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# Os saberes e os desafios da docência: o que dizem os professores da Educação Profissional e Tecnológica

The knowledge and challenges of teaching: what the teachers of Professional and Technological Education say<sup>1</sup>

# El conocimiento y los desafíos de la enseñanza: lo que dicen los profesores de Educación Profesional y Tecnológica

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#### Resumo

Este texto tem como objetivo fazer um percurso pelas pesquisas que realizaram o estado da arte sobre os saberes necessários à docência tanto na educação em geral quanto na Educação Profissional e Tecnológica (EPT). Pretende-se dialogar com esses autores, indagando se há algumas particularidades nesses saberes que permitam afirmar que para a EPT os saberes e desafios da docência são diferentes de outras níveis e modalidades de ensino. Feito isso, será tecido um diálogo com Freire (1996) e Aguiar Júnior (2010) que tratam, respectivamente, dos saberes necessários à formação do educador e dos desafios à prática docente. Para articular esses objetivos, foram também realizadas entrevistas com 43 professores de uma instituição da rede EPT, guiadas principalmente pelos cinco desafios da docência elencados por Aguiar Júnior, quais sejam: promover e sustentar engajamento dos estudantes nas tarefas escolares, ressignificar conteúdos escolares, construir um currículo composto por atividades, estabelecer interações discursivas produtivas, com participação dos estudantes e lidar com a diversidade cultural, motivações, ritmos e habilidades dos estudantes.

#### Palavras-chave:

Docência. Educação Profissional. Desafios da educação. Saberes do docente. Formação de professores.

#### Abstract

This text aims to take a journey through the research that carried out the state of the art on the knowledge necessary for teaching both in education in general and in Vocational and Technological Education (EFA). It is intended to dialogue with these authors, asking if there are any particularities in this knowledge that allow us to affirm that for EPT the knowledge and challenges of teaching are different

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from other levels and teaching modalities. That done, a dialogue will be woven with Freire (1996) and Aguiar Júnior (2010), which deal, respectively, with the knowledge necessary for the education of the educator and the challenges to teaching practice. To articulate these objectives, interviews were also conducted with 43 teachers from an institution of the EPT network, guided mainly by the five teaching challenges listed by Aguiar Júnior, namely: promoting and sustaining student engagement in school tasks, reframing school content, building a curriculum composed of activities, establishing productive discursive interactions, with student participation and dealing with cultural diversity, motivations, rhythms and skills of students.

Keywords Teaching. Professional education. Education challenges. Teacher knowledge. Teacher training.

#### Resumen

Este texto pretende hacer un recorrido por la investigación que se llevó a cabo en el estado del arte sobre los conocimientos necesarios para la enseñanza tanto en la educación en general como en la Educación Profesional y Tecnológica (EPT). Se pretende dialogar con estos autores, preguntándoles si existen particularidades en estos conocimientos que nos permitan afirmar que para la EPT los conocimientos y los retos de la enseñanza son diferentes de otros niveles y modalidades de enseñanza. Una vez hecho esto, se tejerá un diálogo con Freire (1996) y Aguiar Júnior (2010) que se ocupan, respectivamente, de los conocimientos necesarios para la formación del educador y los desafíos de la práctica docente. A fin de articular esos objetivos, también se celebraron entrevistas con 43 profesores de una institución de la red de EPT, guiadas principalmente por los cinco retos pedagógicos enumerados por Aguiar Júnior, a saber: promover y mantener la participación de los estudiantes en las tareas escolares, resignificar el contenido escolar, elaborar un plan de estudios compuesto de actividades, establecer interacciones discursivas productivas, con la participación de los estudiantes y abordar la diversidad cultural, las motivaciones, los ritmos y las aptitudes de los estudiantes.

**Palavras-Clave**: Docencia. Educación profesional. Desafíos educativos. Conocimiento del maestro. Formación de profesores.

#### 1 Introduction

The knowledge and challenges of teaching are not new topics in research. So, what is new when contemplating them and especially when the focus is on teaching at EPT? Are these knowledge and challenges not constituted as such for all teaching activities?

Many would be the paths to follow for the treatment of the issues in question and, in view of this amplitude, it is intended in this article, in a first moment, to bring what some researches that carry out the state of the art say on the knowledge necessary for teaching in a way general and teaching at EPT. Based on this interlocution, we intend to analyze the place that these knowledges and challenges necessary for teaching at EPT, occupy in this theoretical framework and how they appear contemplated in the perspective of the analysis of 43 teachers from a campus of an institution of the EPT Network located in the state of Santa Catarina. To the campus teachers, a

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questionnaire was sent, applied by the local pedagogical team, in a continuing education meeting, in May 2018. The answers given by the teachers were tabulated, giving rise to the analysis categories presented here<sup>5</sup>. A dialogue is made with Freire (1996), when dealing with teaching knowledge, and with Aguiar Júnior (2010), when highlighting the contemporary challenges of teaching practice.

# 2 The place of teaching knowledge in EPT

There is an extensive and qualified production that deals with teaching knowledge and, in order to enter this field, an analysis of the State of the art research on teaching knowledge in general was carried out (SILVA, 2009) and others, which, although do not carry out the State of the art, analyze the different classifications and typologies on the expertise, knowledge and skills necessary to the exercise of teaching (PUENTES; AQUINO; NETO, 2009), while others include, in the State of the Art, the knowledge of teaching for the EPT (SILVA; NUNES; HENRIQUE, 2017) and others (GARIGLIO; BURNIER, 2012) that interview teachers of Technical Education from the federal, state and private schools.

Given the space limits of this text, it won't be possible to bring forward the different types of knowledge that are present in the productions of the authors mentioned. Thus, one option was to briefly dialogue with Saviani (1996, p.145), who categorizes the knowledge that should integrate the educator's training in attitudinal knowledge, critical-contextual knowledge, specific knowledge, pedagogical knowledge and didactic-curricular knowledge, necessary into the qualification of every educator. This author states that "whoever wants to be an educator needs to learn, that is, needs to be trained, needs to be educated to be an educator. [...] they need to master the knowledge involved in the action of educating, that is, they need to know what education consists of." (SAVIANI 1996, p.145).

5 Research developed by one of the authors in a postdoctoral internship, supervised by another of the authors of this text, at PPGE / UDESC, funded by Capes, via PNPD scholarship.

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Alongside this path, it was possible to assess the challenges of teacher training for EPT in the direction of understanding them and overcoming simplistic views on the profession of educating in this teaching modality and not reducing the analysis to the differentiated nature of this modality, but apprehending the educational phenomenon in totality and in its fundamental principles, as suggested by Romanowski (2012).

It should be noted that in the perspective of Vieira, Vieira, Araújo (2018), research on teacher education for EPT has been having significant growth in Postgraduate programs since 2010, being the process of constitution of teaching/teaching knowledge in this area, one of the recurring themes. In relation to this theme, they state that "[...] the mapping of teaching knowledge, in itself, is a task already accomplished, not establishing itself in themes for new researches [...] with an apparent thematic replication". (VIEIRA; VIEIRA; ARAÚJO, 2018, p.160). This announces that it is time for this knowledge to materialize in the teacher training practices.

Still in relation to knowledge, awareness and skills related to teaching, Puentes, Aquino and Neto (2009, p. 181) report that:

It is abundant and important to produce classifications and typologies that have sought to order the plurality, composition, temporality and heterogeneity of the knowledge, awareness and professional skills of teachers in North America, Europe and Latin America, in these twenty years. [...] Despite all of them expressing a clear concern for the improvement of education, teaching and their knowledge, they present results that have contributed very little in the sense of helping the understanding that teacher educators themselves have of this object of study.

Alongside this path, names of international researchers such as Shulman (1987), García (1992), Gauthier *et al.* (1998), Schön (1992), Nóvoa (1992), Zabalza (2006), Perrenoud (2000), Tardif (2003), Tardif and Lessard (2009), Braslavsky (1999) and brazilians such as Freire (1996), Pimenta (1997, 1999), Masetto (1998) and Cunha (2004) figure in several studies that focus on teaching knowledge (cf. PUENTES; AQUINO; NETO, 2009; RIBEIRO; GONÇALVES, 2018 and others)

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revealing the richness of the analyzes and the urgency of policies and practices based on them.

When resuming some of these researches that signal to what has to be done, especially in relation to the challenges of teaching, Richit and Hupalo (2019, p.47) suggest "[...] the urgency of developing, within institutions, moments of effective collective work among teachers, because, it's from this articulated work between them and their knowledge that a condition may arise in fact and in a continuous way, [...] a condition to overcome the profession's continuous challenges.

Santos and Brancher (2017, p.123) point out the need to "reflect on the target audience of this teaching modality [...] and the importance of using these professionals' training narratives for their professional growth and of their peers". The list of knowledge, behaviors, education, skills, attitudes and values that constitute the specificity of being a teacher can be generalized to all levels and modalities of teaching performance, even considering, among other elements, the singularities of the teachers' workplaces, the particular situations, the difference between being a teacher in a technical and other humanities subjects. Finally, what cannot be lost sight of, as Marx asserts (2008, p. 258), is that "concrete is concrete because it is the synthesis of multiple determinations; therefore, unity of the diverse".

The need to intensify the training of teachers working in EPT with a list of knowledge necessary for teaching and especially pedagogical didactic knowledge, is already increasing in research, as well as the argument to fill the needs of the last ones mentioned, in a teaching degree is repeated presented in the reflections made, however, it is necessary to assess whether this is the way out, given that many of these professors already have masters and doctorates and a teaching degree does not appear to them as a formative horizon. This is what the numbers presented by Sousa and Moura (2019, p.10) indicate: "[...] despite the fact that pedagogical complementation courses are offered in several institutions, especially at Federal Institutes, for the qualification of their own teachers [...] these represent only 1% of 70 thousand student teachers".

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Much is said about knowledge and little about challenges, although they are interconnected. It is the question for which Machado (2011, 694) warns, especially considering that:

[...] Putting integrated curriculum into practice requires continued teacher training, in order to ensure the necessary collective and collaborative work of teachers of general and professional education content; understanding how to develop the educational principles of work, science, technology and culture; the dialogue between theory and practice; thinking and acting in the logic of interdisciplinarity; the harmony with technological development and the socioeconomic and environmental context.

Reinforcing what Machado places, as a specificity of EPT, there is a need to overcome a curriculum as a huddle of disciplines, towards a greater integration between the different types of knowledge in order to achieve the vision of the totality of knowledge. And finally, look for elements that help the teacher/student dialogue as a fundamental element to overcome some teaching challenges. The question is: what lessons can be learned from these analyzes to dialogue with the teachers of EPT? This is what we will discuss in the next section.

#### 2 Challenges of teaching in the voice of EPT teachers

Teaching is a very demanding act, as Freire (1999) puts it, in the book Pedagogy of autonomy and requires different knowledge, for this reason it has occupied spaces in research at all levels and modalities of teaching.

Freire (1996) lists 27 requirements<sup>6</sup> for teaching to take place entirely. Teaching requires, above all, openness to the demands that arise each day in the exercise of the profession. Demands pose challenges for teaching activity. Aguiar Jr (2010, p. 240) presents five: promoting and sustaining student engagement in school tasks, reframing school content, building a curriculum composed of activities, establishing productive discursive interactions, with student participation and dealing

6 We use the term considering that all 27 sub-chapters of the work *Pedagogy of Autonomy* start with "Teaching requires..." (FREIRE, 1996, p. 3).

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with cultural diversity, motivations, student rhythms and skills.

From the reading of the experiences of a group of teachers from an institution of the Federal Network and Education, the Federal Institute of Education, Science and Technology of Santa Catarina (IFSC), we seek to articulate the readings of Freire (1996) and Aguiar Jr (2010) to the challenges encountered by these professionals in classroom practice. The first aspect to consider is the differentiated profile of the subjects, most of whom with a bachelor's degrees working in high school, technical training, undergraduate and graduate courses, simultaneously.

This is a qualitative, exploratory study, with a sample of a group of 43 teachers from one of the IFSC campuses. They were asked about the challenges of teaching, listed by Aguiar Jr (2010) and about the proposals for continuing education that they would like to have access to, being EPT teachers.

The *campus* on which the research was applied and which includes the group of teachers/professors from EPT, which constitutes the *corpus* of this work, is located in the extreme west of the state and has a population of about 40 thousand inhabitants. The economy, based on family farming and livestock, justifies the main areas of IFSC training in this county. Amongst others, the technical courses of medium level integrated to Agriculture, Agroindustry and Electromechanics are offered, in addition to undergraduate courses in Agronomy and Food Technology, totaling more than one thousand students enrolled. The profile of the staff of teachers is quite young.

In a sample of 43 teachers, of the total of just over 50 who work there, nine are under 29 years old, twenty-nine are between 30 and 49 years old, four are between 40 and 49 years old and only one is over 50 years old. The exercise of teaching is also recent among the group. Six have been working in the profession for less than a year, 17 have between two and five years of experience, ten have been teaching for six to ten years, eight have from 11 to 20 years and only one has more than 21 years

7 Data were collected by the campus Pedagogical Nucleus team in June 2018, following a questionnaire organized by the authors of this article.

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of experience as a teacher.

The training trajectories of these teachers are quite diverse. Twenty-one are graduates (ten of them also have a bachelor's degree, related to the area of activity in which they were approved in a public tender at the institution) and 22 have initial training only at a bachelor's level<sup>8</sup>. The majority (22 teachers) attended undergraduate courses less than ten years ago, with six of them having less than five years of training; eighteen of them attended graduation for over 11 years; and three of them graduated more than 21 years ago.

As for postgraduate studies, 23 are PhDs (one with a postdoctoral degree), 12 are masters, seven are specialists and two have only undergraduate degrees. Only two teachers indicated that they have an specialization in Professional and Technological Education, in addition to other training *stricto sensu*<sup>9</sup>.

When analyzing the challenges of teaching, Aguiar Jr (2010, p. 239) states that many of these challenges are part of the "[...] practices of experienced teachers and beginning teachers", without much distinction. When dialoguing with peers about teaching concerns, the author points out that, "often, beginner teachers and even experienced ones represent their action in a simplistic way as exhibitors or transmitters of established knowledge of which they are specialists" (AGUIAR JR, 2010, p. 241). Thus, the author continues, when reflecting on their practice, teachers often direct all the problems of the teaching-learning process to students who "[...] appear, here or there, only as a problem: they do not pay attention to classes, they are undisciplined or lack elementary knowledge" (AGUIAR JR, 2010, p. 241).

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<sup>8</sup> The data reinforce what has already been pointed out by Spessatto and Carminati (2018) regarding the profile of teachers of the Federal Education Network.

<sup>9</sup> The institution in which they operate offered five classes of the Specialization in Pedagogical Training for Teaching in EPT, opened by Setec / MEC in 2015. The Federal Institute of Santa Catarina joined the proposal and opened 140 spots in five centers, one of which was installed on campus Goytacazes from Fluminense Federal Institute (in a partnership between the two institutes).

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On the other hand, when reflecting on the knowledge necessary for educational practice, Freire (2002, p.21) highlights that "teaching requires an awareness to the unfinished", therefore an open path to the permanent training of teachers and also of students because "teaching requires respect to the student's knowledge "(p.15) and requires "knowing how to listen" (p. 43) and "requires the belief that change is possible" (p.30) and with it the overcoming of many challenges, both in teaching and learning. Hereafter, there are the five challenges to educational practice, elaborated by Aguiar Junior (2010) and listed above.

# 3. The challenges to ensure student engagement

The first challenge pointed out by Aguiar Jr (2010) and most recurrent in the teachers' statements, is to ensure the engagement of students in school tasks. When teachers who participated in this research were asked to rank the main challenges faced in the teaching career at EPT<sup>10</sup> in order of relevance, what stood out was the concern with issues related to the social status of students and the teacher-student relationship. Research by Gariglio and Burnier (2012) point out the need to know about students, about youth, in short, the knowledge about students.

Dealing with cultural diversity, motivations, rhythms and skills of students was the challenge identified as the most relevant by the group of teachers, with 12 of the alternatives focused on this point, revealing the very different profile of students who seek Federal Institutes. Promoting and sustaining student engagement in school tasks was indicated as the main challenge by 11 teachers.

The concern with the teacher-student relationship and the effectiveness of the teaching-learning process is also revealed when they are asked about the topics of interest in future offers of continuing education courses. The concern with the involvement of students in classes was one of the central themes: "Themes related to

10 In the questionnaire delivered to the teachers, they were asked to assign numbers from 1 to 5, with 1 being the most relevant and 5 the least relevant, to the five challenges pointed out by Aguiar Jr. (2010).

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the challenge of dealing with the cultural diversity of students" (T27)<sup>11</sup>; "How to motivate students without interest" (T30); "Discussions that bring teachers closer to the way of thinking of young students" (T42); "Emotional control techniques to deal with different situations in the classroom" (T8). "Themes related to student psychology; I have many difficulties in dealing with students' personal problems and conflicts "(T25). These themes illustrate what Saviani (1996) calls pedagogical knowledge and didactic-curricular knowledge. There is also a challenge for future training proposals reflecting on Youth, school and life projects<sup>12</sup>.

When addressing the involvement of students in the classroom, Aguiar Jr (2010) highlights the recurrence in the teaching discourse that students:

[...] they do not pay attention to classes, are undisciplined or lack basic knowledge. In several of these reports [internship of science of teaching degree holders] there is no mention of what students do, signs of interaction in the classroom, of how they respond or react to school content and the routines of the school and the classroom. (AGUIAR JR, 2010, p. 241).

The desire to participate in continuing education courses whose themes are teaching methodologies appears in the speech of nineteen, of the 43 teachers heard. The issue was described by the group as follows: "Didactics in class and classroom" (T1); "Teaching methodologies" (T4), (T11) and "with practical examples" (T12), "in a practical way, otherwise I read a book" (T18); "new approaches, methodologies and evaluative practices" (T14); "Methodology and teaching resources" (T35) and (T41). It is important to highlight the teachers' desire in what they refer to as "innovative teaching practices" (T19) and in the demand for the socialization of experiences among peers: "practical examples of the pedagogical proposals of their colleagues" (T29). There is also the challenge of training trainers for the dialogues with these demands,

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<sup>11</sup> The letter T refers to teacher and the number indicated next to the letter corresponds to the sequence of delivery of questionnaires by teachers.

<sup>12</sup> It should be noted here that the Study and Research Group "Gerações" (Subjects of Professional and Technological Education), of which two of the authors of this text are part, has been concerned with researching these and other topics for socialization with EPT teachers in courses of continuing education.

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with practices capable of achieving the engagement of teachers. Again, the need for pedagogical and didactic-curricular knowledge, categorized by Saviani (1996). Gariglio and Burnier (2012, p. 229) point out that "according to the perception of our EPT teachers, pedagogical knowledge occupies a lower *status* in the hierarchy of knowledge necessary to teach".

The concern expressed by the group in understanding the subjects who occupy the condition of students is in line with what Freire (1996) states. "There is no teaching without learning". And the author also highlights "those who teach learn from teaching and those who learn teach from learning. Whoever teaches, teaches something to someone" (FREIRE, 1996, p. 25).

The exercise of teaching in Professional and Technological Education justifies the concern pointed out by the teachers heard in this work, considering the differences in the profiles of students in the classes with which they work, expressed in Law No. 11,892, of December 29, 2008, which instituted the Network and creates the Federal Institutes of Education, Science and Technology which, in its Art.2, defines them as "institutions of higher, basic and professional education, pluricurricular and multicampi" [...] offering different teaching modalities. This diversity of teaching actions in the area makes the profile of the public served very diversified, which was highlighted by the teachers heard when carrying out this work: "Yes, at EPT it is necessary to work at various levels of education, from EJA to graduate school. It is necessary to adapt to the level of education for which the teacher teaches" (T15); "It is taught in several UCs, from those related to the doctorate area, for example, with other views only during graduation. The course modalities are also very diverse (FIC, technical, higher, etc.)" (T20).

There are, still in this aspect, those who put into question the heterogeneity of the public, combined with the demands of technical training, very latent in EPT, even when it comes to teaching work with students of Basic Education: "The public is very heterogeneous in terms of knowledge and degree of learning. It is necessary to teach complex techniques with little time for theoretical foundation. It is expected to teach

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how to do it without first teaching the fundamentals of the techniques", says the teacher (T43). This speech allows a dialogue with Araújo and Frigotto (2015) when they highlight the need for network teachers to fight against the dichotomy between theory and practice in the training of subjects who pass through EPT:

In the current debate about professional education and, specifically, about a didactic of professional education, the dichotomous view that can be understood, for example, in the separation and distinction between professionalization and schooling (dissociative view) or as the "sum" of professionalization with schooling. This dichotomous view is also revealed in the separation between theoretical and practical disciplines, between the knowledge that would develop thinking and others that would develop the capacities to do. Another perspective, based on the idea of unity, presupposes the indissolubility between theory and practice. (ARAUJO; FRIGOTTO, 2015, p. 71).

Still regarding the concern with the involvement of students, 10 of the teachers indicated that the main challenge of teaching is to establish productive discursive interactions, with the participation of students. In this perspective, Freire (1996) asks: "Why not establish a necessary 'intimacy' between the fundamental curricular knowledge to students and the social experience they have as individuals?" (FREIRE, 1996, p. 34 - italics in the original).

# 4. The relationship with school content as a teaching challenge

The fact that, among the five teaching challenges listed by Aguiar Jr (2010), the teachers heard in this work list as the most latent the three that involve students, evidencing the difficulties experienced by these professionals with aspects of teaching that go beyond the domain of knowledge related to their area of expertise. In this regard, *Reassigning school content*, another of the challenges listed by Aguiar Jr (2010), appears as the most relevant for only six of the 43 teachers heard. It seems clear to us, in this way, that the professors make it clear that undergraduate and graduate courses have given them the specific knowledge to teach the disciplines in which they are based. When asked if "Your teaching performance (course in which you teach) is related to your area of initial training?", 41 of the 43 teachers heard answered

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the question in the affirmative.

Among the teachers heard who have a *stricto sensu* postgraduate degree, the areas of Food Engineering, Plant Production, Agronomy and Sciences are those that comprise the largest number of doctors and masters, revealing that the academic trajectory was built in the perspective of initial training, possibly aiming at a career focused on university education or research in their area of education. This reinforces what Teixeira (2009, p. 30) classifies as "training verticalization", given the training, in these courses, of:

[...] researchers with a wide domain of the specific field, however lacking knowledge related to teaching. This situation is a paradox, since most of the professionals who graduated from these courses will work in teaching, so they will be researchers who teach or who try to teach, and not research teachers. (TEIXEIRA, 2009, p. 30).

This fact and the consideration that these professionals feel working in areas linked to their initial training, as already indicated above, justifies the low concern with the challenge of Re-signifying school content (AGUIAR JR, 2010, p. 240). On the other hand, it justifies why, when asked to define the main dimensions of teaching, 35 teachers pointed out as the most important the "domain of the content of the discipline", highlighting the multiplicity of knowledge, only the specific knowledge pointed out by Saviani (1996).

However, it is necessary to consider that the teaching-learning process consists of much more than just working with school content, but with the concern to "train the individual in his multiple capacities: to work, to live collectively and to act autonomously on the reality, contributing to the construction of a sociability of fraternity and social justice. (ARAUJO; FRIGOTTO, 2015, p. 68).

Teixeira (2009, p. 32) also tries to deconstruct this concept that the domain of the discipline's content is enough to ensure the effectiveness of teaching. The author highlights the need to deconstruct the concept that "I teach because I know", changing this premise to "teaching because I know and know how to teach". Only in this way it will be possible to "build another perspective that promotes teacher training based on

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different knowledge: solid knowledge of the specific area and equally solid knowledge of the pedagogical area" (TEIXEIRA, 2009, p. 32).

Freire (1996, p. 25) draws attention to the role of school content, when he states that "[...] teaching is not transferring knowledge, content nor educating is an action by which a creative subject gives shape, style or soul to an undecided and accommodated body". We seek to draw attention to the importance of the pedagogical training of teachers to account for the universe that characterizes a classroom and the specificities of learning.

We again resume the author to argue that "methodical strictness" is necessary when teaching, because, "in conditions of true learning, students are becoming real subjects of the construction and reconstruction of knowledge teaching, alongside the educator, also subject of the process". (FREIRE, 1996, p. 29).

In the reading of the material collected from the teachers, it is evident the need for more reflections on the role of EPT in the training of subjects who pass through it, regardless of whether it occurs in Basic Education, in technical, undergraduate or graduate courses. When asked to teachers about the differences in teaching performance at EPT and other educational institutions (either Basic Education or Higher Education), most teachers listed with a difference the "practical" aspect of teaching on the net: "At EPT teaching is more focused on practical application, based on the demands of the region's labor market. At EPT, learning seems to be more significant "(T12); "As my focus is on the technical area, it approximates in certain aspects of undergraduation, but in a more practical and contextualized way (less theoretical basis)" (T18). There is also the danger of emptying the process, focusing on the concern with practice, as one of the teachers makes clear: "In relation to EPT, there is a need for teaching to be focused on practical applications, while in Basic Education or Higher Education, teaching is broader, with a greater theoretical foundation (T19), which reveals the pressing need for reflection on the topic with teachers from the Network. In this way, understanding what Freire points out: That is why transforming the educational experience into pure technical training is to unravel

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what is fundamentally human in the educational exercise: its formative character [...]. To educate is to form substantively. (FREIRE, 1996, p. 37).

Entailed to this aspect, the description of the specificity of teaching activities at EPT as a preparation for the "market" is recurrent in the teachers' speech: "At EPT, students are prepared for the job market" (T26); "There are differences mainly due to the fact that Professional Education grants a title related to a qualification for the job market and students must be able to exercise it" (T32); "Our focus is to act in the job market, in courses aimed at technical and technological professional training" (T39).

The question is not new. On the contrary, many authors have highlighted the need to break with the dichotomous vision between professionalization and education at EPT, as already established in the dialogue with Araújo and Frigotto (2015).

It is necessary to consider again, when analyzing the testimonies of the professors, the fact that the majority come from bachelor's degrees. Still, those who come from teaching degrees courses, when entering the teaching career of EPT, assume the general view that this needs to be a practical training and geared to the demands of the work environment. In other words, there is a lack of more effective actions by the Network in continuous training to ensure the pedagogical training of teachers, rethinking their actions and considering the danger of serving a technical education, disconnected from theoretical reflections and uncommitted from the social function of education.

#### 5 Training for teaching: the formation of the EPT teacher

In a context of recognition of knowledge at the expense of training for teaching reinforced by the new policies, the proposal defended here is even more arduous.

So that the criticism does not appear innocuous, it is necessary to think of ways to strengthen the teaching action, especially in a scenario such as that of the EPT Network, in which, as we have followed throughout this text, most of the teachers

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do not have pedagogical training in their academic trajectories. To this end, we questioned the teachers heard throughout this work on how, when entering the teaching career, they were constituted as teachers<sup>13</sup>.

The responses give rise to many reflections. Of the seven alternatives listed for teachers to indicate, in order of relevance, the main forms of their formation as teachers, the most voted, tied with 25 points each (adding the first and second places, in order of relevance), appeared "Learning to do by doing" and "Learning from student feedback". The correlation between what the majority (35) of the teachers point out as one of the main dimensions of teaching, the "mastery of the content of the discipline", and the main ways cited for the formation as teachers, when entering the career, show the total detachment of the educational dimensions of teaching work.

By pointing out "learning to do by doing" and only the students' return as principles for the teacher formation, they attribute value to a knowledge arising from a spontaneous practice, classified by Freire (1996, p. 43) as "unarmed", being that what "unquestionably produces is naive knowledge, knowledge of experience, which lacks the methodical rigor that characterizes the subject's epistemological curiosity".

In the same line as individualized and unassisted training for teaching, the third and fourth alternatives appear as most relevant by teachers: "Readings and courses taken out of self-interest" (22) and "Trying differentiated approaches" (16). In the first alternative, the search for knowledge for teaching is perceived, even though there is no specification of the areas of training sought by teachers. Then there is the attempt to innovate in the way of mediating the construction of knowledge, but also as empirical forms of innovation, without, apparently, having an essential aspect: the theorization of practice (Freire, 1996).

Thus, a great weakness of the Network becomes evident: the lack of training

13 Teachers were asked to indicate the order of relevance of the alternatives, 1) for more relevant and 4) for less relevant. The alternatives pointed out were: For readings and courses taken out of self-interest, Sharing practices with colleagues, Learning from student feedback, For training offers made by the institution of the EPT Network in which I work, Learning to do by doing, Trying differentiated approaches and Seeking support with the Pedagogical Nucleus.

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offers and support for the qualification of teachers who enter the universe of teaching at the same time that they enter Professional and Technological Education. The alternative listed for teachers that indicated the formation as a teacher "for training offers made by the institution of the EPT Network in which I work" was left out of the four levels of relevance for 27 of the teachers heard. Only for one of them was this alternative considered the most relevant. Twenty-eight teachers also left out of the alternatives that helped them establish themselves as teachers with the support of the Pedagogical Nucleus of the campus in which they work. With this, there is an urgent need for investments in offers of continuing pedagogical training in the institutions of the Network. These courses, as long as they are offered in the work environments themselves, could make use of one of the alternatives indicated as relevant by the teachers heard in this work: the sharing of practices with colleagues as a form of formation for teaching; 16 teachers indicated this alternative as one of the most relevant.

#### **Final considerations**

Thinking about teaching is becoming more and more of a challenge, considering the scenario in which we live, marked by the discouragement of the career, by the reduction of investments and the opening of the pedagogical referrals of the public school to private institutions, compromising the State of its results. Thinking about the training of professionals working in the Federal Network of Professional and Technological Education, then, becomes an even greater challenge.

Therefore, the proposal made here is not naive. When thinking about the requirements (FREIRE, 1996) and the challenges (AGUIAR JR, 2010) of teaching in the area, we try to motivate the teachers themselves to rethink their constitution as teachers and their daily activities in the classroom. With this purpose, it is also possible to signal extracting from these challenges elements to think about the training offers that include necessary knowledge revealed in the challenges of being a teacher at EPT.

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When we cross the collected data, we see professionals who, due to their academic trajectories and the distance from their pedagogical training, evaluate the knowledge of the specific contents of their area as one of the most relevant knowledge for their performance. On the other hand, they are professionals who claim to have formed themselves as teachers by "do by doing", without institutional guidelines that would lead them in a directed way towards teaching.

When pointing out what constitutes "teaching challenges" for them, they reveal that they perceive, along the process, that something does not go well between what they know and teach (the contents) and what, effectively, the student learns and with what they commit. They are pedagogical aspects that need to be worked on with this group, which need to be highlighted by the Network itself. Once again, the suggestion may come from the subjects heard, as Professor P42 does, saying that "I see that FIs have their own characteristics (students, teachers, structure, mission, etc.) and so a more effective way would be to provide spaces so that teachers in an area could come together and exchange their experiences, doubts, suggestions, etc.". One path that can be taken is to promote training activities that socialize successful practices in the EPT, as also put by Richit and Hupalo (2019), when dealing with the importance of effective moments of collective work. And working with error is also fundamental to research.

Network training, using Distance Education Technologies, or even training designed by the Pedagogical Centers of each institution/campus, among many other alternatives can be considered. The essential thing is that the pedagogical training does not leave the agenda, that the tiredness of these demobilization times does not remove us from the knowledge that constitutes the teaching profession.

We defend alongside Silva; Nosella (2019) the extreme culture for all teachers and especially those from EPT, as a way of expanding the spirit, as a way of "offering people the best and most complete education, with accuracy and seriousness. Performing a deep and radical knowledge of himself, not in a psychological and selfish sense of the self, but in a social and historical knowledge,

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about the conditions of his class".

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