STUDIA PAEDAGOGICA

EXPLORING TEACHING CONCEPTIONS AND PRACTICES: A QUALITATIVE STUDY WITH HIGHER EDUCATION TEACHERS IN PORTUGAL

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ABSTRACT

In recent decades, several international political guidelines have encouraged the reconfiguration of teachers' ways of being and acting, specifically arguing for the rejection of the conception of a teacher who holds and transmits knowledge, with inevitable implications for pedagogical practices. Therefore, it is particularly relevant to gain an understanding of teachers' conceptions and practices, exploring the extent to which they are reconfigured throughout training and professional development processes. With this general objective, a qualitative study is presented, drawing on the content analysis of written testimonies and individual portfolios produced by a group of 24 academics involved in a post-graduate degree course in higher education pedagogy at the University of Lisbon in the academic years 2019/20 and 2020/21. The results suggest a dominant professional conception, embedded in the artisanal paradigm and in line with a teaching conception based on the transmission of knowledge. However, there are signs that teachers challenge this vision of professionalism, revealing diverse conceptions about the profession as well as conceptions about teaching and learning aligned with different types of pedagogical orientation. The study also shows how formal pedagogical training might support changes in teachers' conceptions about their profession and about the meaning of teaching and learning, with effects on teaching practices and on the quality of student learning.

KEYWORDS

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Introduction

Higher education and the teaching profession have been confronted with increasing challenges in recent decades. The phenomena associated with the information society, the massification of higher education, and the question of bridging education and the world of work in the 21st century are examples of such challenges. Furthermore, the convergence of trends regarding higher education policies led to the creation of the European Higher Education Area (EHEA). The countries involved in EHEA have initiated curriculum restructuring processes in higher education; changes within teachers' professionalism have also been advocated, with a strong appeal to interrupt the hegemony of the instructional paradigm, emphasizing the need to adopt the learning paradigm. Other interventions by international organizations with increasingly important roles in defining public policies for the sector, such as the OECD (2018) and UNESCO (1997, 2009), corroborate this view.

The transnational narrative that values the learning paradigm and stresses the need to abandon the instructional paradigm is widespread across Europe. It is a fundamental key element within the construction process of the EHEA associated with the Bologna Process. Nevertheless, this narrative assumes a pre-existing hegemony of the instructional paradigm that might not be entirely coincident with the ways in which higher education teachers act and think.

These movements in international forums are in line with what the literature has highlighted (e.g. Cid-Sabucedo et al., 2009; Cunha, 2010; Esteves, 2010; Flores et al. 2007; McCune, 2019; Smith & Flores, 2019; Zabalza, 2004). Indeed, in order to reconfigure the ways of being and acting in teaching, the notion of the teacher as someone who holds and transmits knowledge must be quashed. This bears inevitable implications for the conceptions of what it means to teach and learn, to be a student and to be a teacher, and consequently for pedagogical practices.

Despite the enormous pressure on higher education to change teachers' practices, it has been observed that practices do not change simply due to political pressure or normative imposition. Furthermore, these changes are not intended to take place merely at the most superficial level, with occasional recourse to more active methodologies or by incorporating digital technologies in teaching. A far deeper transformation at the core of the professionalism and professionality of the teacher is expected, which implies reaching the level of teachers' beliefs, conceptions, and implicit theories. In fact, it is assumed that teachers structure a personal interpretative framework throughout their professional careers corresponding to "a set of cognitions, mental representations that work as a lens through which they look at their profession, giving it meaning and acting in it" (Kelchtermans, 2009, p.72).

Kelchtermans (2009) argued that two major domains support teachers' thinking and action: the first domain is designated as subjective educational theory (professional know-how) related to the personal system or theory of knowledge and beliefs that acts as a support for decision-making as well as its legitimation; the second domain corresponds to the personal interpretative framework and includes the teachers' conceptions about themselves as teachers.

The influence of beliefs, perceptions, and judgments for teaching performance in the classroom has been supported by several authors (Borko & Putnam, 1995; Clark, 1988; Erickson, 1986; Marcelo, 2009; Navarro, 2007; Nias, 1989; Russell & Kane, 2005; among others), although a variety of terms are reported in the literature with different meanings, sometimes used as synonyms, resulting in a semantic dispersion that makes it difficult to meta-analyze the studies performed. Based on a literature review, Navarro (2007) concluded that, despite the polysemy of the terms, it is possible to find more regularities when using the term "beliefs".

First, it is important to acknowledge the distinction between knowledge and belief. Belief implies judgment and an affective component; knowledge corresponds to theory offered by research. In this sense, beliefs have affective and evaluative functions, acting as information filters that influence the way knowledge is used, stored, and retrieved. Navarro (2007) used Richardson's definition of beliefs: a "set of propositions and assumptions people have about what they consider to be true. Beliefs, unlike propositional knowledge, do not need the refutable truth condition and fulfill two functions in the process of learning to teach: beliefs influence how teachers learn and influence the change processes that teachers can engage in" (p. 15).

Second, to intervene in and define a belief system implies understanding that this system is, in turn, composed of beliefs related to each other and to other cognitive and affective structures of the person (Marcelo, 1998). For example, Navarro (2007) considered that teachers have different beliefs, namely about learning and the teacher's role; about the factors that affect teacher and student performances (attributions, locus of control, motivation); about perceptions of self and feelings of self-esteem (self-concept); about subject areas; and about self-efficacy (degree of confidence placed in one's personal ability to help students learn).

Finally, related to these two ideas, Navarro (2007) highlighted the need to understand the structure of beliefs to improve the quality of the training offer or other practices that induce professional development, as well as to understand or situate the practices implemented by the subjects, since professional development processes should lead to changes in teachers' conceptions and beliefs (Fear et al., 2003; Feiman-Nemser, 2008; Feixas, 2004, 2010; Marcelo, 2009; Navarro, 2007; Russell & Kane, 2005; Trigwell

et al., 2008; Villegas-Reimers, 2003). Research supports the idea that change processes must necessarily accommodate the so-called personal dimension of change, that is, they must pay attention to the impact that the innovation proposal has or may have on teachers' beliefs and values (Fullan, 1992; Marcelo, 1998).

Accordingly, it appears that changes in the practices of higher education teachers will only be possible if a strong component of reflection on the beliefs that support the action are incorporated in the process, taking beliefs as "the thoughts, conceptions and theories that drive the teacher's didactic action" or "teacher trends or dispositions that lead them to teach in a certain way" (Navarro, 2007, p. 33). In fact, the possible need to change teachers' ways of thinking and acting to converge with the learning paradigm in higher education advocated by the political narrative in Europe in the 21st century implies considering teachers' conceptions and beliefs. Thus, it is relevant to understand how a group of academics perceive their professional teaching activity guided by two main research questions: *How do the teachers characterize the roles of the teacher and of the student in higher education?* and *How did the teachers' conceptions change across one particular training experience?* The research reported in this paper contributes to exploring these issues.

1. Teachers' conceptions, beliefs, and practices: theoretical background

According to Navarro (2007), the pedagogical beliefs of higher education teachers might be understood as "personal judgments that allow teachers to articulate their thinking about teaching practice, in a more or less conscious way, to give it meaning" (p. 18); considering these beliefs fosters an understanding of the differences among teachers' practices. This theme has already received considerable attention in the literature regarding non-higher education teachers, but very few studies have focused on this topic in the context of higher education in general and particularly in Portugal.

The relationship between teaching practices and teachers' explicit or implicit beliefs appears to be evident (Navarro, 2007; Russell & Kane, 2005); the intentionality and strategies adopted are associated with a type of pedagogical orientation (Martin et al., 2000) and reveal conceptions and pedagogical orientations (Trigwell & Shale, 2004; Trigwell et al., 2008; Trigwell et al., 2005). Zabalza (2004) also referred to the role of beliefs in the decision-making process, underlining that beliefs are the basis for teachers' performance when they do not have relevant information, that is, validated professional knowledge. Hence, as highlighted in prior research (see, for example, Almeida, 2020, 2021; Alves, 2020; do Ó et al., 2019) the absence of

pedagogical training mechanisms both at entry and during the professional career inevitably leads to intuitive action. This type of action is based strongly on constructed experiential knowledge, and has not been questioned or confronted with theory, resulting in the maintenance of previous and unchallenged professional conceptions.

Teaching approaches correspond to a line of research on teachers' beliefs, understanding these beliefs as framing concerns, problems, and tasks, and thus having implications for practice (Fives & Buehl, 2012). Teachers' diverse professional roles are linked to different conceptions about teaching and learning, as conveyed by proposals such as that presented by Altet (2001). According to Altet, the role of the teacher can be understood in various ways: it can be compared to a master who has handcrafted knowledge for students; it can be seen as a technician whose action is based on the scientific research produced by theorists, with the teachers applying the theory in their practice; or it can be perceived as professionals, acknowledged as reflective practitioners capable of analyzing their own practices, drawing on the practical-theory dialectic and developing their teaching skills at the level of problematization and analysis of practices, reinforcing metacognition.

Similarly, Contreras (2001) highlighted three approaches: the teacher as a technician (technical rationality); the reflective teacher; and the teacher as a critical intellectual. According to Sachs (2009), it is possible to identify the artisan teacher; the teacher as a technician; the reflective teacher; and the autonomous professional teacher. Each of these views is associated with a specific type of professionalism: subservient, controlled, collaborative, and activist, respectively (Sachs, 2009).

Ramsdem (2003) discussed conceptions about teaching and learning (and consequently about the roles of teachers and students) and highlighted three main approaches: teaching understood as transmission or communication; teaching as an organization of student activity; and finally, teaching as making learning possible. These conceptions are also present in the results of the study by Feixas (2010), with reflections on the pedagogical orientation of the teacher, in which two types of orientation are mentioned – teacher/content and student/learning centered – that have been confirmed in studies with large samples of teachers from a multiplicity of disciplinary fields (Postareff et al., 2008; Stes & Van Petegem, 2014).

Considering the typologies presented above, it is possible to identify three main axes around which the teachers' role and pedagogical orientations are positioned, guiding their ways of thinking and acting professionally, namely: i) more centered on themselves and on disciplinary knowledge, where the focus is placed on the domain of the contents to be taught and where students are passive receivers; ii) more focused on methodology, seen as a technique to better guarantee the transmission of contents; and II) aimed at the student

and geared towards learning, where students take an active role in the teaching-learning process. The first type of orientation is more in line with the perspectives of artisanal teaching; the second closer to the understanding of the teacher as a technician, with a strong identification with the instructional paradigm; and the third more consistent with the perspectives of a reflective, autonomous teacher with greater identification with the learning paradigm.

Research on teachers' beliefs, conceptions, and implicit theories has proved to be extremely useful in providing a set of justifications for the fact that many training practices do not have a real and lasting impact on changing teachers' practices (Marcelo, 2009; Russell & Kane, 2005). The work of Kagan (1992), for example, signals the fact that individuals, even before initiating their training or professional activity, already have a set of personal beliefs about teaching and about what they understand a good teacher to be. Therefore, individuals project images of themselves as teachers that are grounded on their personal experience as students. The same author (Kagan, 1992) stressed that training programs are frequently unable to change these types of beliefs.

In fact, reasons for the inefficiency of training proposals may be related to the fact that training collides with entrenched beliefs (Åkerlind, 2007; Navarro, 2007). The research conducted by Åkerlind (2007) with higher education teachers concluded that the relevance given to professional development initiatives or the search for professional development mechanisms really depends on conceptions about their professional role, their pedagogical orientation, and the goals they hope to achieve through training. It is understood that: "teacher development strategies consist of addressing both the teacher's thinking and his/her conduct. Teachers always have some kind of theory of teaching, but it can only be implicit and therefore remains unexamined" (Biggs, 2006, p. 280). Thus, academics need to become more aware of their conceptions about teaching in order to promote reflection and questioning within training and professional development programs (Trigwell et al., 2005). This research contributes to that overall aim.

2. Research context and methodology

Considering the Interrelational Model of Professional Development (Clarke & Hollinsworth, 2002), the complexity of teachers' learning processes is assumed and highlighted. According to this model, change occurs through the mediation of experimentation and reflection processes in four areas: the personal domain (the teacher's knowledge, beliefs, and attitudes), the domain of teaching practices, the domain of consequences for student learning, and the external domain related to stimuli from the wider context.

Thus, professional development can be promoted through teachers' reflection on their practices, through the addition of new knowledge, and through experimentation with new procedures and proof of their effects.

These are the assumptions that underpin the postgraduate degree in higher education pedagogy offered at the University of Lisbon since 2019/2020. This is a non-mandatory formal training course that runs from October to July with 4 hours of classes once a week and entails various curricular units focusing on curricular issues, active learning strategies, student evaluation and supervision, technologies in teaching, and didactics. Classroom observation is promoted across the academic year as a training activity involving all the teachers attending the degree course. The aim of the curriculum design and the diversity of training activities proposed within the postgraduate degree course is to promote the problematization and questioning of teachers' beliefs, theories, and professional practices. The overall intention is to combine solid reflections on beliefs, theories, and practices with knowledge about theory, thus enhancing new ways of being, thinking, and acting as a teacher in higher education.

Within this context, the present study sheds light upon how a group of 24 academics attending the postgraduate degree course in higher education pedagogy at the University of Lisbon in 2019/2020 and in 2020/21 perceived their professional teaching activity, specifically their conceptions about the roles of the teacher and of the student in higher education. Furthermore, we sought to detect changes in the teachers' conceptions throughout their training experience in order to signal change factors associated with experienced training practices.

This group of 24 academics included teachers from various disciplinary areas and with different institutional affiliations (see Table 1).

Table 1
Characterization of the participants in the study

ID	Female/Male	Number of years as HE teacher*	Scientific domain
1	F	5	psychology
2	F	18	dentistry
3	M	26	law
4	F	19	dentistry
5	F	10	fine arts
6	F	11	veterinary medicine
7	F	10	nursing
8	F	34	statistics

9	F	6	veterinary medicine
10	M	9	veterinary medicine
11	M	18	veterinary medicine
12	F	5	pharmacy
13	M	4	veterinary medicine
14	M	10	pharmacy
15	F	12	veterinary medicine
16	F	20	nursing
17	F	15	psychology
18	F	2	pharmacy
19	F	13	law
20	F	1	chemistry
21	F	1	education
22	F	5	education
23	M	1	agronomy
24	F	2	social services

*Refers to the number of years as a higher education teacher when starting the post-graduate degree. Teaching might have been either part-time or full-time, but not including years as a researcher during which responsibilities as teacher (supervising and/or lecturing) were assumed sporadically.

The majority of the participants were women (there were 6 men in the group of 24); seven academics had been teaching for at least 15 years, eight for 6 to 14 years, and nine for 5 years or less, even though the last subgroup may have had sporadic teaching responsibilities while employed as researchers. Thus, the group is relatively inclusive in terms of disciplinary domains and years of experience as teachers, enabling us to focus on teaching and learning in a broad sense. Given that the majority of higher education teachers in Portugal are men (54.2% in 2019/20 according to national statistics on education), it is quite interesting that they were a minority among the postgraduate degree students. This might be linked to a greater investment by women in teaching responsibilities within the various components of academic work, given the conception of teaching as an activity linked to caring for others that is more associated with the social role of women.

An interpretative study was undertaken through the collection of a set of testimonies written at an early stage of the degree course and produced in the individual learning portfolio developed throughout the degree course. The written testimonies were prompted by two questions – "What is the place of teaching within my professional identity?"; "Who am I as a teacher?" – and revisited across the academic year. These documents vary in length between 2 and 5 pages. The learning portfolio was used as a tool for professional

development (Smith & Tillema, 1998, 2001, 2006) and was the result of the work developed in all the curricular units in the postgraduate degree course, conveying a comprehensive overview of the learning process of each teacher. These portfolios were produced following quite different options, including written reports, short videos, websites, and slideshow presentations.

The written testimonies and the learning portfolios correspond to the documentary corpus that was examined using content analysis techniques (Bardin, 2009) based on the following grid (see Table 2). The definition of the categories within the content analysis grid is anchored to the literature review, focusing on the teaching approaches that cover a diversity of conceptions and beliefs about the roles of the teacher and the student in higher education, as well as about teaching and learning.

Table 2
Teaching approaches: content analysis grid.

CONCEPTIONS \ PEDAGOGICAL ORIENTATION	more centered on themselves and on disciplinary knowledge, where the focus is placed on the domain of the contents to be taught and where the students are passive receivers	more focused on methodology, seen as a technique to better guarantee the transmission of contents	orientations aimed at the student and geared towards learning, where students take an active role in the teaching-learning process
Master who handcrafts knowledge for students	A ($n = 11$)	B ($n = 2$)	C
Technician whose action is based on applying the scientific research produced by theorists	D	E ($n = 4$)	F
Professional understood as a reflective practitioner capable of analyzing their own practice	G ($n = 3$)	H	I ($n = 4$)

The content analysis grid made it possible to highlight excerpts from the corpus considering the predominant pedagogical orientation regarding both the way of facing the teaching professionality and the conceptions regarding the professional role of the teacher. A thorough reading of the documents produced by each teacher attending the postgraduate degree course led to that teacher's categorization within one of the quadrants identified in Table 2. This decision took into account the predominant teaching approach arising from the documents produced by each teacher, acknowledging that there is frequently a combination of different views in the same individual.

3. Teachers' professional role and pedagogical orientations: main results

The analysis of the written testimonies and portfolios produced by the academics during the postgraduate degree course reveals a diversity of conceptions and practices and enables an outline of the training practices identified as inducing change. It should be noted that, as expected, the teachers' views are not mutually exclusive and that evidence of different views can be found in the same individual testimony, as revealed in other studies (for example, Postareff et al., 2008).

Globally, a predominance of excerpts located in quadrant A ($n = 11$) is observed, suggesting the significant presence of a view that combines the role of the teacher as an artisanal master who handcrafts knowledge for students (e.g. Sachs, 2009) with a pedagogical orientation more centered on the teachers themselves and on disciplinary knowledge. According to this view, the focus is placed on the domain of the contents to be taught; the students are passive receivers (e.g. Feixas, 2010; Postareff et al., 2008). The following excerpts illustrate this viewpoint:

> *In these first years, my concern was, without a doubt, to be technically accurate and to transmit technical knowledge in the best way possible.* (ID4, written testimonial)

> *I have particular difficulty in separating being a teacher from being XXXX, not only because a large part of what I teach involves this professional experience, but also because I don't have great training foundations in pedagogy – beyond the training of trainers (…). "Teacher" in the sense of transmitting what I know about my "other" professions.* (ID1, written testimony)

> *As a teacher: I bring specific "knowledge" with me, based on my life experience, my daily work, and its surroundings; I am a transmitter of knowledge, which immediately implies a great responsibility.* (ID18, written testimony)

The predominance of the artisan teacher is particularly significant in the initial phase of the career (teachers with 6 or less years of professional experience) with considerable emphasis on the technical perspective of the profession, and it tends to be related to the teachers' absence of formal pedagogical training. Nevertheless, other excerpts also convey the view of the artisan teacher with a pedagogical orientation more focused on methodology, seen as a technique to better guarantee the transmission of content (quadrant B, $n = 2$), albeit less present in the corpus:

> *Proposal of a new model for practical classes that presents an innovative flipped-classroom with a preparation phase at home and respective evaluation.* (ID6, individual learning portfolio)

This type of orientation is close to the understanding of the role of the teacher as a technician whose action is based on applying the scientific research produced by theorists (e.g. Contreras, 2001; Sachs, 2009). Some excerpts relate this view to a pedagogical orientation that is more focused on methodology (quadrant E, $n = 4$), seen as a technique with the teacher applying the theory to their practice, as may be observed in the following excerpt:

> *(…) I had the opportunity to develop new creative proposals (...), taking into account the bibliography I was reading on the subject and subsequent reflections, I ended up finding this strategy interesting, and in the final survey there are comments from students about this specific aspect.* (ID5, individual learning portfolio).

> *(…) new strategies that I can apply to improve my performance and obtain better results in the reflective skills and knowledge of students.* (ID7, written testimony)

In fact, experimentation supported in the literature is one of the strategies that fosters the development of teachers' pedagogical knowledge across the years (e.g. Almeida 2021; Russell & Kane, 2005), as formalized training is seldom available both at the initial phase of the career and throughout its duration (e.g. Almeida, 2021; Feiman-Nemser, 2008; Feixas, 2004).

A remarkable number of excerpts reveal an understanding of the role of the teacher as a professional who is a reflective practitioner capable of analyzing their own practice. Within this group of excerpts, a clear orientation towards the student and the learning process, where students play an active role is perceptible (quadrant I, $n = 4$):

> *The central role of the teacher as an almost unique source of knowledge is diluted and they become more of an architect of the construction that must be education, a building impossible to build without the contribution and co-responsibility of all those involved. (...) The teacher must reflect on their practices and be open to contributions from others regarding points for improvement, including those of the students.* (ID6, individual learning portfolio)

> *The teacher cannot be just an expert in the specific area he/she teaches, he/she cannot just be a technical genius. (…) considering the student at the center of the teaching-learning process, as an active part of it (…). Assessment has become continuous (...).* (ID4, individual learning portfolio)

These statements signal the rethinking of practices and other ways of facing teaching and learning in individual processes. Throughout these reflection processes teachers progressively assume teaching as their profession, and not as an artisanal or technical activity. Additionally, the quotes suggest an understanding of the role of the teacher as a facilitator of learning, more in line with the learning paradigm that has been advocated within national and international political documents.

However, among those who understand the role of the teacher as a professional who is a reflective practitioner capable of analyzing their own practice, it is possible to find signs of an orientation that is more centered on themselves and on disciplinary knowledge, where the focus is placed on the domain of the contents to be taught (quadrant G, $n = 3$), as the following excerpts illustrate:

> *The feedback from students and their behavior in class is something that feeds and motivates me on a daily basis. Getting a positive response from this is, for me, the feeling that it is possible to do something and that what I do has an impact on someone's life. There are days when, in fact, my answer is not the best. These are days of deep reflection for me.* (ID7, written testimony)

> *As a teacher, the first attitude I adopt to challenge myself is by putting myself in the place of an eternal apprentice, in the logic of a deconstruction-construction, looking for ways to question myself, to understand that individual learning can benefit the collective, be it the educational institution, peers, students, or society in general. (…) And all these missions arising from the profession raise many questions about "what is best for each student and for the people with whom they will one day work" in search of deep respect for the identity of each student.* (ID24, written testimony)

It should be noted that no indication of the viewpoints covered by four of the quadrants (namely C, D, F, and H) arose from the analysis of the corpus. This means that there is no presence within the corpus of a perspective of the teacher as a master who handcrafts knowledge for students with an orientation aimed at the student and geared towards learning, where students take an active role in the teaching-learning process (C). Nor are there signs of a view of the teacher as a technician whose action is based on the scientific research produced by theorists, where teachers apply the theory to their practice with a pedagogical orientation that is neither more centered on themselves and on disciplinary knowledge, where the focus is placed on the

domain of the contents to be taught and where the students are passive receivers (D), nor aimed at the student and geared towards learning, where the students play an active role in the teaching-learning process (F). Also, there are no excerpts in quadrant H, corresponding to a view of the teacher as a professional who is understood as a reflective practitioner capable of analyzing their own practices; in this case the training would be part of the practical-theory dialectic, developing skills in the teacher at the level of problematization and analysis of practices and metacognition, coexisting with a pedagogical orientation that is more focused on methodology, seen as a technique to better guarantee the transmission of contents.

Regarding professional development, the relevance of involvement with other teachers is noteworthy, tending towards the logic of an active search to transform practices and produce new knowledge, following the idea of an autonomous professional in the typology of Sachs (2009). The search for training might reveal a more technical intention, for example arising from the quest for the best teaching technique. However, the following testimony reveals another possibility, since a turning point of sorts is identified and leads to an intention linked to the response to the diversity of students and learning processes:

> *Over the years I have noticed that the challenges are overlapping, overcoming others, revisiting the need for constant adjustment, as a result of the expectations and skills of the students who come to us each year.* (ID7, individual learning portfolio)

Through the analysis of the written testimonies and portfolios produced by the academics, the presence of a diversity of conceptions suggests that they might be in different stages of their professional teacher development. Additionally, changes related to beliefs and conceptions about what it means to be a teacher and about teaching and learning across the years are noticeable, as the following excerpts illustrate:

> *Since the first hour as a teacher, i.e., for about 34 years, I have considered myself to be in a constant learning process (…) This growth in the skills that I have to teach, along with the growing number of students, has prompted me to search for techniques and tools that would allow me to teach students to learn better (…) As a teacher, I see myself as someone motivated to learn in order to better teach my students to learn.* (ID8, written testimonial)

> *The question (…) "How can I get my message across to students?" quickly turned into "How can I make the teaching/learning process meaningful?" and it was developed in reflections that I tested with the creation of new content and approaches in classes (...).* (ID5, individual learning portfolio).

Professional development processes are acknowledged by teachers, in which experimentation and seeing/following the example of others are crucial dynamics to induce questioning and change, in line with the research conducted by Almeida (2020, 2021), Feixas (2004), and Postareff et al. (2008), among others. Another type of evidence of change is related to the integration of (new) teaching strategies, using active learning methodologies and other strategies and instruments for evaluating students or giving them feedback:

> *In the curricular units I teach, I had the opportunity to apply some of our reflections on the curriculum, reviewing the learning objectives, reviewing the teaching strategies (…), and obviously reviewing the evaluation process.* (ID4, individual learning portfolio)

> *The constant search for innovation in pedagogical methodology led me to this training course, in pursuit of the validation of the strategies I use and of new strategies that I can apply.* (ID7, written testimonial)

Overall, signs of significant learning in unique trajectories of professional teacher development were recognized.

Conclusion

Several international political guidelines have encouraged the reconfiguration of teachers' ways of being, thinking, and acting in the last decades, advocating that the learning paradigm is to become predominant in higher education today. However, the results of this study suggest that the ways of understanding the profession in Portugal are still marked by an artisanal view, and that this might be due to the fact that learning processes occur through immersion in practice, without any formal pedagogical training (Almeida, 2020, 2021; Alves, 2020; do Ó et al., 2019).

As for the research question *How do teachers characterize the roles of the teacher and the student in higher education?*, the analysis of teaching approaches indicates that a dominant professional culture associated with the artisanal paradigm is in line with a teaching conception based on the transmission of knowledge. It appears that the prevalence of a professional paradigm characterized by an artisanal nature tends to perpetuate teaching beliefs and conceptions in which the teacher must be the expert who dominates and transmits knowledge while the student has a passive role.

Thus, the results of this study also suggest that there are still significant challenges to overcome the prevalent pedagogical orientation that is more centered on teachers themselves and on disciplinary knowledge, where the focus is placed on the domain of the contents to be taught and where the

students are seen as passive actors. Although this trend has been refuted in many countries and in leading universities (do Ó et al., 2019), the policies that frame the pedagogical training of higher education teachers in Portugal are still underdeveloped.

Nevertheless, academics seek training that helps them to be better prepared for being and acting as higher education teachers. Moreover, as far as the research question *How did the teachers' conceptions change across one particular training experience?* is concerned, it should be noted that the postgraduate degree course appears to have supported changes in the teachers' conceptions about their profession and the meaning of teaching and learning, with effects for teaching practices and the quality of student learning. In fact, the search for training might reveal a more technical intention, looking for the best teaching technique. The importance of the academics becoming more aware of their conceptions about teaching is also clear, so that they may promote reflection and questioning within training and professional development programs (Trigwell et al., 2005).

Indeed, the work developed by teachers throughout the postgraduate degree course expresses strengthened reflection on teaching in higher education, as well as signs of change in terms of beliefs, conceptions, and/or practices, developed at different levels of questioning and problematization, namely: (i) abandonment of certain practices, beliefs, and conceptions; (ii) support of practices, beliefs, and concepts already adopted; (iii) expansion of professional knowledge and skills, and/or (iv) emergence of new questions and problematizations, which induce new (needs for) learning and professional development. This latter aspect is expected to induce further involvement of teachers in their professional development process upon concluding their postgraduate degree.

Among the teachers who participated in the study, an initial shift from the artisanal paradigm to the conception of a professional who understands the teacher as a technician was observed. This conception underlies a search for ready-to-apply strategies and techniques that make them able to transmit knowledge to students. It is not surprising that those professional conceptions are also mixed with conceptions of a teaching-centered approach. That is, even among the teachers who seek pedagogical training and who recognize that the artisanal paradigm is insufficient, the belief prevails that the teachers must equip themselves with the best techniques to be able to transmit the knowledge they master to the students.

However, simultaneously, it is possible to identify signs of an attempt to break away from these conceptions. Some of the academics questioned the ways of understanding their role and evolved towards a view of the teacher as a reflective and autonomous professional; in some cases this was associated with the conception of a teacher approach centered on the student's learning

process in which the teacher acts as a facilitator of learning and the student is an active participant in the learning process.

Thus, the results suggest that formal pedagogical training, such as the postgraduate degree at the University of Lisbon, might ensure greater security in teachers' decision-making, contrary to the prevailing professional culture in which it appears to be sufficient to understand the disciplinary subject to know how to teach. Additionally, use of the portfolio as a professional development tool (Smith & Tillema, 1998, 2001, 2006) may contribute to questioning professional conceptions about teaching and learning in higher education, bringing teachers closer to more student-centered and learning-centered approaches.

Overall, this qualitative study enabled the exploration of teaching conceptions and practices of a group of Portuguese academics on the basis of their reports and written reflections on the approaches underlying their work as teachers. It is a contribution to the development of research on the academic work that has been considered to underdeveloped in Portugal and in other countries (Tigh, 2019). The relevance of focusing on the teaching duties of academics is paramount for the design of pedagogical training courses and justifies further research in order to enhance the changes required to face the current challenges in higher education.

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