestling is dangerous for their students, thus rejecting the idea held by Vergara (2001) that fight activities are not violence-triggering actions. On the contrary, other educational alternatives can be explored through them. The image of aggressiveness is linked to the biological aspect of the activity and is not intentional. This could be the reason why judo is perceived as aggressive, while in the case of Olympic boxing teachers link the image of violence with the aggressiveness. Various authors such as Ruiz-Sanchis et al. (2010),

Camerino et al. (2011), and Rego et al. (2011), consider necessary to reject this kind of unjustified prejudices, that keep these modalities away from the PE teaching syllabi.

Lastly, in answer to the teachers' needs regarding the five Olympic combat sports, the teachers from Aracati believe that there is enough curricular material to practice judo in PE classes, given that it is amongst the combat modalities mentioned in the National Curricular Parameters of Brazil (1997), as well as receiving strong institutional support by UNESCO, which declared judo the best sport for children between 4 and 12. However, they do not consider there is enough material for the rest of combat sports, thus agreeing with the statement that the literature on teaching of these sports at school is very limited (Da Silva Gasparotto and Dos Santos, 2013). Additionally, these teachers are eager to invest time in learning and understanding the fundamentals of the modalities of all Olympic combat sports. At the same time, they feel more prepared to practise Olympic wrestling and judo if there is specific material at their disposal, which reinforces the idea that teachers take into account the material and space available for their PE classes (Viciano and Requena, 2002; Viciano et al., 2004).

The teachers from Aracati trained in combat sports score higher in the necessity of attending a club or a specialized centre to learn taekwondo, Olympic boxing, and fencing. These teachers have a broader continuous training in grappling sports, a training achieved in specialized courses organized by sports federations oriented at sports performance. It is confirmed the wrong belief that being a specialist in combat sports is a requirement to carry out this kind of activities (Camerino et al., 2011). The Valencian teachers are eager to invest time to learn any of the five Olympic combat sports in order to improve professionally (Teixidó and Capell, 2001). At the same time, they feel prepared to carry out these modalities if they have specific curricular material for their practice at their disposal. For Hernández Abenza and Hernández Torres (2011), knowing the material and

resources available eases the teaching process in PE classes. The teachers consider there is more curricular material available on judo than on the other sports, thus leaving an open space of opportunities for designing DU adapted to the teachers with no previous knowledge of hitting sports. The teachers from Valencia without combat sports training feel more prepared than Aracati teachers to carry out the practice of taekwondo, Olympic boxing, fencing, and judo if they have specific materials, thus dismissing Olympic wrestling, which is the least known modality. We consider the teachers from Valencia have a broader mastery of curricular elements and teaching methods required for teaching intervention. In the case of judo, they consider it is the sport of which there is a higher amount of curricular material. In this sense, it is confirmed that there are few didactic proposals for combat sports and that they are aimed at teachers with previous knowledge (Robles, 2008; Ruiz-Sanchis et al., 2011; Liras, 2016). However, the teachers with training believe there is enough curricular material on the practice of taekwondo, Olympic boxing, and fencing, and these teachers affirm to have attended continuous training courses related to these modalities.

Conclusions

This study has been useful to know and compare the beliefs of a group of PE teachers from Valencia and another from Aracati related to the inclusion of combats sports in their syllabi. The purpose of this study was to define the motivations of the teachers related to their knowledge, their opinion, and their needs regarding the selection of content of combat sports, and we conclude that:

The creation of curricular materials both suitable and adapted for the introduction of combat sports, especially taekwondo, Olympic boxing, and Olympic wrestling at schools is necessary in order to reduce the prejudices that the teachers and the society hold towards these modalities.

The teachers are interested in receiving training and investing time to learn the five combat sports in order to make their teaching practice more attractive in the classroom. Moreover, they state to be motivated by the values, the philosophy, and the idiosyncrasy that these sports can bring to the educational field, thus considering their inclusion positive. We consider the pedagogical renewal and innovation are part of the teaching functions in order to continuously improve the teaching and learning process at school.

The initial training in college prepares the Valencian teachers to practise fencing, boxing, taekwondo, and judo. Therefore, the training is an excellent tool to develop the basic knowledge on combat sports that the future teachers will include in their syllabi, as shown by the modality of judo in Valencia and Olympic wrestling in Aracati, which are considered the best known modalities to be taught in secondary schools.

The sports practice of the teachers is key in their opinion on combat sports; the experience in wrestling modalities during their initial or continuous training is another way to stimulate the interest for the knowledge of the basic fundamentals of the other combat sports.

Table 1. Variables of the study

Variables of the teachers' profile:	Independent variables:	Dependent variable:	Nº of item in CCDCEF
Personal Professional Contextualization	Taekwondo	What do they know?	1, 2, 3, 13, 14, 15 y 19
	Olympic boxing		
	Fencing	What is their opinion?	4, 7, 8, 10, 11, 12, 16 y 17
	Olympic wrestling	What do they need?	5, 6, 9 y 18
	Judo		

Table 2. Transformation of the Content Validity Index (CVI) before and after the review of the judges

Ítem	CVI	CVI
	before	after
15	0.52	0.73
17	0.55	0.81
19	0.61	0.76

Table 3. T-Student test for independent samples “what does the teacher know?” and teachers with and without training

Item	Location	With training			Without training		
		<i>M</i>	<i>DT</i>	Sig.	<i>M</i>	<i>DT</i>	Sig.
1 Boxing	Aracati	1.50	.527	.025*	1.34	.525	.256

	Valencia	1.81	1.052		1.37	.820	
1 Fencing	Aracati	1.20	.632	.004*	1.13	.408	.457
	Valencia	2.18	1.367		1.44	.827	
1 Wrestling	Aracati	2.40	1.173	.987	1.47	.792	.013*
	Valencia	2.04	1.090		1.31	.541	
1 Judo	Aracati	2.60	1.349	.772	1.70	.851	.001*
	Valencia	4.04	1.290		2.96	1.451	
3 Fencing	Aracati	1.12	.632	.001*	1.19	.408	.765
	Valencia	2.43	1.632		1.45	.827	
3 Wrestling	Aracati	2.40	1.045	.000*	1.34	.792	.880
	Valencia	2.04	1.090		1.42	.541	
13 Fencing	Aracati	2.67	.897	.001*	3.19	.786	.312
	Valencia	2.13	1.532		2.55	.224	
15 Taekwondo	Aracati	3.15	.156	.099	3.19	.325	.000*
	Valencia	3.22	.156		3.86	.067	
15 Boxing	Aracati	3.25	.876	.554	3.56	.934	.001*
	Valencia	3.45	1.129		3.83	.159	

Table 4. T-Student test for independent samples “what does the teacher think?” and teachers with and without training

Item	Location	With training			Without training		
		<i>M</i>	<i>DT</i>	Sig.	<i>M</i>	<i>DT</i>	Sig.
4 Taekwondo	Aracati	3.05	.173	.010*	3.76	.921	.321
	Valencia	3.46	.981		3.68	.881	
4 Boxing	Aracati	3.31	.101	.000*	3.11	.733	.011*

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	Valencia	3.87	1.901		3.86	1.252	
4 Wrestling	Aracati	2.01	.121	.002*	3.13	.467	.099
	Valencia	2.41	.103		3.34	.990	
7 Fencing	Aracati	3.01	1.342	.000*	3.71	1.893	.088
	Valencia	3.71	.229		3.76	.183	
10 Taekwondo	Aracati	3.45	1.678	.000*	3.76	.921	.675
	Valencia	4.01	.567		3.68	.881	
10 Boxing	Aracati	3.91	.101	.000*	3.71	.330	.645
	Valencia	4.02	1.901		3.76	1.012	
10 Wrestling	Aracati	2.81	.062	.000*	3.01	.341	.093
	Valencia	2.92	1.234		3.33	.952	
16 Taekwondo	Aracati	3.32	.249	.000*	1.65	1.237	.181
	Valencia	2.71	.879		1.58	.094	
16 Boxing	Aracati	3.71	.934	.000*	1.31	.441	.329
	Valencia	2.88	1.124		1.36	1.965	
17 Taekwondo	Aracati	3.01	1.323	.000*	1.43	1.480	.181
	Valencia	2.75	.509		1.79	.408	
17 Boxing	Aracati	2.94	.723	.000*	2.87	.757	.000*
	Valencia	2.06	1.472		2.15	1.562	
17 Wrestling	Aracati	3.77	1.654	.001*	3.04	1.543	.630
	Valencia	2.11	.276		2.88	1.720	

Tabla 5. T-Student test for independent samples “what does the teacher need?” and teachers with and without training

Item	Location	With training			Without training		
		<i>M</i>	<i>DT</i>	Sig.	<i>M</i>	<i>DT</i>	Sig.
5 Taekwondo	Aracati	2.70	1.418	.921	1.40	.692	.000*
	Valencia	3.90	1.444		3.68	1.583	
5 Boxing	Aracati	2.70	1.150	.809	1.86	.929	.001*
	Valencia	4.09	1.191		3.75	1.550	
5 Fencing	Aracati	2.00	1.333	.261	1.38	.784	.000*
	Valencia	3.54	1.503		3.51	1.639	
5 Judo	Aracati	3.10	1.286	.325	1.68	.674	.000*
	Valencia	2.04	1.495		2.58	1.401	
9 Taekwondo	Aracati	1.09	.362	.000*	1.40	.699	.062
	Valencia	3.27	1.509		4.22	1.192	
9 Boxing	Aracati	1.11	.386	.001*	1.50	1.080	.414
	Valencia	3.34	1.494		4.18	1.332	
9 Fencing	Aracati	1.09	.362	.000*	1.10	.316	.082
	Valencia	3.55	1.378		4.68	.779	
9 Wrestling	Aracati	1.31	.770	.000*	2.10	1.286	.782
	Valencia	3.72	1.360		4.40	1.140	
9 Judo	Aracati	1.56	1.208	.691	2.40	1.646	.002*
	Valencia	3.82	1.167		4.45	.911	
18 Taekwondo	Aracati	4.13	.645	.002*	3.69	1.261	.323
	Valencia	3.21	1.286		3.77	.881	
18 Boxing	Aracati	4.40	.778	.000*	4.41	.386	.771
	Valencia	4.00	1.093		4.44	1.494	

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18 Fencing	Aracati	4.13	1.255	.001*	4.19	.271	.090
	Valencia	3.18	1.422		4.15	1.040	

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