

**Didactics and Physical Education teacher education: an analysis  
based on graduation student assessment<sup>1 2</sup>**

*A didática e a formação do professor de Educação Física: uma análise  
a partir da avaliação de alunos concluintes*

*La didáctica y la formación del profesor de educación física: un  
análisis a partir de la evaluación de alumnos concluyentes*

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**Abstract:** The aim of this study was to analyze the learning of teaching with approximately 80 students from a Physical Education graduation course within the context of the formation in Didactics. It is a research cutout involving 14 teacher formation courses, guided by the following questionnaire: what contributions has the teaching of didactics provided to the future teacher, aiming at the construction of their own professional practice? The data were obtained through the use of a questionnaire and group discussions. Theoretically, it was based on the understanding that the act of teaching involves the specialized action of the teacher to promote the learning of their students, requiring the mobilization of specific knowledge, recognized as a professional teaching knowledge basis. The analysis shows that the contributions of the teaching of didactics, underpinned by the critical perspective, can be crucial for the formation of professional knowledge, since the emphasis in the course, as a whole, is on technical education.

**Keywords:** Didactics Teaching, Teacher Education, Physical Education

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**Resumo:** *Estudo com aproximadamente 80 estudantes de um curso de licenciatura em Educação Física, com o objetivo de analisar a aprendizagem da docência construída no contexto da formação em didática. Constitui recorte de uma pesquisa envolvendo 14 cursos de licenciatura, orientada pelo seguinte questionamento: que contribuições o ensino de didática tem propiciado ao futuro professor visando à construção de sua própria prática profissional? Os dados foram obtidos mediante a aplicação de questionário e a realização de grupos de discussão. Teoricamente, se sustentou na compreensão de que o ato de ensinar envolve a ação especializada do professor para promover a aprendizagem de seus alunos, requerendo a mobilização de saberes específicos, reconhecidos como base de conhecimento profissional docente. As análises evidenciam que as contribuições do ensino de didática, ancoradas na perspectiva crítica, podem ser determinantes para a constituição dos saberes profissionais, visto que prevalece no curso, como um todo, a ênfase na formação técnica.*

**Palavras-chave:** *ensino de didática, formação de professores, Educação Física*

**Resumen: Resumen:** *Este artículo resulta de un estudio con 80 estudiantes de un profesorado de Educación Física, cuyo objetivo fue el de analizar el aprendizaje de la docencia construido en las asignaturas de didáctica. Se han obtenido los datos mediante una encuesta y la realización de grupo de discusión. Teóricamente la investigación se ha desarrollado a partir de la comprensión de que el acto de enseñar involucra la acción especializada del profesor para promover el aprendizaje de sus alumnos, requiriéndose la movilización de saberes específicos, reconocidos como base de conocimiento profesional docente. Los análisis evidencian que las contribuciones de la enseñanza de didáctica, ancladas en la perspectiva crítica, pueden ser determinantes para la constitución de los saberes profesionales docentes visto que prevalece en la carrera, de modo general, el énfasis en la formación técnica.*

**Palabras clave:** *enseñanza de didáctica, formación de profesores, Educación Física*

## Introduction

This article is the result of a broader research called "Didactics and Teacher training in the process of identity formation of future teachers", coordinated by GEPED<sup>3</sup>, and carried out in the period from 2012 to 2015, with FAPERJ<sup>4</sup> funding. The aim of this research was to verify - in 14 different teacher training courses at a public Higher Education institution, in the city of Rio de Janeiro, Brazil - the contributions of didactic teaching for the formation of the

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professional knowledge process, in terms of what the teacher trainer does to collaborate with teacher training. Herewith, the results referring to one of these courses will be presented: teaching training degree in Physical Education (PE).

In order to contextualize the proposal, it is worthwhile looking briefly at the forming of the didactic field in Brazil, which was marked by a paradigmatic movement that proposed the overcoming of instrumental didactics in exchange for fundamental didactics (Candau, 1983). While the former can be understood as conceptions and teaching practices marked by strictly technical and prescriptive characteristics, based exclusively on what and how to teach, the second is outlined by multidimensionality, which involves the technical, human, and political dimensions in the teaching act.

More than 30 years after Candau's announcement (1983) on fundamental didactics, the debate is still present in the aforementioned perspective. In addition to this, other discussion emphases are added, such as the question of "didactics diversification *versus* didactics thematic dispersion" (Candau, 2009; Libâneo, 2008). For Candau (2009), the didactic course is going through a process of diversification, that is, the expansion of possibilities in the context of its teaching, due to the new elements introduced into the field, namely: multicultural/intercultural features, diversity of structural knowledge and the complexity related to teaching. Nevertheless, Libane (2008) makes a negative assimilation of this moment, expressed by the loss of teaching focus in didactics based on a downgrading of the teaching and learning process. We also emphasize the context of the research production on didactics and teacher training formation, which shows a deficiency in the practical dimension of teacher education. In this sense, the weight of the theoretical formation and the lack of articulation between the specific training disciplines and the pedagogical training are striking (Andre et al., 2010, Gatti, 2013, Gatti & Barreto, 2010; Libâneo, 2010a, 2010b, 2015a , 2015b; Lüdke & Boing, 2012).

With regard to the PE didactics study field, we observed similarities with the issues previously mentioned. We emphasize the numerous attempts to restructure the course for the design of a curriculum that would not only provide a technical-instrumental formation, but, which would also cover the theoretical-reflexive dimension (Vaz, Pinto, & Sayão, 2002). However, the lack of articulation of the disciplines within teacher training, and the inheritance left by the referential Marxist theoretical-epistemological in the 1980s, which focused strictly on

pedagogical reflections on PE, formed a scenario in which effective discussions about the didactics bypassed the academic-scientific debate of the field (Caparroz & Bracht, 2007).

We recognize that teaching is the central core of the teaching profession, in which didactics is the command of knowledge that develops from it, expressed in the training course disciplines and in the teacher's daily pedagogical performance. In these terms, didactic teaching and the teaching profession of teacher trainers, here understood as all of those who work in teacher training courses, are dimensions that need to be highlighted in the courses

It is within this context that this study can be found, justified by the importance of didactics in teacher training, in the case of the PE teacher training course, and by the need to move from instrumental to fundamental, seeking to contribute to the knowledge of teaching by the future teacher. In addition, the gap in studies that seek to investigate didactics in the formation of PE teachers is well known, as stated by Betti, Ferraz and Dantas (2011).

Therefore, the aim of this work is to discuss the role of didactics in the formation of the teacher training students from the PE course at a Public Federal University participating in the study. Which conception(s) prevail(s) in didactic teaching in the PE course in question? What are the contributions of the didactic course discipline to the training of these future teachers? How can the teacher trainer deal with the specificity of the teaching profession, that is, the teaching practice itself? After all, what is taught in the didactic discipline? These are questions that govern the study, always imbedded in the student's perspective. That is to say the evaluation that the graduating student of the course develops regarding their didactic teaching becomes the key point of the investigation.

## **Didactics and the professional teaching knowledge base**

In the midst of the sociological studies on teaching professionalization (Bourdoncle, 1991; Dubü, 1997; Lüdke, 1988), the need to define a compendium of personal and specific knowledge, to practice the profession among other demands, appears strongly. In this context, other studies, focused on teachers' knowledge about their work and the perspective of the

profession, emerge (Gauthier, Martineau, Desbiens, Malo, & Simard (1998), Shulman, 2004, Tardif, Lessard, & Lahaye, 1991).

Our interest in investigating the teaching of didactics in teacher training courses led us to study the professional teaching knowledge base of teachers because we understand didactics as the domain of knowledge about teaching. In these terms, the knowledge that is mobilized by teachers, so as to perform their function, is directly linked to it. Although the systematizations about knowledge, that a teacher must have to teach, focus on various types of knowledge, one of them being linked to the specificity of didactics, the synthesis of teaching knowledge, represents, to our minds, what didactics itself is, involves and does.

Table 1 indicates the sources of knowledge that were mobilized by teachers to teach, according to Shulman (2004), Gauthier et al. (1998) and Tardif (2002)

Shulman	Gauthier et al.	Tardif
1- Knowledge of the subject to be taught (content)	1- Disciplinary knowledge (content)	1- Knowledge of professional development (educational sciences)
2- General pedagogical knowledge	2- Curricular knowledge)	2- Disciplinary knowledge (content)
3- Knowledge of the curriculum	3- Knowledge of science education	3- Curriculum knowledge
4- Pedagogical knowledge of content	4- Knowledge of the pedagogical tradition	4- Experiential knowledge
5- Knowledge of students and their characteristics	5- Experiential knowledge	
6- Knowledge of educational contexts, ranging from the functioning of the group or the classroom, the management and financing of the school to the character of communities and culture	6- Knowledge of pedagogical action	
7- Knowledge of educational objectives, goals and values, and their philosophical and historical foundations.		

**Table 1: professional teaching knowledge base.**

Source: Own

A comparative analysis of teacher-related knowledge by Shulman (2004), Gauthier et al. (1998) and Tardif (2002) shows three recurrent mainstreams of knowledge: i- knowledge to be taught, also referred to as disciplinary knowledge; ii- curricular knowledge; iii) knowledge of Pedagogy or Educational Sciences, designated as "general pedagogical knowledge", for Shulman (2004); "Of the Education sciences", for Gauthier et al. (1998); and "professional education", for Tardif (2002).

The comprehension that this knowledge is at the basis of professional teaching practice leads us to expect that a teacher, faced with the professional responsibility of teaching certain knowledge to their students, will question what they themselves know not only about this knowledge content but also on how to act didactically so that their students develop their own understanding of that content. This movement of reflection, involving decision-making on how to teach, called "pedagogical reasoning" by Shulman (2004), integrates the process of teaching and learning, the purpose of didactics, reinforcing our thesis that the knowledge mobilized by the teacher to teach, albeit from different sources, is invariably articulated with didactics itself.

Focusing specifically on Shulman (2004), we find that the teacher's pedagogical reasoning process is based on general schemes of base knowledge for teaching, which can be categorized into seven sources, as pointed out in Table 1: (i) knowledge of the subject to be taught (content); (ii) general pedagogical knowledge; (iii) knowledge of the curriculum; (iv) pedagogical knowledge of the content which is the exclusive sphere of the teacher, since it represents their own form of professional understanding; (v) knowledge of students and their characteristics; (vi)- knowledge of educational contexts, ranging from the functioning of the group or the classroom, of the management and financing of the school to the character of communities and cultures; (vii) knowledge of educational objectives, goals and values, and of their philosophical and historical principles. These interrelated sources are manifested in three main lines of the professional knowledge base, as follows: (i) knowledge of the content to be taught; (ii) pedagogical knowledge; (iii) pedagogical knowledge of this content.

*Knowledge of the content to be taught* deals with the teacher's understanding of the discipline's structure, how they cognitively organize the knowledge of the discipline to be taught. This understanding requires going beyond the facts and concepts that are intrinsic to the discipline and presumes knowledge of the ways in which the fundamental principles of an area of

knowledge are organized. Thus, the domain of the structure of the discipline is not limited to the detention of facts and concepts of content, but also to the understanding of the processes of its production, representation and epistemological validation, which requires an understanding of the structure of the discipline, including the behavioral, conceptual, procedural, representational and validatory domain of the content.

*Pedagogical knowledge* would encompass an entire theoretical universe produced around the educational phenomenon. Shulman (2004) refers especially to knowledge about the principles and strategies of class management and organization beyond the scope of the subject. We understand the temporality of Shulman's text and, similar to Mizukami (2004), we consider that the students' knowledge and their characteristics; knowledge of educational contexts; and knowledge of educational objectives, goals and values, and their philosophical and historical foundations, are spheres within a pedagogical scope. The disciplines applied to Education, such as Psychology, Sociology, Philosophy, Anthropology, etc., address their epistemological view on the educational phenomenon and produce pedagogical knowledge. Thus, from this understanding, we shift the meanings of Shulman (2004) to the current historical moment, understanding that general pedagogical knowledge involves theorizing about the teaching-learning process, regarding teachers, students, the systemic educational, school and classroom context, to knowledge and its curriculum conception and structure.

The *pedagogical knowledge of the content*, for Shulman (2004), has a differentiated status in the teacher's knowledge base, because it represents the knowledge that is their domain. It is consolidated knowledge, between knowledge of content and general pedagogical knowledge. This elaborate knowledge allows the teacher to choose the most powerful analogies, illustrations, and demonstrations for the understanding of the content.

The process of pedagogical reasoning makes the professional knowledge base powerful, in the sense in which it acts in the articulation of this knowledge, as well as in its stimulation for action, through an integrated movement of understanding, transformation, instruction, evaluation, reflection and new understanding, resulting from the systematic analysis of teaching.

From this perspective, in order to teach, the teacher needs to activate his/her knowledge base to make choices and develop actions, in order to promote the learning of his/her students. Therefore, teaching is a process that requires appropriately grounded choices. This is specialized work, as Roldão (2007) argues. For this author, the teaching function is social-practical, but the knowledge it involves is theorizing, composite and interpretive. The act of teaching is intelligent and founded on a secure domain of knowledge points, which emerge from various types of formal knowledge and from experiential knowledge. Thus, the teacher needs to know how to mobilize all the types of knowledge that they have, transforming them into an act of teaching as a setting up of a learning process that belongs to others and for others.

To undertake didactics as the knowledge domain of the teaching-learning process and to recognize teaching as the act that specifies the teaching function, the knowledge that the teacher possesses, mobilizes, transforms and recreates, from new understanding, so as to teach and to make the student learn, is in our understanding, didactics itself. Therefore, didactics, more than what is done by the teacher to teach, also represents the foundation base of what they reflect on, analyze, compare, choose, decide, propose, implement, evaluate, and record so as to teach. Nevertheless it embodies itself in the synthesis of the professional knowledge base and objective expression of the pedagogical reasoning.

That said, we are interested in investigating which conceptions in didactics have prevailed in the formation of PE teachers. If professional teaching knowledge has been considered in its initial formation process, in what way didactic teaching has contributed towards the construction of the professional teaching knowledge base of the future PE teacher and what connection students of a Physical Education teacher training course, establish between the didactics and the learning of teaching. In order to do so, we prioritize obtaining what is taught in didactics, how it is taught and the role of their teacher trainers in this process from the research participating students.



## Method

The present investigation applied a quantitative method strategy, using a *survey* type questionnaire and also a qualitative method strategy, present in the group discussions and data interpretation. Such a choice was made to broaden the understanding of the research study aim and reveal its complexity (Bauer & Gaskell, 2010).

We opted for the teacher-training course of a PE course offered by a Federal Public University, located in the state of Rio de Janeiro, Brazil. In the case of a teacher-training course, it would be reasonable to assume that all the disciplines would be aligned with the mainstream of pedagogical formation in close articulation with the disciplinary formation.

However, by means of a preliminary analysis of the course content, we identified, by the affinity with the topic investigated, three disciplines and two complementary curricular requirements that were linked to them, namely: Didactics; Physical Education Didactics I; Physical Education Didactics II; Teaching Practice and Supervised Internship I; Teaching Practice and Supervised Internship II. The first discipline deals with general aspects of the field of Education and didactics. The others focus on specific aspects of didactics in the field of PE.

In order to investigate the didactics and the learning of teaching in the view of students of a PE course, the methodological path chosen was towards the perspective of the participants. In this way, the research instruments would have to allow for the return of their opinions and even of their judgment. For this reason, we chose to work with a questionnaire by means of the Survey Monkey<sup>5</sup> instrument and discussion groups.

Our participants were the students who attended about 70% of the disciplines that integrate the program organization of the PE course. This percentage was established so that we could reach students who had studied at least one of the disciplines related to the study of didactics. In terms of the questionnaire, we work with the mixed type, which combines closed questions and open questions, in order to obtain specifications in relation to one or more items. The instrument was made up of 32 questions, of which 26 were closed and 6 open, and was organized into two parts: the first part was the student profile, with 19 questions, of which 16 were compulsory; and the second part referred to the teacher training course, in PE and

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<sup>5</sup> Electronic platform for collection data via questionnaire. More information at: <https://pt.surveymonkey.com/>

teaching, which was subdivided into two parts, one of them containing 5 questions, of which 4 were compulsory, and the other part, dedicated to course specificity, with 8 compulsory questions.

The questionnaire ensured total anonymity of the respondent, allowing us to verify only the number of course respondents. During the first half of 2014, we worked on the pre-test in order to correct any inadequacies in the questions, set up prior to their definitive use. At the beginning of the second semester of the same year, we focused on the implementation of the questionnaire in the Survey Monkey application and we launched it for students through a partnership with the management of the institution's academic management system.

As a methodological strategy, we chose to carry out a discussion group (DG), with the aim of helping data collection without separating the data from the context of the participants, allowing their visions and representations to emerge. The DGs, which correspond to a type of collective interview, helped us to analyze the practices of teacher trainers, which is the most difficult task in a questionnaire.

Group discussion requires a greater degree of abstraction than the individual interview because participants are led to reflect together and express their opinions. Therefore, the data construction method allowed us to gather students from different teacher training courses, sharing common aspects, but, at the same time, maintaining their own characteristics stemming from their lines of training.

To carry out the DG, we organized a script with four questions, in order to understand the meanings given to the space/time of the didactic class; analyzing the didactic practice of the trainer (the way the lesson occurs); and grasp the understanding of didactics and teaching learning.

In this work context, we will discuss the results, exclusively considering the answers obtained with the application of the questionnaire, since the group discussions were made up of students from several teacher-training courses, and it was not possible to isolate the variable referring to PE.

## **Respondent profile: general characteristics**

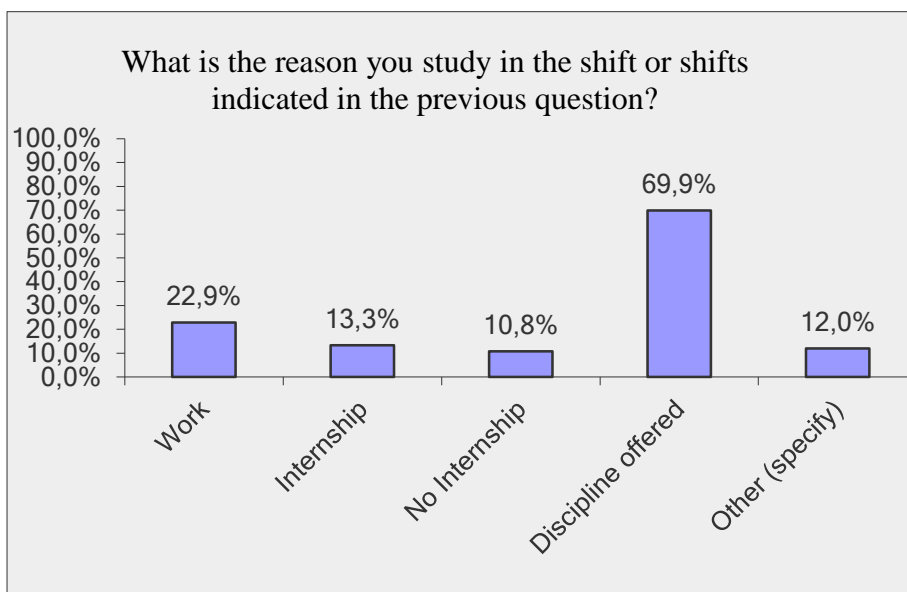
We undertook the profile mapping of the teacher training student, participating in our study, with the intention of verifying if this study would present different features to those pointed out by research with participants of teacher training courses (André et al., 2010, Gatti, 2009; Marin & Giovanni, 2006). As Gatti (2010) warns, it is important to know what the teacher training students characteristics are, since they "have an effect on learning and consequences on professional performance" (p.1361).

Research has indicated that being a teacher trainer today represents a more demanding performance, since the teacher training students had various types of difficulties to reach Higher Education, as they are, in general, students from the public education system, which has presented a poor performance in the evaluation processes.

The PE teacher-training course that was investigated presented a total of 89 respondents to the questionnaire. In this case, 53% of them are male, while 47% are female. In relation to the age group, the highest percentage concentrations were: 49.4% of the respondents were between 19 and 21 years of age; 22.9% between 22 and 24 years of age; and 13.3% between 23 and 24 years of age. Regarding marital status, the majority - 88% - said they were single.

Regarding the "number of people residing in their home", the response presented a higher percentage for the alternative stating 4 people, with 36.14%, followed by the response stating 3 people, with 25.3%. A total of 79.52% said that their family contributed financially to their keep. In relation to income, the highest percentage of respondents was 26.51% for the answer "between R\$ 2,401.00 and R\$ 4,800.00", followed by 24.1% for "between R\$ 1,201.00 and R\$ 2,400.00", and 20.5% "above R\$ 4,800.00"

The question concerning the basic education of the respondent presented close percentages in the answers, respectively (quantitatively more representative): 33.7% always "studied" in a private school; 28.9% in the public and private network; and 27.7% always "studied" in public schools (municipal and/or state). Most respondents, 57.8%, attend the teacher training course in the morning and afternoon. Almost 70% affirm that this option occurs due to the offer of the disciplines, as the offer is greater at this time of day, as can be seen in Graph 1:



**Graph 01 – Reasons for studying during the day**

Source: Research Portfolio

For the item, cost of personal expenses to study at the university, the respondents reported different sources, such as: financial assistance from parents, scholarships or work.

Regarding the question "do you work?", 63.8% said yes. About the purpose of the work, 46.6% said that their work was aimed at making them more independent and 43.33% were looking for a job.

Of the total respondents, 84.34% stated that they wanted to "be a teacher". Among the reasons, most of them liked to teach. This result differs from Gatti's (2010) research, which showed that if the choice of teaching among the students of the Pedagogy course arises from the desire to be a teacher, the same does not appear among students of other undergraduate courses, whose option is an alternative to unemployment. According to our respondents, the choice of course is linked to the choice of the teaching profession.

In short, the general profile of the teacher-training student in PE is between 19 and 21 years old, receives financial help from their family and comes from both public and private schools. They attend disciplines in the morning and afternoon, perform non-compulsory paid internships, and still work, mainly to keep themselves. Most of them want to be teachers, mainly because they like to teach.

It can be seen that the socioeconomic profile challenges the teacher trainers to deal with a diverse social student context, converging with some aspects of the research results developed by André et al. (2010), Gatti (2009), Gatti (2010) and Marin and Giovanni (2006)

## **Didactic Teaching: what do students say about teaching training in Physical Education?**

Gathering information regarding what is taught in didactics, how to teach and the role of the teacher trainers from students participating in the research, is the main interest of this study. How do the teachers being trained in PE, evaluate the teaching of didactics in their didactic training?

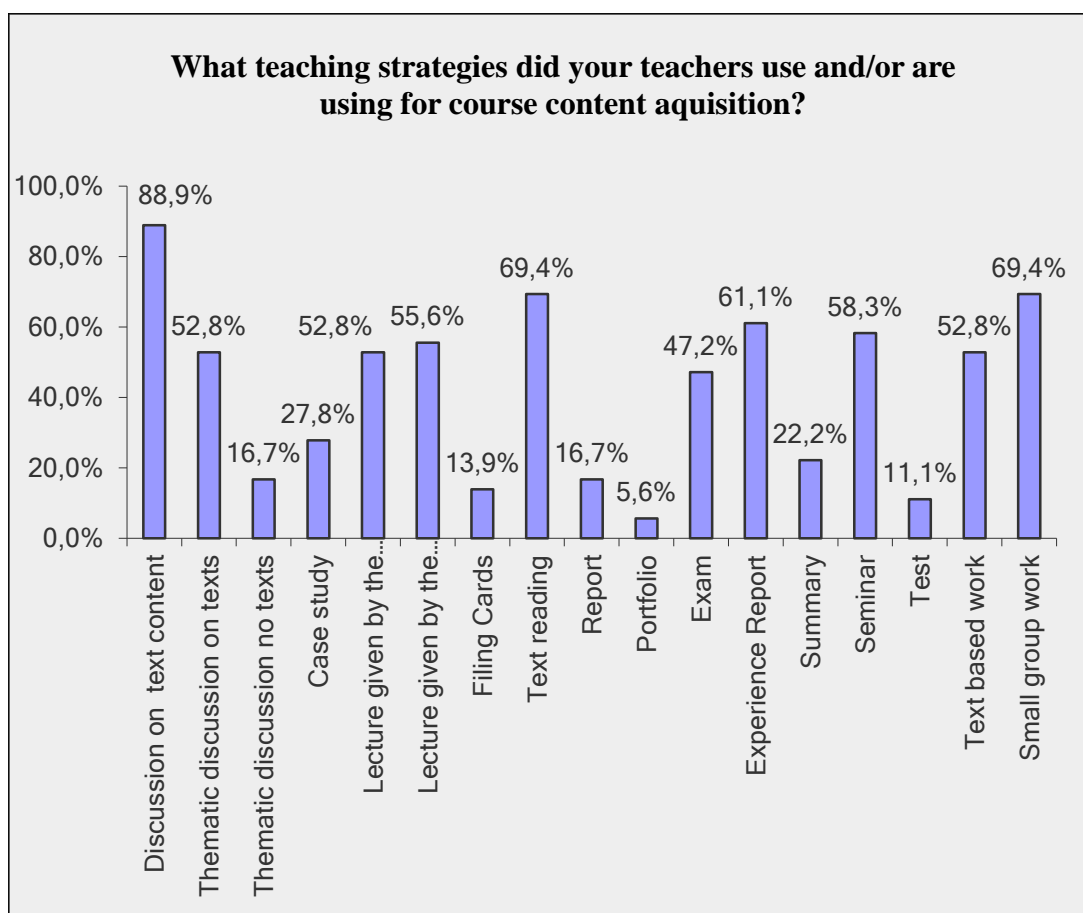
When questioned about the topics studied in didactics, a discipline that has the purpose of discussing the fundamentals of teaching practice: 86% of the respondents mentioned the theme "Curricular planning and teaching planning"; 80% of the respondents mentioned the theme "The field of didactic construction seen as time/space for reflection/action in the teaching-learning process"; 75% of the respondents mentioned the theme "Educational evaluation"; and, 72% of the respondents mentioned the theme "Educational theories and the socio-historical, political, economic and philosophical context of pedagogical practice".

Next, the most important themes for the respondent's teaching practice, among those listed in the previous question, were discussed. The "all" answer was notorious. Some also emphasized the need for greater investment in the specific themes of curriculum planning, teaching methods and techniques. This aspect deserves to be emphasized, because moving towards fundamental didactics is also to address and emphasize its technical dimension as an important requirement for teaching, contextualizing it with the human, political and social dimensions of the process of "teaching and learning" (Candau, 1983).

Both the themes taught by the teacher-trainers and the ranking carried out by the respondents, denote aspects that indicate, albeit initially, the meaning of didactics, in Candau's

terms (1983). The topics listed, that range from conceptions and practices of teaching and evaluation to the socio-cultural foundations of pedagogical practice, point to a more comprehensive conception of didactics, beyond the instrumental ones.

Regarding the teaching strategies used by the teachers to aid the intake of the discipline contents, the following responses were more representative – in terms of the quantitative content presented: 88.9% affirm that “discussion on text content”; 69.4%, "reading of texts"; 69.4%, "working in small groups; 61.1%, "teacher's and student's experience report"; and 58.5%, "seminars". There is also: 52.8%, "lecture given by the professor"; 52.8%, "text-based work"; and 47.2%, "exam".



**Graph 02 – Recurrent strategies in the teaching of Didactics**

Source: Research Portfolio

The teaching strategies used in a recurrent way in the didactics course show the teacher's emphasis on performing to profess a knowledge (Roldão, 2007), a perspective which is marked mainly by the teacher-centered classes rather than the student-centered classes where the teacher

presents, discusses, analyzes, prevailing the transmission, assimilation and reproduction of contents.

But they also show concern for "making someone learn something" (Roldão, 2007: 95), as expressed in the strategies that involve discussion about text content, small group work and experience reports, favoring construction and the collective discussion of an idea and the socialization of knowledge and actions. For the author, what distinguishes the teacher from other professions is the act of teaching, manifested over time in two predominant ways: teaching as professing knowledge and teaching how to make someone learn to someone else, thus this is a more pedagogical concept that is also extended to a vast field of knowledge, including disciplinary ones (Roldão, 2007).

Asked about positive and/or negative aspects of didactic classes, the respondents pointed out:

*Encourage students with the content and how the class is applied. (PE 01)*

*Broader discipline showing the lines of thought on didactics to this day. (PE 03)*

*Content presentation with the carrying out of small projects at the end of practically all the classes, aids the process of learning. (PE10)*

*There was a lot of theory and very little practice. (PE 23)*

In the evaluative sequence, we highlight a statement that, although it is a conjectural issue from the PE course of the studied institution, it highlights the crucial points for us to understand where teaching didactics resides in PE teacher education:

*It is one of the first disciplines that we take at the Education Faculty and due to the difference of approach that we have in the School of Physical Education, we had a lot of difficulty. As I said before, in the Physical Education School there are few disciplines in which teachers bring this concept to the school environment. Unfortunately, some teachers still value high performance/training and not a vision for education. In didactics, it is understood that we already know some contents that we have never had or let alone heard about. But I had help from the monitor and good references by the teacher during the discipline. (PE 13)*

The first point to be highlighted is that didactics addresses general education issues, postponing the study of specific aspects of PE for specific didactics I and II. Hence the student's perception (PE 13) that the teacher trainer when teaching didactics seems to think that he/she

has already studied some specific topics of the educational field, which did not necessarily happen, since the focus of the Physical Education School points towards disciplines of technical-professional preparation, focused on "high performance/training".

The second important point, observed in the previous speech, is that the discipline in question, unlike the other subjects of the course offered by the Physical Education School, is offered by the Faculty of Education (FE) of the investigated institution, and represents, in general, the first contact of the teacher training student with the teacher training area, at the final phase of their teacher training course. This curricular design – the study of the technical and professional disciplines at the institute of origin and the pedagogical one at the FE institute, after halfway through the course - refers us to the model guided by technical rationality. This model prevailed for a long time in the organization of teacher training curricula, based on the separation between theory and practice and on the valuation of the specific area of knowledge to be taught. From the technical rationality point of view, the solution to the problems that permeate teaching activity is presented, needing simply to apply it.

The findings resonate in the historical reconstruction that Betti and Betti (1996) and Silva, Nicolino, Inácio and Figueiredo (2009) do about PE teacher training courses. For them, until the 1960s, the curriculum of these formative scopes was termed as "traditional-sports," which entrenched the dichotomy between theory and practice in initial training: theoretical aspects were mostly found in disciplines of a biological nature, such as physiology and anatomy; the practical aspects were exacerbated in disciplines linked to the traditional sports, marked by the "practicism"<sup>6</sup> directed to the technical dominion of the content.

Prior to the 1980s, a "technical-scientific" curriculum was introduced, which emphasized theoretical training in disciplines linked to biological sciences, human and social sciences, but relegated the experience of teaching to the discipline "teaching practice", making it difficult to articulate the curriculum in order to guarantee to the teacher training student the solidity of a body of pedagogical knowledge that would be necessary for future performance (Betti & Betti, 1996; Vaz et al., 2002). These different perspectives of formation and of curriculum seem to be present until today, as was stated by PE 13.

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<sup>6</sup> "Practicism" can be understood as the practical content experience of a specific discipline, without there being articulation with the pedagogical process of teacher training (Betti & Betti, 1996).



We start from the premise that pedagogical practice, however, is marked by great complexity, which requires more than simplistic solutions and is produced out of context. Another "epistemological belief" must emerge, the proposal of which falls on the need for practical situations to be dealt with in all the complexity, so that within it, valid knowledge is produced that allows individuals to act in a constructive way. The practice will not only be the locus of scientific and pedagogical knowledge application, but a space for creation and reflection.

It should also be emphasized that the PE13 report, in denoting the emphasis on the investigated PE course discipline, in a content aimed at the "high performance" athlete formation, seems to be disagreeing with the purpose of a teacher training course in the area. This premise suggests that the teacher training student must master content at its highest levels of complexity, relegating to nullity other fundamental aspects for professional education. After all, would it be the teacher the only one who would dominate the content to be taught? We start from the understanding that this conception, besides being mistaken, is one of the great obstacles for the professionalization of the teaching profession. Roldão (2007) says that the teacher is an expert in the act of teaching - a distant vision of this one that strictly advocates the mastery of content. Gauthier et al. (1998) are emphatic in stating that one of the errors of the teaching activity is to assume that it is enough for the teacher to know a certain content for his/her professionalization - if it were like that, there would be no need to build a set of specific skills for the teaching profession. The authors conceive teacher training and teaching as the mobilization of various knowledge types, arranged in a kind of reservoir, from which the teacher obtains the answers to the different demands of concrete teaching situations.

Shulman (2004) however, defends teaching based on a close articulation between the content knowledge of the subject to be taught, the general pedagogical knowledge and the pedagogical knowledge of the content. It is not enough to dominate only key elements of the discipline taught, but also those referring to general pedagogical knowledge: educational context knowledge; the students' knowledge and their characteristics; and the knowledge of the objectives, goals, educational values, and of a philosophical and historical education basis. It is in the pedagogical content knowledge, that we find the blended knowledge between discipline content knowledge and the general pedagogical knowledge. It is the mobilization of this

knowledge that allows the teacher to convert the content, making analogies, offering illustrations and meaningful demonstrations for student understanding of the discipline taught.

In short, this minimalist understanding of PE, only focused on the domain content, contributes to the professional depreciation of the teacher of the area. This perspective validates the space for the non-trained professionals in PE, such as technicians and practitioners of physical activities over a long period of time, to act in this field under the premise that they "dominate the content" of a given sport or activity.

Returning to what our investigators declared, the highlighted positive aspects appeared in other ways, as can be seen in the following statements:

*Good class, deals a little with the history of teaching that is good to know in terms of how the transformation was over time. (PE 18)*

*The way the teacher carried out the classes leading to a broad understanding of the subject, its content and its importance in the pedagogical process and use in the labor market. (PE 34)*

As we can see, the respondents also highlighted a possible diversification in the content studied in didactics. Historical aspects, present events in the labor market and "pedagogical performance" reveal a didactic study aim that is understood as being broader, widened, concerned with the context in which the teacher training student is immersed.

The following question is aimed at understanding the high and low points of the specific didactics of the PE course respondents investigated, who highlighted more positive aspects than negatives ones. As for the positive ones:

*The discussions were very interesting when dealing with the themes of the available texts for the class. A negative point is the little class time, mainly in specific didactics, which was only two times weekly, where it would be necessary to have at least double that amount of time to approach the discipline themes satisfactorily. (PE 7)*

*It was one of the best disciplines that I studied. Based on the articles, we were able to discuss the reality of my course, what we went through during graduation at the School of Physical Education and what is currently happening at schools (with compulsory practice experience of some colleagues, teacher, etc.). As a schoolteacher, the Physical Education course was enlightening. Too bad we took this discipline at the end of the course. (PE 13)*

*I would like to highlight the theory alignment with professional practice approach as being positive, and the short time we have for discussions, field work, among others as being negative. (PE 21)*

The relation between theory and practice seems closer to specific didactics, revealing the need for dialogue between didactic disciplines, Specific Didactics I and Specific Didactics II - as already argued in Vaz et al. (2002), that discuss the teacher training course curriculum in PE, in order to attend the needs of the teacher training students.

With regard the negative aspects, the statements converged to the structural and curricular organization aspects of the course, as was discussed previously. The criticism of the classes were rare, as we can see below:

*It is only in the last periods of the teacher-training course that one has the opportunity to act as a real teacher in the field (school) and with students. Perhaps this fact is not a problem of didactics itself, but due to an outdated curriculum. (PE 4)*

Questioned if the way teacher trainers teach helps to think about future teaching practice, the majority, 91.7%, answered affirmatively, justifying with aspects that deal with the teaching of these trainers, especially, the way they teach.

*Because they focus on real situations making us imagine the situation mentioned and as if we were actually at the school (PE 1) Because they generate debates in class, they indicate provocative and reflective texts. (PE 3)*

*We always seek to mirror ourselves based on what our teachers talk about/debate and how they act. If they are not the greatest influencers, teachers, in this case, are fundamentally important to the future teaching practice of teacher training students. (PE 4)*

*Every form of a teacher's action influences us. Even when the teacher does not have the most appropriate conduct or methodology, we can reflect on the teacher we do not want to be. (PE 9)*

*Because it makes us reflect and question the type of education we want and what are the needs and expectations of youth in relation to basic education. (PE 29)*

We emphasize, at this point, the importance of the teacher-trainer as a reference for the future teaching practice of the teacher-training student. They do not graduate only from the content taught, but also from the way in which it mobilizes teachers' knowledge and presents it as a teaching strategy for student learning. This occurs both in its positive aspects and in its negative aspects. In other words, a teacher-training student who has undergone a deficient initial

education process can reproduce the practices experienced in their educational process, with a tendency to maintain their experiences as a student (Gauthier et al., 1998).

Finally, it is imperative to move towards teacher training that presents a strong and guiding teaching reference throughout the teacher training course, not only at the time of the obligatory internship for the completion of the course (Marcon, Graça, & Nascimento, 2010; Vaz et al., 2002). In this sense, Marcon et al. (2011) are emphatic:

The need for the initial educational programs in Physical Education is commended to effectively incorporate pedagogical practices in their daily lives, accompanied by careful and constant reflections and feedback by the teacher trainers, and that they undertake them as one of their main strategies for the construction of the pedagogical knowledge of the content and for the teacher and professional education of the future teachers throughout the course. These issues highlight the close link established between the pedagogical practices implemented by the initial training programs and the process of pedagogical knowledge content construction of the future Physical Education teachers. (page 507)

The teacher trainer in PE should be invited to reflect on the contents arranged in the disciplines studied, in order to counterbalance their previous experience in school and/or non-formal spaces, with a teacher training perspective, surpassing the strict dimension of "knowing how" in order to build a corpus of knowledge that allows the insertion and development of their future professional practice, as defended by Betti and Betti (1996) and Marcon et al. (2010).

## Conclusion

As per the graduating student evaluation of a teacher-training course in PE, teaching didactic contributions to the education process of professional teacher knowledge can be crucial for education. Immersed in a course that prioritizes professional technical formation, with a strong appeal to the disciplinary knowledge domain or, in the words of Shulman (2004), the subject content to be taught, the convergence with pedagogical education is little seen.

Didactic teaching develops within the scope of Didactic and Specific Didactic disciplines, as well as through the Practice of Teaching and Supervised Internship. As we have

pointed out, the studied themes, according to our investigators, are balanced between the fundamentals of teaching and structuring of the teaching practice itself. Curricular planning and evaluation of the teaching-learning process were two of the four themes most pointed out and are part of the structuring of teaching work, which, for students, evokes the practical dimension more objectively. Two other topics with strong indication were "The constitution of the didactic field in Brazil" and "Educational theories and the socio-historical, political, economic and philosophical context of pedagogical practice", with emphasis on grounding. In spite of this apparent balance, there was a lack of emphasis on curricular organization and on teaching methods and techniques, which are classical didactic themes.

This table reveals that the teacher training course investigated, despite being organized in a more instrumental perspective, focusing on technical professional education, does not manifest itself in this way with regard to didactic teaching. This, although insufficiently, as the students pointed out, works on themes that are based on a more progressive view of teacher education. It is true that there is much to invest so that didactics, through its disciplines and curricular activities, contributes in a more robust way to the formation of professional teaching knowledge. However, the path from an instrumental proposal to a more organic, integrated, multidimensional one with an emphasis on politico-social, human and technical dimensions, as the thesis of fundamental didactics defends, seems to be a strong path.

In addition, the propositions and discussions, about the didactic role in the initial education of the teacher in the field of PE, seem to provide enough grounding to overcome a conception based on "knowing how" and "practice", highlighted mainly, in practical-sport disciplines. This development does not only reside in the theoretical configuration of the area, but, as argued in this article, it is extremely important to the legitimacy and professionalization of the teaching profession in society.

That said, the trainer's role is shown to be the distinction. For many, they are the ones who make the discipline worthwhile or not. The practical dimension, greatly questioned, appears in the way the trainer plans, organizes and proposes the activities, evaluates, analyzes, and relates the themes. The role of the teacher trainer is increasingly emphasized in the didactic teaching, since it is a parameter, yes, a formation of teaching identity for its teacher training students,

either because it teaches knowing the reasons why it teaches, or not, which will be revealed as an "inverted model".

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