INCONSISTENCIES IN THE CURRICULUM DESIGN OF EDUCATIONAL GYMNASTICS: CASE STUDY

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Case study

Abstract

This research analyses the limitations of gymnastics teaching in Secondary Schools. Considering that this has a negative effect on the global education of pupils, the study investigates, through the voices of the physical education teachers themselves, how the teaching of gymnastics skills is planned and implemented, and the educational changes and new perspectives needed. The methodology employed is qualitative and AQUAD 6 software has been used to analyse the data. The research results show that there is not sufficient reflection during the process of curriculum planning and design and that deliberative educational thought is not significant. In addition, colleagues of the same centre do not seem to share knowledge. Consequently, processes of change are scarce and do not correspond with the reality of the educational context. Knowing the practice of teachers, when designing the curriculum, could contribute to the implementation of new models of professional development and training.

Keywords: Teaching, Skills, Curriculum Design, Physical Education, Teacher Reflection.

INTRODUCTION

In recent decades, in Spain, a noticeable reduction in the presence of gymnastics skills has been observed both in Secondary School curriculums (Decree-Law 112/2007 of 20 July, Valencian Community, Spain) and university degree courses. The gradual disappearance of these skills has been even more patent in practice than in government recommendations.

Our work as professionals in this field has made us very aware of this gradual loss. Professional contact with Secondary School teachers and our daily work with students of the degree in Physical Activity and Sports Science at the University of Alicante (Spain) during their teaching practice in schools, has alerted us to this gap and lead us to realise that gymnastics skills are not

taught adequately in the real world of educational centres.

Educational gymnastics involves the use of the body as a specific resource, which allows pupils to develop various skills on a cognitive, motor, attitudinal, affective and social level (Goudas & Biddle, 1993; Sloan, 2007), so leading to a better quality of life, social integration and a more balanced personality (Rikard & Banville, 2006). Gymnastics stimulates the development of a wide range of locomotor skills, body balance, control of body movement, the transition from dynamic to static elements and vice-versa, frequent changes of body position in space, and specific muscular activity (Bučar Pajek, Čuk, Kovač & Turšič, 2010; Kovač, 2006; Kovač & Novak, 2001; Novak, Kovač & Čuk, 2008; Živčić-Markovic, Sporiš & Čavar, 2011). The variety, quantity and quality of material resources used in gymnasiums also encourage participation and awaken curiosity for learning. In addition, the possibility of developing gymnastics exercises to music helps control movement, serves as additional motivation and encourages initiative and creativity, as pointed out by Šimůnková, Novotná and Chrudimský (2013). We share the opinion of these authors, who affirm that "well learnt gymnastics skills can generate feelings of satisfaction in pupils and encourage the practice of physical activity" (p. 130). All the educational benefits of the contents and competences of gymnastics skills call for their inclusion in the school curriculum.

Convinced that the voices of physical education teachers themselves will allow us to relate their cognitive and emotional thinking (Deglau & O'Sullivan, 2006), we have investigated their experiences, attitudes, likes and dislikes, all of which affect the teaching of gymnastics skills. The questions which guide this research seek to identify the way in which teachers design, direct and manage their teaching, but also their disposition towards reflection on their own teaching practice, towards reflection shared with colleagues and their

predisposition towards curriculum changes and teaching practices (Tsui, 2009). Constant reflection as an instrument for change is useful for teachers as it allows them to reconsider and reconstruct their knowledge and professional practices (Ávalos, 2011; Schön, 1987; Tsui, 2009).

The design and implementation of a curriculum is not an easy task for teachers as many different factors influence this process, such as university education (Hargreaves, 1998), teachers' knowledge and skills (Cothran, McCaugtry, Kulinna & Martin, 2006) and even their personality (Hargreaves, 1998). In addition to the variables mentioned, in the case of curriculum design for Physical Education, we agree with Rink (2001), who highlighted the influence of the specific context, that is to say the characteristics of the school – described as *learning environment* by Ennis (1996) – and the teaching experience of the teachers. As Kirk (1993), suggested, when designing a physical education curriculum, teachers build knowledge which is enriched by practice. This wide variety and at the same time complex network of factors, which influence curriculum design, have lead the academic world of teaching and research to make an effort to improve the learning of pupils. However, there have still been few real changes in the way teachers approach and conceive the design of physical education curriculums (Kirk, 1993).

The term *design* is used in this study to describe a dynamic and renewed concept, which suggests that the work of designing a curriculum can be tackled systematically and with rigour through the setting of objectives –a perspective put forward by Pratt (1980) and one which served as a base for subsequent important works in the field of educational gymnastics, such as that of Kirk (1993)–, with personal implication from teachers and where the results depend on their skills. Thus, the very idea of "curriculum design implies an approach which encourages, and even celebrates, the personal qualities and idiosyncrasies of teachers" (Kirk, 1993, p. 247).

The underlying theory of this research is a non prescriptive model –as it describes what may happen– which defines "curriculum design as a chain of decisions" (Klein, 1991, p. 25) taken in a holistic and dynamic system in which pupils play an active part (Rovegno & Kirk, 1995), and in which teachers are expected to play an important role. In this system, decision making occurs at all stages of the curriculum, from the objectives, contents, methodology, activities, materials and resources, distribution of time and space, to assessment (Klein, 1991). This model, applied to curriculum design for Physical Education, requires that the objectives be evaluated continuously during the teaching and learning process. Each activity has an objective and nothing is done without a purpose (Brown & Campione, 1994). Although in recent decades there have been many advances made in research into curriculum design, as regards objectives, contents and strategies, in the field of educational gymnastics, it seems that there have been few real changes in the teaching of this subject. The results of different studies carried out since the 1980 (Brewer & Sharp, 1999; Placek, 1984; Thomson & Jones, 1985; Thorburn & Collins, 2003; Underwood, 1983) suggest that even when teachers consider objectives when designing a curriculum, they are often not used to guide every day teaching, nor for decision making. Kirk (1993), from the perspective of coherent educational logic, proposes that, in Physical Education, "continual supervision of pupils' progress is useful in order to verify the learning of skills, using different types of assessment instruments, and taking into account a taxonomy of objectives, which include cognitive, psychomotor and affective levels" (p. 252).

In addition, although there is not full agreement on the effectiveness of the different teaching methods in Physical Education (Rink, 2001), researchers and/or teachers agree that, for the teaching of this subject, the selection of the most appropriate teaching method for each activity and situation is crucial (Pehkonen,

2011). Furthermore, it is important to know how to design and adapt activities to the needs of pupils (Colby & Witt, 2000), but at the same time taking into account the influence of aspects related to teachers and the subject contents. If the teacher is capable of creating and designing adequate tasks, he/she can create authentic and meaningful experiences for the pupils.

Assessment is a term defined as both a course of action aiming to acquire and generate information, and something which the teacher can use when taking decisions in the classroom. Currently, assessment is one of the most complex questions in Physical Education teaching (Kirk, 2001; Kovač, Strel & Majerič, 2008; Van Vuuren-Cassar, 2011). Many teachers of this speciality believe that assessment does not give real value to a pupil's learning and/or progress, and so oppose the idea of assessing (Kirk, 2001). However, in the academic world of education the importance of assessment in Physical Education has been proved (Burton, 1998; Kovač, Strel & Majerič, 2008; Majerič, 2004; Newton & Bowler, 2010; Popham, 2011; Reynolds, Livingston & Wilson, 2010), as it is very useful when taking decisions as regards subsequent teaching and also for identifying pupils' learning problems. It allows teachers to decide which areas require more training (Kovač & Novak, 2001) and to give good feedback (Morrow, Jackson, Disch & Mood, 2005). Important questions to bear in mind are clear and precise assessment criteria, which have been explained to pupils previously (Kovač, 2012), and assessment which takes into account the age of pupils, course contents and the objectives (progress, demonstration, error identification, etc.) (Brau-Antony & David, 2002; Estrabaud, Marigneux & Tixier-Viricel, 2000; Rutar Ilc, 2003; Williams, 1996).

As we have seen, curriculum design and its implementation are very complex as they depend on the ability of teachers to take decisions on every aspect of the curriculum, which is a big challenge. The process described is the same for all the contents of the subject of Physical

Education. If we look at the area of gymnastics skills, as pointed out by Erwin, Woods, Woods and Castelli (2007), positive results, however small, are the consequence of the coordinated intervention of a series of variables associated with teachers, pupils, objectives, methodology, activities, assessment and contextual.

A revision of the different approaches to curriculum design and a move towards the reality of Physical Education teaching brings us closer to the theories of learning development through active insertion in communities of practice (Brown & Campione, 1994). Educational communities of practice could be ideal for helping teachers acquire and strengthen their skills in planning and implementation of the curriculum, in specific social contexts (Harrison, Lawson & Wortley, 2005; Tsui, 2009). In contrast to the traditional idea of learning based on the transmission of knowledge, this stance defends participation. Thus, physical education curriculum planning and design, from the perspective of learning communities (Jess, Atencio & Thorburn, 2011), implies the coordination of knowledge with action, and shared deliberation in the taking of educational decisions. Consequently, the collaboration of teachers with their colleagues is essential for the achieving of goals and/or the overcoming of challenges during all processes (Keay, 2006; Whitcomb, Borko & Liston, 2009), from curriculum planning to its implementation in the classroom.

The objective of this study is to analyse the thinking, as regards gymnastics teaching, of a sample of Secondary School teachers, and know how gymnastics teaching is designed and developed today, in Spain. In order to do this, we asked the following research questions:

1) What objectives do physical education teachers set when teaching gymnastics skills?

2) What methodology and activities do teachers use for teaching gymnastics skills?

3) What type of assessment and tools do physical education teachers employ to assess gymnastics skills?

4) Have physical education teachers introduced changes in the design and teaching of gymnastics skills?

METHODS

The qualitative focus of this research is the most appropriate for ascertaining teachers' thoughts on the design and implementation of gymnastics skills, as well as identifying the need for change in the practices of physical education teachers. This explorative study has been carried out using the intentional sampling method. Following Clandinin, Cave and Cave (2011), we have approached the research as a process of narrative thinking around three factors: the temporality of the educational participants (past, present and future), the interaction between teachers and pupils, and taking into account the context or specific environment in which the educational experience is lived. Clandinin, Huber, Steeves and Li (2011) discuss these ideas and maintain that "narrative thinking is much more than recounting and analysing stories" (p. 387). Thus, narrative research is a form of reflective practice which allows people to tell, retell and relive experiences in order to produce new knowledge which can correct and replace previous practices.

Secondary School physical education teachers, who work for the Education Department of the Valencia Community (Spain) were invited for the selection process. Fifty of these teachers agreed to take part in the research. The professional experience of the interviewees is diverse as they included both teachers with extensive experience and with a medium level of experience, and even teachers with few years of professional experience. Meetings with the physical education teachers were organised by contacting them directly by phone and/or by email.

The research instrument employed was semi-structured narrative interviews, often used for research into education (Denzin &

Lincoln, 2000). Forty-six oral interviews were recorded and four interviews were written. The interviews were carried out in person and took place in the corresponding educational context of the teachers (sports grounds, classrooms, gymnasiums, staffrooms, offices, etc.). The questions focused on teachers' experiences teaching gymnastics skills.

Once the data had been collected, it was transcribed and analysed. Inductive analysis was employed to study the information extracted from the interviews; this methodological strategy is based on identifying and categorizing the text units of the participants. The qualitative computer software (Analysis of Qualitative Data), developed by Günter L. Huber (2004), was used to process the information. This computer programme has allowed us to organise and categorize the data in codes so that we could finally determine the point of view of participants.

Firstly, we carried out an initial analysis of the contents of the interviews in order to establish the first connections between the research questions and the emerging concepts from the participants' narratives. Then, we moved on to the discussion and triangulation of the inferential codes. At this stage, three specialists in Physical Education in Secondary Schools, and a university lecturer, specialist in gymnastics, validated the codes and definitive categories. Once these processes had been completed, a codification map was obtained. The first theme, based on the work experience of the teachers, determines how physical education teachers design and implement the teaching of gymnastics skills. The second theme identifies teachers' concerns as regards change and the search for new teaching perspectives. This procedure has allowed us to verify that the validated categories and themes are correspond to the research questions of this study. The analysis of the results has been based on the following categories: absolute frequency (AF) and the percentage of absolute frequency (% AF), where AF is the total number of occurrences

of the concept, found in each narrative, and the % AF is related to the absolute frequency total (AF.100/total AF).

RESULTS

The results are presented in the form of codes grouped into the two emerging themes of the research: design and implementation of teaching and the need for changes in the teaching of gymnastics skills. They are also given with their respective absolute frequencies and corresponding percentages.

Emerging theme I: Design and implementation of the teaching of gymnastics skills

The narratives have allowed us to identify the perceptions and difficulties teachers have as regards curriculum design and the teaching of gymnastics skills. In this theme, we find text units referring to the design and development aspects of gymnastics competencies in education. And the following curriculum elements are identified: objectives, teaching methods, gymnastics activities and assessment.

1. Objectives

The physical education curriculum specifies three types of objectives: conceptual, procedural, and attitudinal (Decree-Law 112/2007 of 20 July, Valencian Community, Spain). The objectives set by physical education teachers when teaching gymnastics can be inferred from the narratives. These objectives deal with technical execution, evaluation of attitude, creativity, assessment of pupils' progress, theoretical knowledge, evaluation of the use of information and communication technologies when carrying out and presenting tasks (Table 1). We can conclude from the results that teachers focus especially on technical execution (29.08%) and the development of attitudinal qualities (28.57%).

Teachers give greatest importance to correct technique in gymnastics skills and to the development of attitudes which reflect

interest, effort and wilingness to participate. These aspects are illustrated in the following narratives:

I make them do gymnastics activities. They may be helped, but, I give them an individual mark for what they do (Exp.004).

Basically I focus on their effort, attitude and how they improve. I look at the progress of each pupil. These are the two most important variables. I also take attendance into account (Nov.008).

The development of skills related to the use of information and communication technologies was the objective least mentioned (3.57%).

2. Teaching Methods

As shown in Table 2, the teaching methods used can be divided into three main groups: 1) Traditional methods: pupils play no part in their learning and the methods are instructive.

2) Participative methods: the implication of pupils in their learning, together with the teacher as mediator, is vital.

3) Problem solving methods: the development of critical thought, and active and investigative methodology are encouraged.

The predominance of traditional methods (54.48%) rather than participative methods (23.51%) or problem solving (21%) can be observed in the results. This is reflected in the following narrative:

I devote more time to practising basic gymnastics skills and use direct instruction so that pupils can learn different acrobatics (Exp.013).

Table 1. *Objectives of gymnastics contents.*

CÓDES	AF	%AF
Technique	57	29.08%
Attitudinal objetives	56	28.57%
Creativity	31	15.81%
Progress made from an initial point	30	15.30%
Concepts	15	7.65%
Use of information and communication technologies	7	3.57%
TOTAL	196	100%

Table 2. *Teaching methods for the development of gymnastics skills.*

CODES	AF	%AF
Traditional	79	54.48%
Participative	35	23.51%
Problem solving	31	21%
TOTAL	145	100%

Table 3. *Types of activities used in the teaching of educational gymnastics.*

CODES	AF	%AF
Basic activities	57	32.02%
Acrosport	51	28.65%
Rythmic and expressive activities	30	16.85%
Progressive activities	29	16.29%
Fun activities	11	6.17%
TOTAL	178	100%

Table 4. *Teachers' assessment of gymnastics activities.*

CODES	AF	%AF
1. Acrosport:		
1.1. Favour the process of teaching and learning	60	38.70%
1.2. Hinder the process of teaching and learning	7	4.51%
2. Progresive Activities:		
2.1. Favour the process of teaching and learning	32	20.64%
2.2. Hinder the process of teaching and learning	7	4.51%
3. Basic Activities		
3.1. Favour the process of teaching and learning	13	8.38%
3.2. Hinder the process of teaching and learning	16	10.32%
4. Rhthmic and expressive Activities:		
4.1. Favour the process of teaching and learning	12	7.74%
5. Fun Activities:		
5.1. Favour the process of teaching and learning	8	5.16%
TOTAL	155	100%

Table 5. *Different types of assessment used by teachers.*

CODES	AF	%AF
Continuous assessment	45	40.90%
Final assessment	37	33.63%
Innovative assessment	28	25.45%
TOTAL	110	100%

Table 6. *Assessment tools used by teachers.*

CODES	AF	%AF
Traditional tools	22	53.65%
Innovative tools	13	31.70%
No tools	6	14.63%
TOTAL	41	100%

Table 7. *Needs for change in the teaching of gymnastics skills.*

CODES	AF	%AF
1. Indication of teaching changes	60	78.93%
1.1. Changes in types of activities and assessment	36	47.36%
1.2. Changes in methodology	24	31.57%
2. No changes	16	21.05%
TOTAL	76	100%

Table 8. *Reasons for changes in the teaching of gymnastics skills.*

CODES	AF	%AF
Focussed on pupils	47	75.80%
Focussed on the teacher	15	24.19%
TOTAL	62	100%

AF: Absolute frequency
%AF: Percentage of absolute frequency

3. Types of gymnastics activities

These findings analyse the different types of specific activities used by teachers. Their own voices value more positively or negatively the application of different types. Thus, different types of activities can be identified: basic (low level of motor implication and technique), progressive (approached with different degrees of difficulty and execution), fun (play activities for which technique is not important), Acrosport (formation of human figures based on cooperation and the inclusion of all pupils), and rhythmic and expression (ballroom dancing, batukada, capoeira and aerobics). The results are shown in Table 3.

The data shows that the activities most used by teachers are basic gymnastics activities (32.02%). The narratives refer to activities of a low degree of difficulty and, mainly those for beginners.

The activities I tell them to do are basic and elementary. They are forward and backward summersaults, cartwheels and handstands. I try to teach them to do the activities well for the end of year festival (Ava.005).

The second most popular type of activity used by teachers is Acrosport (28.65):

I develop a didactic unit called Acrosport. I begin with a session on individual technique and after work in small groups in order to do collective gymnastics. I encourage them to produce their own creations (Ava.016).

In their reflections, physical education teachers value the different activities they use for teaching educational gymnastics favourably and unfavourably. The results can be seen in Table 4.

According to the teachers, Acrosport is the activity which facilitates teaching most (38.70%). In addition, they believe that these activities allow all pupils to participate, depending on their profile, and encourage the development of personal and social values. They also motivate pupils and encourage them to work autonomously. Below, we present some narratives which show this:

We do Acrosport and the truth is that it is very good because it is much more fun for pupils. They work in groups and are stronger when working together. They can use each other's bodies as support. It's really good (Exp.011).

With Acrosport, "I saw the light". They are more motivated. Pupils are less frightened. We work with fixed figures, and then, on cards, pupils create their own figures, and choreographies. I value creativity, originality, difficulty. They do it very well (Exp.015).

Furthermore, according to teachers, gymnastics activities of varying levels of difficulty also favour the process of teaching and learning (20.64%) (Table 4).

If you work towards a more or less accessible and flexible rate of progression, pupils see that they improve and that it is not so difficult. When they see that a more skillful classmate can do a "front flip", they believe thay are capable of doing something similar. When you work at different levels of difficulty and progression, they become more confident about doing these types of things (Exp.018).

I made three rows. More simple activities for some, for others more complicated ones and the rest, even more difficult. Each pupil did the activities of their level. This gave them a feeling of security and confidence (Exp.005).

The activities which teachers like least, due to the difficulty involved for pupils, are basic gymnastics skills (10.32%) (Table 4). However, these are the most used in class.

I think that pupils can feel a certain rejection towards basic gymnastics. If you don't approach activities progressively, pupils are frightened by them and feel that the activities are too difficult (Exp.005).

4. The assessment process

In this section, we will look at the narratives which refer to aspects related to the assessment of gymnastics skills, the different types of assessment and assessment tools used.

Three types of assessment emerge from the narratives: continuous assessment (40.90%), for which the progress of pupils after the initial assessment is considered; final assessment (33.63%), for which the teacher only gives a final mark for aspects of technique; and innovative assessment (25.45%), for which pupils participate in their own assessment process and in that of their classmates (Table 5).

If we combine the results of continuous assessment and innovative assessment (66.35%), we can see that a high percentage of teachers adopt unconventional models of assessment. Some narratives representative of these results are:

I assess the group, focusing on their day-to-day attitude, on the cooperation within the group when working, that they help each other, they show a positive disposition and take the activities seriously. More than if they can do a summersault well or not, I focus on the process, how they have worked together and what they have achieved (Nov.002).

I use self-assessment and assessment of pupils by classmates. There is a list of items, on cards, where they note if they have managed to do the move, if they have needed help.... and from here a coevaluation mark is reached. I prefer this type of assessment because it is quick, autonomous and encourages pupils to be responsible (Ava.008).

Finally, we would like to present the findings related to the tools used by physical education teachers for assessment. Traditional tools, like observation forms, data log sheets and assessment scales, are those most used (53.65%). An example of this code is the following:

I use an assessment sheet on which I note down the strategies used by a pupil, a sheet on which I write data defining skills, level of achievement. I use the sheet to see if they have done all the elements (Exp.008).

In addition, teachers refer to the use of innovative tools such as information technologies, technological, audiovisual and photographic resources (31.70%). These results are presented in the following table:

We were surprised to find that some teachers do not use any tools to assess gymnastics skills (14.63%).

I give a mark by making a rough guess. I believe it is important to have work tools for the class and assessment tools, but I have never used them. I do not have either work tools or assesment tools (Exp.003).

To sum up, the model most used by physical education teachers for assessing skills is, fundamentally, continuous assessment, and final assessment in second place. In addition, the tools most favoured are the traditional ones.

Emerging theme II: Needs for change

In this theme, we look at the voices of teachers who express the need to introduce changes, changes related to teaching methodology, activities, and assessment. In addition, we include the reasons why teachers propose changing aspects of their teaching practice. These are related to teachers' aptitudes and disposition, and to the demands and needs of pupils. Perceptions that there have been no changes in the process of implementation-action of gymnastics skills were also noted. The results can be seen in Table 7 and Table 8.

Participants affirmed that they have needed to modify their teaching during their professional career (78.93%). We can observe a certain preference for changes in the types of activities and in assessment (47.36%).

I used to have an observation sheet. I noted the different elements and an assessment scale.

I worked out the average and did not take into account if they worked as a group, or if they helped others, as I do now. Perhaps there are things I don't see, but in the past I used a traditional evaluation of technique and now I take other aspects into account (Exp.008).

In addition, we can observe changes related to teaching methods (31.57%). Finally, some teachers affirm they have had no need to change their methodology, activities, nor assessment (21.05%):

I continue doing a warm up and gym classes like I did in the beginning. The pupils get bored, because they do not do the activities well. I don't care. It has to be done! (Exp.020).

Teachers explain that the changes are due to diverse personal factors (aptitude and disposition of the teacher) (24.19%), but especially due to matters related to pupils themselves (75.80%) (Table 8).

Participants in the research, due to the interests and demands of adolescents, state that they can perceive the need to change their methodology, activities, and assessment.

Sometimes I have considered doing Acrosport when colleagues have commented that pupils generally like it (Ava.007).

DISCUSSION

Several authors, such as Zanting, Verloop and Vermunt (2003), have highlighted the experiential nature of teachers' knowledge, when trying to explain their objectives and teaching practice. Different research works have shown how teachers' knowledge is usually focused on and responds to the needs of the teaching context (Gholami & Husu, 2010). For this reason, Spillane and Miele (2007) consider it to be information which is dependent on context, and this transforms it from mere information to a reality, as it is information which is validated by the context.

Based on these premises, if we study the relations between the results obtained from the different questions, we can see consistencies, but also inconsistencies between the perceptions and practices of teachers. Thus, on establishing correlations between findings, we observe that the highest percentage of participants affirm that when designing gymnastics contents, they consider objectives related to technique (29.08%), teaching methods which could be considered traditional (54.48%), and implement basic activities (32.02%), despite valuing group activities like Acrosport more highly (38.70%). Finally, curriculum inconsistencies are evident in teachers' preference for the use of continuous and innovative assessment (66.35%), but with traditional instruments (53.65%).

We can conclude that this lack of coherence affects the very essence of learning and it shows that the social perspective, which considers learning as a process of participation opportunities (Lave & Wenger, 1991), has not taken root in teachers. The teaching of educational gymnastics could benefit from the adoption of a more collaborative model (Hargreaves, 2008; Little & Horn, 2007). Furthermore, the scarce use of fun activities (6.17%) in the teaching of this sporting discipline, which as Cheah, Nelson and Rubin (2001) point out, offer pupils the opportunity to develop values of social cohesion, is not very consistent with teachers' claim that

they set attitudinal objectives (28.57%). It is important to highlight that basic gymnastics activities, which appear to be the most taught, are those that teachers value least. In addition, Acrosport (38.70%) is not by any means used by the majority despite encouraging inclusive activities and improving socialization and body image. These divergences between the use and evaluation of learning activities indicates that teachers do not employ a great deal of reflection in their planning, nor in their decision making (Schön, 1987; Tsui, 2009). Similarly, the choice of technical assessment tools contradicts the formative nature of the assessment they claim to adopt. The fact that there are some teachers who do not use any assessment tools attracts our attention (14.63%). All these inconsistencies alert us to the fact that teachers' attitudes are rather incoherent and not very reflexive, something which does not favour advancement towards expert knowledge (Ávalos, 2011; Tsui, 2009).

In summary, the results show that teachers have not yet moved far enough away from conventional teaching models. Gymnastics skills are still taught using traditional methods, which exclude pupils with lower motor ability and encourage competitivity more than cooperative work. Thus, we agree with Ávalos (2011), Bagnano and Griffin (2001) and Hassandra, Goudas and Chroni (2003) that changes in the initial formative models and in teachers' professional development are necessary in order for quality education to reach classrooms.

Indeed, the majority of participants state that they feel a need to change their teaching practices (78.93%), especially those related to the design of activities, assessment and methodology, with the aim of improving pupils' learning (75.8%). However, as we have seen, this increasing sensitivity and awareness has not lead to clear changes in real teaching practice, probably due to the fact that teachers' reflections on their practices are not deliberated (Ross & Bruce, 2007) or that they lack sufficiently developed knowledge

which allows them to observe, analyse and take the right decisions for optimizing their teaching. It is even more worrying that some teachers (21.05%) feel no need for changes in their teaching practices. This could be due to inadequate university training, a lack of professional teaching development, and attitudes which are conformist and not very reflective (Ávalos, 2011; Schön, 1987; Tsui, 2009).

When I began working, I applied my learning directly because I liked it a lot. Now I continue giving my classes in the same way I was taught during my degree, but I am aware that they didn't explain them to me very well. Also, there are no training courses in gymnastics skills (Exp.003).

My approach is similar to what I did eight or nine years ago. This year I'll do the same. "I don't want to complicate things" (Ava.013).

It is obvious that teachers' curriculum design is not the most appropriate. The teaching of this sports discipline is not easy; as occurs in other areas of Physical Education, it requires teachers to know and control innovative methods and have a more participative concept of learning (Penney, Brooker, Hay & Gillespie, 2009). In addition, it is crutial that teachers know how to adapt to different situations, and develop critical attitudes, analysis, and reflection on their reality, sharing all these practices with colleagues (Wright, McNeill & Fry, 2009).

CONCLUSIONS

In general, we have been able to conclude that the process of curriculum design and implementation of gymnastics skills is carried out with little reflection and feedback, and with few real changes and adaptations. Consequently, teaching tendency, which influences educational intervention, can be termed traditional, with all the constrictions and limitations that this involves. After analysing the results obtained, we can affirm that there are no indications that teachers' reasoning is reflective, and so conclude that their processes of change do not arise from deliberative educational thought. In addition, there is no evidence that these

reflective processes are shared amongst colleagues, in the community of the educational centre.

Moreover, there are no narratives which reflect questioning, dilemmas or doubts. Our findings have been similar to those of other researchers in that participants usually refer to external circumstances to excuse their limitations and show no indication of self-assessment (Ávalos, 2011; Ross & Bruce, 2007). Consequently, it is difficult to affirm that teachers assume teaching as reflective practice (Geerink, Masschelein & Simons, 2010; Schön, 1987).

Teachers themselves, in their classrooms and centres, must lead the way to avoid a progressive demise of the learning of gymnastics skills, as pointed out by Castelli and Valley (2007). This will not occur unless initial university studies, and also the subsequent system of professional development for physical education teachers, are reformulated (Hadar & Brody, 2012; Vescio, Roos & Adams, 2008). Researchers agree that these models should foment teachers' capacity for reflection on their own professional practice (Cochran-Smith & Lytle, 2009; Stylianou, Kulinna, Cothran & Kwon, 2013), as well as foment the use of strategies to share and reflect on experiences with colleagues. In addition, research based on the practice of these skills should be encouraged. The teachers interviewed demand these changes, and they reiterated this repeatedly:

As times change and now parkour is popular and young people like this, perhaps we should look at doing gymnastics again, the youngsters want it (Exp.014).

It's good that somebody who is interested in this area and working on it should come. You chat with them and this makes you reconsider, and you say….look, this is an area which has been forgotten to some extent and I think we should look into it. Much better if there is some help from outside (Nov.011).

To summarise, in order to avoid the total disappearance of gymnastics teaching, which has so much to contribute to the integral education of pupils, new teachers of this speciality must build a renewed

conceptual and practical vision of the discipline.

The reality of educational gymnastics, in the context of Spain, allows us to make some suggestions as to how to improve the teaching of this discipline. Like Makoppoulou and Armour (2011), we believe it is crucial that changes be made, both in initial training models and in the professional development of teachers, in order that classrooms might enjoy the benefits of high quality teaching. Thus, physical education teachers should be re-evaluated in order to identify their strengths and weaknesses, and the results of this study would be useful for identifying their needs and demands. It is important that this evaluation be used to redesign the university training of physical education teachers, training which should focus on the development of reflexive skills, criticism, and the ability to make good decisions related to educational gymnastics teaching in specific situations and contexts, from curriculum design to the very act of teaching-learning. Finally, we believe it is very important that state education bodies, together with universities, provide continuous professional training, during which teachers can share experiences related to gymnastics and collaborate to produce Physical Education curriculums which include gymnastics.

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