

**Article****Early career professors: between individual pathways and collective responsibilities**

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Abstract

The article aims to understand the challenges that are inherent to the initial phase of teaching, focusing on training needs and, consequently, on collective responsibilities for a university education project. The text, derived from a predominantly qualitative research, is based on the data produced from the observation of 10 early career professors work from a state public university, in different areas of knowledge. The research observed the classes intensively during a school semester and adopted narratives as a methodological tool of reflection and teaching training. Data analysis made it possible to understand that individual pathways of training and professional performance, constructed by those early career professors, need to be strengthened by shared accountability that support their pedagogical microdecisions. For that, professors need conditions for favoring the promotion and enhancement of diversified experiences realized in institutional initiatives or supported by research/training strategies. It triggers not only the understanding of the formative needs felt by the professors (subjective dimension), referenced in the pedagogical field, but also the socially desired needs (objective dimension). Thus, we can see the interface between pedagogical knowledge for the exercise of teaching and the social accountability inherent to a socially and scientifically relevant project of training professional citizens.

Keywords: Professor, Need for professional training, Teaching initiation, Shared responsibility.

Introduction

The issue of training for teaching in higher education has propelled the resurgence of investigations and institutional actions in the last three decades, which consider it necessary to look at the challenges experienced by professionals who begin their journey in teaching. Challenges that become even more complex when their training paths were not conducive to understanding the inherent particularities to higher education. When taking as a reference the specific context of university institutions, especially public ones, the challenges

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also permeate the imperative need for the inseparability between teaching, research, and extension, within a training project that affirms the social function of the university.

In the absence of an initial training process for the exercise of university teaching, these professionals resort to their individual trajectories, as experienced as a student (PIMENTA; ANASTASIOU, 2014), as well as sparse, sporadic and/or punctual, autonomously or collectively-made experiences, training and teaching performance. These are references that are important, but incipient for the recognition and affirmation of a professionally qualified and socially supported teaching performance.

The complexity of this scenario leads to a better understanding of the responsibilities that need therefore to be triggered (CUNHA, 2010a), given the individual experiences, sometimes lonesome, lived by teachers in the initiation to university teaching. Huberman (1992) is one of the authors who elucidates the aspects of *survival* and *discovery* (that are predominant in the initial phase of entering the career) and of *exploration*. In this way, it has contributed to the development of the present research, which focuses on the experiences of professors beginning in higher education.

Notions such as *reality clash*, *indifference (or the worse-the better)*, *serenity* and *frustration* are present in studies on the challenges, needs, dilemmas, confrontations, difficulties, tensions, and learning, all inherent to this initial phase (GONÇALLO, 2017; FARIAS, 2017; WIEBUSCH, 2016; HEES, 2016; ROSA, 2015; AIRES, 2015; SILVA, 2015; ENGEL, 2014; SILVA, 2014; COELHO, 2009). These studies affirm the necessary institutional support for the early career university professor, also defended by authors such as Cunha (2011) and Zanchet *et al* (2014).

The debate on university teachers training needs, fought by authors such as Sordi (2019), Lima (2015), Moreira (2014) and Ramos (2013), contributes to the recognition of both needs that are situated in the subjective dimension, essentially felt by teachers, as well as objective needs, based on contemporary social challenges. This debate also contributes to the reflection on necessary investigative paths that deepen the understanding of the reality that is experienced by beginners in the exercise of university teaching.

That is how, having recognized the relevant debate about university teaching and the need to better understand the experiences of early career professors, we developed a doctoral investigation that analyzed the implications of the process of constituting the teaching professionalism of those professionals on the work developed in undergraduate education.

It must be added that we developed a predominantly qualitative research (MINAYO, 2001), based on the bibliographic and documentary survey, related to the theme (MARCONI; LAKATOS, 2011) and on the field research, carried out at a public state university, after approval by the research institutional ethics committee. Through the application of an initial exploratory questionnaire, answered by 31.3% of the newly hired professors at the institution (2014 to 2016, the last three years before the beginning of the research), we found the interest and availability of an expressive number (66.37%) of teachers in participating in the field research.

In addition to the questionnaire or a possible interview with these teachers, we took on the challenge of immersing in the pedagogical work developed by them in undergraduate education. Thus, considering the focus of

the investigation, it became feasible to follow the work the first three years of 10 effective teachers who were in the initial stage of their teaching career in higher education (HUBERMAN, 1992), who also had started their professional exercise in the researched institution. That is, they had no previous experience as a teacher in higher education whatsoever.

These professors are Ph.D. holders, with academic training in different areas of knowledge, nine of them also holding a B.A or B.Sc. and only one being a former undergraduate in teaching. Most participated in institutional actions to welcome new students and/or a pedagogical training course³.

The project follow-up, carried out in the first regular academic semester of 2017, was based on the free observation (TRIVIÑOS, 1987), intensive as well, of almost all of the lectures, corresponding to approximately 290 class hours observed. Concomitant to this process, we invited the subjects to narrate, in writing and/or orally, the experiences and the learning acquired during their training and professional performance trajectories. The adoption of the narrative as a research procedure (CUNHA, 2010b) was configured as a possibility for reflection and training, considering that "[...] the teacher, when instigated to talk about his conceptions and experiences, organizes his thinking and uses the narrative as a reflective process" (CUNHA, 2006, p. 31-32).

This reflection process was also favored by the holding of two meetings with each professor individually, one midterm and another end-of-term one, in which professors were invited, orally, to reflect on the learning and experiences lived in the during that period. On these occasions, we shared some of our written records of observation work and present some questions that could assist in reflection. We also carry out focal groups⁴ (GATTI, 2005) with students, to understand what the work developed by each professor made possible for their undergraduate learning. We briefly shared with the professors, at the meeting held at the end of the term, some points highlighted by the students.

The analysis of the data produced took theme-by-category substance analysis as the main reference (BARDIN, 2016). The results and discussions resulting from the investigation process culminated, therefore, in the production of this article. Furthermore, our goal is to understand the challenges inherent in the initial phase of teaching, focusing on training needs and, consequently, on collective responsibilities for a university education project.

³ The actions the early career professors participated, in the period from 2014 to 2016, promoted by the institutional support corps, were: 1) a meeting developed over three consecutive days, which aimed to collaborate with the comprehension by newly hired teachers about the institution, as well as analyzing and discussing theory and practical issues related to the pedagogical work; 2) an extensive 30-hour course, focused on the discussion of teaching planning, through the analysis of the decisions professors need to take in order to develop and evaluate the teaching-learning process.

⁴ All 341 students enrolled in the classes we followed were invited to participate in the focus group. Based on their availability and interest, the sessions were previously planned and held at the end of each subject. The average participation in each session was from 5 to 10 students, in a total of 50 participants. As moderators, our role was to encourage experience exchange among the students and to pay attention to the focus of the session. We had the support of researchers who carried out the work of rapporteurs (observation and synthetic record of interactions).

The present text is organized into two sections. In the first, we aim to situate the debate on initiation to university teaching, bringing up academic productions that address both challenges and training needs. In the second section, the goal is to deepen these discussions, taking as a reference the experiences and reflections shared in the investigative path, to discuss the training needs and the collective responsibilities that need to be activated.

Initiation to university teaching: challenges and training needs

The initial discussion of university teaching practice implies in the necessary understanding of the formation of the teaching subject who works in higher education, especially the ones that are B.A. or B.Sc. holders, considering their academic pathways (undergraduate and/or graduate) in specific areas of knowledge.

Generally, when they start teaching, these professionals "[...] bring with them countless and varied experiences of what it means to be a teacher, which have been acquired, as students, from different teachers throughout their school life" (PIMENTA; ANASTASIOU, 2014, p. 79). Different references, based on these experiences, support the professional performance of university professors. They are essentially linked to the individual trajectories of these professionals, who also resort to self-training strategies.

Cunha (2010a, p. 34), when considering the complexity of teaching, states that "if individual initiatives are commendable and necessary, it is not possible to blame only this dimension of training". This implies, therefore, the need for different collective spaces for training and institutional responsibilities, in addition to understanding university teaching as an individual responsibility.

The need for institutional responsibility for the training of university professors is justified by the fact that career launch is a crucial period for professors to

[...] conceptualize teaching and their personal views on how to behave as professionals. The "commencements" will be easy or difficult, depending on the ability to deal with classroom organization and management, with pedagogical and curricular knowledge, but also with the influence of teachers' rooms and classroom learning cultures (DAY, 2001, p. 102).

On the same understanding, Bozu (2009) states that the concern with the training of early career professors and teachers is fundamental, considering that the habits and knowledge that they will use in the exercise of the teaching profession are formed and consolidated in their first years of practice.

Huberman (1992), in structuring the professional life cycle of teachers, opts for a career perspective, understanding their development as a dynamic process, specific to each teacher and not as a series of events. The initial phase of the career, corresponding to the first three years of teaching, is described by aspects of "survival" and "discovery". "Survival" is permeated by the "reality clash", that is to say, the initial confrontation with the complexity of the professional situation. And the "discovery" represents the initial enthusiasm,

in understanding their responsibility and belonging to a specific professional body. In addition to these aspects, which can be experienced in parallel or with the predominance of one or the other, Huberman (1992) situates other characteristics that can characterize this phase of "exploration": *indifference (or the worse-the better)*, *serenity* and *frustration*.

The characterization of this phase of initiation to teaching, addressed by Huberman (1992), is similar to what have been identified in some other works. In Brazilian graduate studies, investigations (theses and dissertations)⁵ on commencing university professors focus on:

- 1) The *challenges* and *needs* in the routine of early career university professors in different areas (GONÇALLO, 2017);
- 2) The *dilemmas* and *challenges* faced by early-career Physical Education teachers/instructors in military higher education (FARIAS, 2017);
- 3) The *challenges* and *confrontations* in teaching by early career teachers in higher education (WIEBUSCH, 2016);
- 4) The *constructions process* of teachers who are new to university teaching, from different areas, mediated by actions and experiences in their daily practice (SILVA, 2015);
- 5) The *difficulties* faced by Math teachers in the beginning of teaching and the alternatives to overcome them (ROSA, 2015);
- 6) The *difficulties*, *tensions* and *learning* experiences experienced by beginner B.A. or B.Sc. teachers who work in private institutions (AIRES, 2015);
- 7) The *challenges* experienced by professionals in the constitution of university teaching (ENGEL, 2014);
- 8) The *challenges* and *difficulties* of Education teacher at the beginning of their careers who work in undergraduate courses and the forms of *coping* found to respond to these demands (SILVA, 2014);
- 9) The *dilemmas* and *challenges* experienced by early career teachers at a private institution (COELHO, 2009).

In the scope of studies that essentially contemplate challenges, dilemmas, difficulties, learning, needs, confrontations, and tensions experienced by early career university professors, we highlight the thesis of Hees (2016), which analyzed how the professors of a confessional institution experience the beginning of their teaching career

The results point to the predominance of a teaching initiation model: "swimming" or "merging" (VONK, 1996), in which the early career professor is responsible for their inclusion, and they have to find a way to adapt and survive in their new professional reality. In addition, the "collegial" model was also found (VONK, 1996), which is characterized by a spontaneous relationship with peers

⁵ During the bibliographical search phase, we consulted the Catalog of Theses and Dissertations of the Coordination for the Improvement of Higher Education Personnel (CAPES). We focused our attention on the discussions on the training of university teachers, including the problems of the early career professor. The intention was not to make an extensive search, but to identify and select, by reading the title and/or the summary, the productions that involved the specifics of our research.

and with the managerial level, which facilitates integration into the work environment, through the help of experienced professionals.

Supported by the challenges and difficulties found in the research, Hees (2016) emphasizes the need to rethink spaces for a joint construction of teaching, in which exchanges between teachers are possible. That is important also to create opportunities to ponder on practice, in order to enable the construction of a shared teaching knowledge. Thus, it defends that the initiatives to support the early career teacher can favor understanding and coping with the complex challenges of starting in professional practice. Therefore, the work of Hees has a purposeful meaning in bringing elements to an idea of institutional support, depending on the necessity of training.

Most studies also point to this need for institutional support regarding the early career teacher and many of whom underline the importance of pedagogical training, reception, and follow-up actions, as important to the quality of teaching (GONÇALLO, 2017; WIEBUSCH, 2016; SILVA, 2015; ROSA, 2015; ENGEL, 2014; COELHO, 2009).

Cunha (2011, p. 204), considering his research, points out that "[...] it was possible to perceive a significant interest of beginners in discussing their practice, sharing difficulties and differences, sharing frustrations and successes". In this sense, the author reinforces the importance of studies on the problem of that kind of teacher, in the field of research on initiation to university lecturing, as a way of giving visibility to their challenges. And it signals: "Thinking about inclusion/training programs seems essential" (CUNHA, 2011, p. 211).

Considering the necessary institutional accountability, some studies contemplate the discussions on induction⁶ and professional socialization⁷ of university professors. Other works⁸ have focused on their training and learning experiences of teaching.

A group of researchers (ZANCHET *et al.*, 2014) perceives that the training initiatives are developed in spaces of support, acceptance, and learning, but they also suggest the need of a systematic process of training the early career university professor. They point out that "[...] it is in the process of articulating the goals of these proposals with the teaching demands that these spaces can, in fact, constitute a place of support and hospitality" (ZANCHET *et al.*, 2014, p. 207).

Certainly, the demands of those university professors are important for the planning of training actions, especially regarding their specific needs. Rodrigues and Esteves (1993) understand the *needs analysis* as a set of procedures (research dimension) that favor planning strategies. About the concept of *necessity*, the authors emphasize that it is always related to individuals and contexts (dynamic realities). The necessity comes from values, assumptions, beliefs, expectations, desires, concerns and aspirations.

⁶ Bozu (2009).

⁷ Bonadiman (2016), Santos (2013), and Ferenc (2005).

⁸ Wiebusch (2016), Cunha (2014), Nunes (2013), Garcia (2013), and Viana (2013).

The authors also emphasize that it is better to talk about the *construction* of needs, rather than their *emergence*, considering the participation of the trainee in the needs analysis collection and, consequently, in the conception of the training process (active player and not merely an object of training). The construction is not only composed by surveys or questionnaires of preferences or difficulties (RODRIGUES; ESTEVES, 1993).

In this way, needs analysis can be understood as an essentially pedagogical instrument, which considers both the individual subjective dimension (interests, expectations, problems faced) and the collective objective dimension (socially detected needs).

Authors such as Benedito, Imbernón and Félez (2001), Murillo *et al.* (2005), Ferenc and Saraiva (2010), Almeida (2010) and Lima (2015) help us to understand the polysemy of the concept of necessity and analysis process that aim at the development of training proposals for university professors at the beginning of their careers. As an example, Lima (2015) comprehends the double and dialectic perspective in the field of training needs, including, as well, both the subjective and objective dimensions. According to that author, "[...] it is necessary to discuss the difference between the perception (subjective) of the training needs by the teachers, comparing them with those put by the university and by the current and future worlds" (LIMA, 2015, p. 357).

On the same path, the studies of Ramos (2013) and Moreira (2014) contemplate relevant discussions on the training needs in Pedagogy, with an eye on teacher development. Their research was also carried out in the context of higher education, specifically in public universities.

Ramos research (2013) exposes that the educational needs of the pedagogical field, revealed by the teachers and based on representations, are located in two dimensions: 1) Pedagogical conceptions (elements such as the teaching-learning process; teacher-student relationship; evaluation; teaching-learning strategies); and 2) Professional development (elements such as teaching in higher education; institutional strategies; personal investment; work of teachers). For the author, the needs assessment should happen within a certain constancy, because the diverse moments of the professional development of teachers should be explored and worked whenever possible, through specific needs that emerge from the formative meetings. Ramos (2013) also declares the need for further analytical deepening on the training needs, emphasizing that the analysis of educational practices through direct observation in the classroom would be opportune and would provide further insights about the matter.

In the investigation conducted by Moreira (2014), teachers pointed out training needs of several types: teaching planning; learning assessment; classroom management issues; cognitive gaps in students; and working with new information and communication technologies. According to Moreira (2014), the results demonstrate the need for systematic and institutional actions for pedagogical training without losing sight of autonomy, prominence, as well as the continuous demands of training, based on the formulation and implementation of an institutional policy to promote professional development.

Moreira (2014) believes that the results can instigate other investigations, such as an action-training research, seeking to better understand the inconsistencies and demands regarding the training needs of early career professors, which presupposes not only the participation of the researched subjects, but the construction of knowledge based on the reflection on the pedagogical theory and the questioning of the practices of these agents, continuously considering professional development of teachers.

With these studies and discussions, we have deepened the understanding of the relevance of investigations and experiences that contemplate the debate on the training needs of university professors, considering the challenges they experience in the initial phase of teaching. We acknowledge the essential institutional responsibility for the training of university teachers, but we alert to the necessary understanding and debate about the perspective under which they are based. Sordi (2019) problematizes the meanings and challenges of the institutional spaces of support for teachers who work in higher education and focuses on the debate on the training needs, challenging the logic that defines and drives them. In addition to the needs felt by teachers (subjective dimension), the author triggers the discussion about the desired and emerging needs (objective dimension) for the humanistic education of the 21st century professional.

In this way, the author understands that training spaces need to focus on *social needs*, considering that society expects and needs undergraduates who "[...] assume the public meaning of their work, prepared for a professional insertion, committed with the edifying application of knowledge, in which technical and ethical know-how is not dichotomized" (SORDI, 2019, p. 137). He defends the idea that

[...] programs to support the development of university professors are essential to subsidize moments of initiation to teaching that go beyond prescriptions related to how to teach a good class, referring the focus to more substantive aspects that precede the pedagogical microdecisions informing conceptions of World, Humanism, Education that help justify them (SORDI, 2019, p. 152).

Supported in this defense, having as reference an idea of teaching attuned to contemporary challenges, we recognize the "[...] legitimacy of the creation of training spaces and support to the teaching work of university professors, which would promote the construction of a socially relevant teaching activity" (SORDI, 2019, p. 140).

When entering the spaces of professional performance of early career university professors, after dialoguing with their paths, knowledge and practices, we understand, with bigger vehemence, not only their individual experiences, but the collective responsibilities that need to be triggered before the indispensable dialogue between the formative needs already felt and socially desired ones.

Early career teachers: building approximations and triggering responsibilities

The construction of the beginning of university teaching instigated us to follow more closely the work of early career university professors. By approaching their riveting roads, whether was it from reading and listening to their experiences or from the immersion in their classrooms and laboratories, we were able to understand their needs and the challenges they had experienced, which go beyond their own individual accountability regarding the training of professionals in undergraduate education.

The strategies that were adopted by early career teachers, assumed and implemented in their pedagogical work, are permeated not only by their comprehension of the need for pedagogical knowledge in teaching as a professional activity, but also by broader purposes of university education. In this way, their own teaching-learning specific content dialogues directly with formative proposals which value the encouragement of autonomy and openness to student participation (channels of dialogue established during classes, especially with the adoption of active methodologies) and the recognition (intentional or not) of the affective dimension in teacher-student relationship. They also value the approximation with the context of professional performance, especially when teachers, anchored in dimensions such as critics, ethics and political participation, problematize, in their classes, relevant themes and issues that students need to consider in the context of their accountability (social and professional).

The teacher asks a question. And he says: "Think about it with your colleagues, five minutes". The students then start to interact with one another, talking about the possibilities for the processes, as the teacher had signaled. After this interaction, the teacher elicits: "[...] does anyone have any suggestions they want to share with us? [...] remember ... There is no right or wrong, we are all here to learn". The students then talk about their possibilities. And the teacher dialogues with them, based on that, solving doubts and highlighting some aspects of the compilation. This process generates a greater interaction of the students with the work developed [...] In the continuity of the dialogue, he verifies: "This group here has discussed a lot. Have you come up with a proposal?". And, from an aspect problematized by a student, he clarifies: "Now we are walking towards the place I have wanted you to [subject goals] [...]". And, on the board, he draws graphs and illustrations (A professor's work recording).

"It all depends on the context, what you are analyzing, really; But is this effective [triggering a certain process]?"; "What determines what is [specific aspect and its classifications]?"; "Can anyone tell me [...]?"; "This also does not match reality. Why doesn't it match reality?" (A professor's work recording).

The trajectories of formation and performance, both academic and professional, experienced by early career professors were significant for their professional performance. They include, for example, the teaching internship in

graduate school, the participation in institutional actions of reception and teacher training, as well as the very experience lived as students (PIMENTA; ANASTASIOU, 2014).

Those experiences are certainly important for the construction of powerful paths in/for university education; however, they are incipient in face of the training needs felt by early career teachers (subjective dimension) and the socially desired needs (objective dimension): *"There are times that: 'Wow, but what now?'. I have to do this, it didn't work out, who do I talk to? Who am I going to discuss this kind of problem with? [...]"* (Reflection by a Teacher).

Who do I talk to? It is a question that reinforces the significant interest of beginners in discussing and sharing their experiences and difficulties, according to what Cunha (2011) points out. In addition to individual training courses and professional performance, we reinforce the need to trigger other responsibilities in the teacher training process (CUNHA, 2010a), given the constant doubts and concerns that early career university professors carry with them and the risks of strengthening an understanding restricted that learning for teaching practice is acquired in practice. Pedagogical knowledge thus becomes fundamental when we understand the needs that they express and experience.

Those needs related to planning and curriculum building are some of those that go through the challenges that are associated to the teaching initiation phase. We identified uncertainties regarding discipline and lesson planning.

We do not learn what a learning objective is, for instance. I don't know how to write this. What it is in fact, do you understand? So, how does one set up a lecture goal for each and every class? What do they have to know each and every class? What tools do I have to use? How do I have to act with students who are not doing well? Pedagogically, I say. So, we kind of learn it all throughout experience (A professor's statement).

Understanding the dynamics of curriculum planning, including the selection and approach of content, based on the students' learning pathways is one of the training needs expressed in the reflection of some professors: *"I want to explain unnecessary things to the student, but only because I want to be very accurate, very purist, just like that. It is something that I have to work on"* (A professor's statement).

The institutional dimension of planning and curriculum building, within the scope of the pedagogical project, is also triggered by another professor, who signals the need for institutional support so that the newcomer is clearly able to understand what are the *learning targets* defined for each subject and the *necessary knowledge* that the student must have at the end of the course, content and skills, considering the profile of the career.

Training needs related to teaching methodologies reveal the intentions of the teachers to increase students' involvement in the lectures, taking less expository and more interactive strategies: *"I would like to have less lectures, or to have more student participation, maybe more exercises"* (A professor's statement).

It is in the assessment of learning that there are cases that reveal, more sharply, a need for training:

[...] I don't know how much they absorb, because they do poorly in my test. So maybe it is a reflection that I do [...] I am teaching in a way, in which I think they are absorbing content, but they are not. And I think that's what I'm telling you, I miss not having a pedagogical basis behind it [...] Another thing I'm learning is about how to prepare an exam. I still think I don't know how to do it, because sometimes I do an extremely difficult exam for them, which is very easy in my opinion. But I am not putting myself in their shoes (A professor's statement).

We identified the intention of some teachers to break up with traditional forms of assessment (for example, in the adoption of the written test as an assessment tool). However, the attempts at rupture come up against the confrontation with the culture of the institutionally established test: *"Given that everyone here argues that the exam has to be difficult, how do I explain to people that I don't use exams?"* (A professor's statement).

Confronted by these challenges, the professors reflect on their decisions and on the necessary pathways to ensure students' learning and not to harm them in terms of performance with a consequent failure. In one of the reflections, for example, a professor reflects on his frustration in face of the decreasing involvement and performance of students in a proposal for continuous assessment:

[...] I wanted to be closer to them, I wanted them to feel that "Gee, I'm not able to do it [the practical-evaluative activity], so I'm going to talk to [professor], I'm going to ...". That is my point. Yes, that's what frustrates me. What frustrates me is that I wanted to be a better person for them than I am now, I think [...] I think I can learn to teach better classes, interact better with students and evaluate better, to better prepare all these things. I see some decisions that I made for the discipline, that today I have doubts about (A professor's statement).

The relationship with students is another need felt by some professors, involving challenges related to the plurality of the class and the teacher-student relationship: *"Am I going to approach this student, so that he commits himself to that work that is being developed? This for me is the most difficult, to keep it balanced, you know?"* (A professor's statement).

All of these training needs are consistent with what some works indicate (RAMOS, 2013; MOREIRA, 2014), are situated in the pedagogical field and are essentially felt and/or perceived by professors. In addition to their individual accountability for these needs, we reinforce the claim for a necessary institutional one.

[...] who gives support to the teacher? It had to be the institution [...] teaching seems to be a lonely career. Each professional does whatever they think fit, and lucky is the student who gets one who understands a little more about what they're doing [...] (A professor's statement).

The sense of a solitary profession reinforces the need for initiatives to welcome and support the early career teacher, which can foster comprehension and recognition of the complex challenges of inclusion, as Hees (2016) argues.

These challenges are amplified when we consider, in addition to relationships established by the early career professor with the students in the university class, a wider social context, in which the pedagogical work is inserted. Knowing this, it becomes relevant to look more sharply at the objective dimension of training needs, that is, those that are socially desired (LIMA, 2015; SORDI, 2019).

[...] "can the student look at the world, place themselves and propose something useful?". And it involves you knowing the subject and the content very well, and it involves you being able to observe the world in a critical way [...] (A professor's statement).

In their reflections, early career professors place, in general, the need to understand the meanings for the curriculum and, consequently, the student's education:

The [institution], as a whole, not only [specific] engineering, but [specific] engineering is the one that I can talk about the most ... I think we have to rethink the curriculum, literally from scratch [...] we really have to think about the engineer we want to teach, who is the professional, who is the student at [institution]. Do we want researchers? Do we want critical thinkers? Do we want professors? (A professor's statement).

Deepening this reflection on higher education, another professor highlights the need for reflection, at the institutional level, on the profile of the professional to be trained:

[...] we don't have a "profile of the undergraduate". There must be a text in the pedagogical project saying: "an ethical professional, blah blah blah", but it is a text that someone did because they had to do it, due to bureaucratic issues ... Nobody thinks that [...] I think that institutionally some things must be implemented so that we can make better decisions (A professor's statement).

So, what is the training project assumed institutionally? A restricted university education project that meets the demands for *training in competencies and skills required for the development of companies*, based on *technical and instrumental abilities*? Or a university education project, referenced in its *social function*, aiming at an *integral humanistic professional formation towards political participation endowed with civic values and technically, scientifically, and socially relevant knowledge*? (DIAS SOBRINHO, 2015).

This is not an objective choice: either one. If we think in the sense of public university, we will not refute the second option, which does not deny the scientific quality, but instead understands it in a certain way, combined with social relevance (DIAS SOBRINHO, 2015). *If institutionally, some things are*

lacking to be more well-established for the teacher *to be able to make better decisions*, as one of the teachers understands — what are the training processes that will support the decision making by the early career professor in the scope of the work they develop in undergraduate teaching?

If there is, in the pedagogical project, a text that points to the undergraduate's profile as an *ethical professional*, for example, we must understand its implications for the organization of the curriculum and for the pedagogical work, specifically for the establishment of a teacher-student relationship. The understanding of that leads us to reinforce that we should not only consider the teacher's individual responsibility for university education, considering their pedagogical microdecisions are linked to the conception of World, Humanism, and Education that justify them (SORDI, 2019).

Thus, in addition to the knowledge of interests, expectations and problems faced by those professors, we reaffirm the essential balance between subjective and objective needs, considering that the early career teacher is part of the implementation of a socially referenced university education.

We emphasize that the analysis of training needs can contribute to the development of institutional actions, implying the necessary participation of the teacher in the design and construction of the training process (RODRIGUES; ESTEVES, 1993). The professors who participated in the research face some challenges, such as a better reception, both beginners and veterans, with the opening of support channels, aimed at working with specific knowledge to carry out the teaching activity. Another challenge is to ensure insertion of training activities in their work schedule, given the demands of the work agenda that hinder participation.

We also emphasize the potential of research-training strategies for the process of reflection on pedagogical work. The research we developed initially generated, for teachers, the expectation of change in their practice. The reading that the professors made of the follow-up records of their work, as well as the reflection meetings, made possible the approximation with the work that they themselves developed:

About these conversations that we are having, it's been very interesting for me to think on my own class process, because when you think for yourself it is a type of process, when you do it in front of someone else and verbalizes things, suddenly your sentences have to make some sense [...] I try to clarify a little more, this is less in my head and more on the outside [...] Actually, that moment, for me, it was a moment of reflection, of thinking about that whole question that you were bringing [...] a very nice thing about that conversation is that while I was answering you, I was building my thoughts on ideas of making the learning process nicer. And I think from that I was able to organize myself a little more and understand what was happening in this process (A professor's statement).

In addition to punctual and sporadic actions, the research-training strategies reveal potentialities for the triggering of an autonomous process of reflection, by each professor, about the pedagogical work they developed, especially when these strategies are based on the continuous monitoring of this work, starting from the interest and/or need expressed by the professionals

themselves. Overcoming the search for technical and immediate solutions to the problems experienced in pedagogical work, it is essential for training actions to trigger the reflective component, based on experience, on the pedagogical knowledge so necessary for the exercise of higher education teaching activity.

Moreover, the experiences gained from monitoring the work of early career teachers reinforce the wish for a training project committed to learning, which is not restricted to the cognitive dimension, that is, the appropriation, by students, of the scientific knowledge inherent to their area of knowledge.

In this way, these experiences encourage critical thinking on the training pathways that the teacher is taking in institutionally supported actions, considering the importance of understanding the experienced challenges in the context of professional teaching practice, altogether with a socially relevant university training project.

Conclusions

The phase of initiation to university teaching, corresponding to the first three years of teaching, is marked by dilemmas, difficulties, tensions, challenges, confrontations, learning, and needs, as many researches have signaled. Bering that in mind, early career teachers resort to different training and professional performance strategies, which are sometimes favored by institutional support and sometimes are constituted independently, based on the references they had during their trajectories.

In addition to their individual pathways, they express the necessary support for their pedagogical microdecisions, since they carry doubts, concerns, issues to be shared and discussed, despite sustaining some contributions. The very opening of their classrooms and laboratories, for the development of this investigation, reveals the expectation they had in understanding their practice and find solutions to them. Furthermore, they express a courageous and generous gesture of sharing their experiences of training and acting in undergraduate education.

In this way, the individual experiences lived by the professors are important, but insufficient, considering the necessary institutional help, which is supported by the pedagogical knowledge, necessary for the exercise of teaching and in the university training project.

In the course of the pedagogical work developed, early career professors approach possibilities of rupture with what traditionally prevails in their usual context or specific areas of knowledge. For the recognition and, consequently, strengthening of these significant experiences, we activate not only the understanding of the training needs, felt by the teachers and referenced in the pedagogical field, but also the socially desired needs. These are based on the understanding that this knowledge is at the interface with the social accountability, intrinsic to a university education project, which goes beyond the microspace of action and the teacher-student relationship. It involves the relationship with society, in the perspective of a humanistic formation of *professional citizens*.

Thus, the phase of initiation to university teaching is permeated by the overlap between person and institution, through an articulation between individual pathways and collective responsibilities. The professors build their path, put the curriculum into action, based on their choices, personal

motivations and itineraries, experimenting with new ways, *learning in practice*. But they also reveal their learning needs, including those socially desired. In order to achieve it so, conditions are needed that favor the promotion and enhancement of diverse experiences that are linked to a university education project. The possibilities that are outlined in the experiences developed by early career professors in undergraduate education, therefore, need to be concretely supported, so that they do not weaken, and, at the same time, that they reaffirm the meanings that they try to build, concerning the learning project.

Although not constituting an active and/or participant research, the investigation we carried out considered narratives that were written or told by the teachers, as well as meetings for reflection on the experiences lived by the subjects. Thus, while enabled data production, the experience revealed an experience of training, configuring research with an investigative and formative function, in which early career professors could listen, experiencing an autonomous process of reflection that brought them closer to the work they did themselves.

Therefore, we indicate the relevance of adopting institutional strategies for systematic and procedural monitoring of the pedagogical work of teachers, especially in the teaching initiation phase and, consequently, the establishment of channels for dialogue and reflection, in which teachers can share their experiences, doubts and uncertainties.

The possibilities of approximation, adherence and involvement of the professor regarding training actions are strengthened as they find in institutional spaces the possibility to discuss and reflect on their work, meaning, when the training policy welcomes and recognizes the marks that they are present in the work they already do, regardless of whether institutional support exists or not. In this way, the pathways that professors build, instead of being erased, can be revitalized. To this end, we reaffirm the imperative need for the institutionalization of a university teaching training policy and the valuation of undergraduate education, taking, planning and developing concrete decisions that can guarantee the concrete conditions for the continuity of training actions and for the participation of the professional.

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