

## PAPER

## The practice in undergraduate degrees for teacher education: an integrative review

### *A prática no processo de formação inicial de professores: uma revisão integrativa*

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#### ABSTRACT

This paper presents results from a systematic review focusing on publications about the processes of initial teacher education centered on the epistemology of practice as a component of teacher education in undergraduate courses. The research methodology is an integrative review, in which it performs the meta-analysis of sixty-five national and international papers, considering the content analysis of Bardin (2016). The composition of the *corpus* of analysis takes as reference the criteria of Vosgerau and Romanowski (2014) from a survey in the *Educ@* indexer and in the journal *Teachers and Teaching – Theory and Practice*. The results pointed to practice as a fundamental element in the initial education of teachers in the approaches: (i) theory and practice relationship; (ii) practice in teaching learning; (iii) supervised internships; and (iv) reflective practice. The epistemological approach to practice in teacher education is expressed in a more intense movement of theory as a guide for action aimed at overcoming technical rationality, but it still does not assume critical rationality.

**Keywords:** Initial Teacher Education. Formative Practice. Supervised Internship.

#### RESUMO

Este artigo apresenta resultados de uma revisão sistemática focalizando as publicações acerca dos processos de formação inicial de professores centrados na epistemologia da prática como componente da formação docente nas licenciaturas. A metodologia de investigação é do tipo revisão integrativa, em que realizamos a reanálise de 65 artigos nacionais e internacionais, fundamentada na análise de conteúdo de Bardin (2016). Para a composição do *corpus* de análise, tomamos como referência os critérios de Vosgerau e Romanowski (2014) a partir de levantamento no indexador *Educ@* e no periódico *Teachers and Teaching – Theory and Practice*. Os resultados apontaram a prática como elemento fundante na formação inicial de professores nas abordagens: (i) relação teoria-prática; (ii) a prática na aprendizagem da docência; (iii) estágios supervisionados; (iv) a prática reflexiva. A abordagem epistemológica da prática na formação de professores se expressa num movimento mais intenso da teoria como guia da ação direcionada para a superação da racionalidade técnica, mas que ainda não assume uma racionalidade crítica.

**Palavras-chave:** Formação Inicial de Professores. Prática Formativa. Estágio Supervisionado.

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## Introduction

Teacher training is a subject that has prompted intense research and reflection to understand its breadth and complexity, as well as its constitution and better definition as a research and knowledge field. However, little research focuses on teacher training processes, even though it intensively analyses degree courses, as pointed out by state-of-the-art studies in Brazil (Romanowski, 2018).

Training is an object of investigation because it directly affects the possibilities of teacher professionalization to improve education systems. Understanding the policies, organization, and practices promoted in bachelor's degree courses, in which teachers work in various fields, has been a challenging problem for educational research. Studies on undergraduate programs focus on the curricular proposals for the course, the practices developed, the trainers, the students, the university-school relationship, the work of the trainers, and student learning, but few have looked at the training processes and, in particular, the epistemological perspective that guides them.

Nowadays, given the Brazilian educational context, which needs changes to inclusive education for all and new approaches to the teaching and learning process related to the production and dissemination of knowledge, there is a need for in-depth examinations of teacher training. The mediation generated by scientific and technological advances is interfering with cultural transformations that are taking place in the context of networked communication and information to promote interpersonal relationships, changing the challenges and potentialities. In addition, the growing demands of education, considering the diversity of ideas generated from the heterogeneity of everyday actions in each individual's *modus operandi*, require attitudes and behaviors that differ according to socio-historical problems. More recently, due to the health crisis caused by the COVID-19 pandemic, new demands have impacted schools and brought intense challenges to teachers' training and professional performance.

The reconfiguration of the challenges related to teacher training has prompted new research into the processes of initial teacher training, which involves investigations into training activities' development, the collective exchange and production of knowledge, practical experiences, and reflections arising from experiences, in other words, the processes experienced in the context of training. The research proposal focused on in this paper is not intended to answer all of these questions, which range from the identity of the field of training for education professionals to training paths and teacher development and professionalization, but rather to situate reflections around the epistemology expressed in initial teacher training processes.

From this perspective, this paper examines the epistemological approaches to practice as a basic component of the initial training processes in national and international scientific publications, to understand how they have dealt with practice as an element of training. As problematizing questions, we consider the following: what epistemological approaches can we identify in research related to practice as an element of initial teacher training? What implications of epistemological approaches are identified in studies of "practice" processes for initial teacher training? How is practice characterized in publications as part of initial teacher training processes?

We want to point out that this study is part of Macêdo's doctoral thesis (2019) and that, as it is an integrative review study from the perspective of meta-analysis, we have contextualized teacher

training about its theoretical constitution, the analyses of practice as a training process and the possible theoretical-epistemological relationships expressed in the publications.

### **Teacher training: constitution and teacher training processes**

Studies on teacher education recognize it as a defined theoretical-methodological field (Vaillant; Marcelo, 2015; André, 2010), albeit polysemic, considering the diversity, extent, and complexity of the issues, knowledge, and dimensions that make it up, with difficult to define boundaries and contours. There are obstacles to understanding the interfaces that characterize and address initial and continuing training, professionalization, and teacher identity. This field of study involves training policies and processes, with teachers' professional performance and the conditions in which it happens. When examining it, in an attempt to provide a basis for reflection, the conceptual structure of teacher education as a disciplinary field is delimited in the contributions of Marcelo (1999, 2009), Vaillant and Marcelo (2015), and André (2010), as well as the delimitation of the components of teacher education in the studies of Roldão (2007), Cruz and André (2014), among others.

According to Roldão (2007), the breadth and vagueness of teacher education leave room for different interpretations of its study object. However, it is based on this diversity, expressed in research, that it has been constituted as an epistemological and praxeological path. Lourdes Montero (2005 *apud* Roldão, 2017) points out the complexity of converting a field of professional practice into a field of knowledge.

Individual teaching practice is guided by a collective process that, to be understood, requires systematized research, giving rise to “theory as an expression of practice” (Martins, 2016). This process, resulting from the description and problematization of practice, followed by possible explanations based on a theoretical framework, favors a third level of understanding of practice as a whole, in which the historical, social, and political determinants (Martins, 2016, p. 16) that shape it theoretically and epistemologically are made explicit. This epistemology of practice is associated with the development of professional knowledge resulting from reflections on, in, and about teachers' practices, as it contemplates the teaching activity carried out daily, a practice gestated in social relations, which are determinant and determined and express historical moments in which pedagogical practice materializes in the totality of educational actions (Romanowski; Martins, 2022).

We emphasize that training is not restricted to training as a process, teaching as a teaching practice, as it involves the teacher's aspects, in a broad perspective of human development, as well as relating to autonomy, in the sense of wanting and seeking personal training, as Vaillant and Marcelo (2015) point out. For Marcelo (1999, p. 22), training is not an autonomous process: “It is through inter-training that subjects - in this case, teachers – can find learning contexts that favor the pursuit of improvement goals [...]”. From this perspective, teacher training is characterized as a broad category in terms of the diversity of studies that take place continuously, involving the background, basic (initial) training, and continuing training for professional development – “the A, B, C, D of training” (Vaillant; Marcelo, 2015, p. 32). This is an individual and collective activity, systematic and organized,

which contributes to evaluating the quality of training, i.e. knowing the processes experienced in training makes it possible to evaluate it.

It is therefore essential that initial teacher training prioritizes the development of degree course projects, actions that strengthen the inseparability between theory and practice, the non-fragmentation between specific knowledge of the area and didactic-pedagogical knowledge, the link between the training institution and the field of professional activity of the future teacher, permeated by a dialogue between university and school. Student-teachers, from the moment they start school and more intensely in degree courses, have the opportunity to live and experience diverse situations that help them understand how to become and be a teacher; this training allows them to evaluate beliefs, values, behaviors, knowledge, in short, different conceptions that have been built up and internalized throughout their personal and school career (Marcelo, 1999).

Indeed, initial teacher training processes have a fundamental role to play in providing different ways of developing theoretical and practical knowledge, as this inseparability between theory and practice enables the student-teacher to be a participant in the process of learning the profession, realizing that training takes place in the professional's interaction with the reality and context of the educational field, a privileged locus for understanding and building teaching knowledge and skills.

These issues include privileged training in undergraduate courses, and after analyzing the productions mapped in this study, we identified that teacher training in its initial stages goes back to three epistemological approaches (Macêdo, 2019). The first approach is linked to overcoming technical paradigm training, considering the teacher as an autonomous agent, who thinks about training and its complexity, and not just makes it happen, observing technical principles, towards the practical and critical model.

The second epistemological approach deals with the theory-practice relationship, in the treatment given to these components of/in training when systematizing the path of knowledge construction, in other words, how the link between these aspects is expressed in training: it is through practice that training and knowledge production emerge; in its inverse, in which practice is guided by theory, there is a hierarchical and unilateral relationship.

The third approach refers to the understanding of processes as part of the structuring fields, as nuclei of training, which are outlined in paths aimed at operationalizing training, indicated by the category of "practice as a component of initial teacher training", which originated from practice and was identified in the analysis process of this study. To situate the components of the structuring fields that deal specifically with teacher training, Roldão (2007, p. 53) states that "the how" of learning to "be a teacher" and "knowing how to be a teacher", specific to the object of study of the training field, constitute learning and development processes in the construction of teachers' knowledge and professional performance.

Considering the indicated approaches, the analysis extended the process beyond description toward understanding the productions and epistemological approaches of those who supported them. Therefore, the starting point was the publications, valuing the studies and research collected as a concrete reality that points to the context of the profession, prompting critical and reflective thinking and, consequently, the production of knowledge.

Martins (2003, p. 87) presents this debate in terms of two approaches, both situated in progressive conceptions of teaching: theory as a guide to practical action, centralizing the process in theory, in other words, the approach takes a consistent theoretical foundation as the starting point for practical action. The second approach sees theory as an expression of practice, since “a theory is always the theory of practice and not of any material reality that transcends the process of that practice, nor of that reality as it is not practiced. Man does not reflect on the world, but reflects his practice on the world” (Bernardo, 1977, v. 1, p. 86). The starting point is a description of the practice, followed by its explanation with the support of existing theory. The reflections that arise from this allow the theoretical principles expressed in this practice to be inferred.

The studies by Cruz and André (2014, p. 188) on reflective practice highlight the investigation of/on practice and present three conceptions or epistemological approaches to the relationship between theory and practice in learning to be a teacher, constructed by Cochran-Smith and Lytle (1999) when analyzing different directions surrounding teacher training. Cruz and André (2014, p. 188) described them as follows: “Knowledge for practice”, i.e. theory as a central component to form and strengthen practice, “supported by the premise that knowing more content, more theories of education, more pedagogy, more teaching strategies guarantees successful practice”; “Knowledge-in-practice”, which refers to knowledge produced in processes of reflection in action, in moments of problematization of practices, i.e. “good teachers are those who present and construct problems based on practical situations”; finally, in the third approach, they emphasize: “Knowledge-of-practice” – this category refers to the continuous and systematic investigation of practice in collective processes; therefore, “teachers must learn collaboratively, in research communities and/or networks, seeking, with others, to build significant local knowledge [...]”.

Considering these studies, the epistemological approaches analyzed here are theory as a guide to practice, theory as an expression of practice, and the articulation of theory and practice in guiding teacher training processes in the publications examined. All the approaches assume the principle of the inseparability of theory and practice.

## **Methodological approach**

The research has a qualitative approach and is characterized as a systematic review study (Vosgerau; Romanowski, 2014), from the perspective of an integrative review (Kramm, 2019). The procedures for this kind of study, after defining the subject, include surveying publications in databases, and making up the corpus of studies to be examined. The research was carried out in the journal *Teachers and Teaching – Theory and Practice*, linked to the International Study Association on Teachers and Teaching (ISATT), a worldwide association of researchers that aims to “act as a forum to promote, present, discuss and disseminate research results that contribute to knowledge and theory formation in this field” (ISATT, 2018). This journal was joined by the national journal indexing database Educ@, linked to the Carlos Chagas Foundation. The justification for choosing these sources was the fact that ISATT represents a consolidated association in teacher education, in which researchers from different countries participate, including Brazil, and which celebrated its 40th anniversary in 2023. As for Educ@, it is the indexer with the largest number of journals in the field of education in the country.

For the research, we considered the publication period from 2007 to 2022, in 20 scientific journals, of which one was international<sup>1</sup> and 19 were national. As an identification category, we chose “initial teacher training processes”, which returned 680 national and international abstracts, among which we identified 65 papers corresponding to practice as an element of teacher training. To analyze this corpus, we used Bardin's (2016) content analysis propositions, the process of which is not described due to the limits of this paper.

## Practice as a basic component of teacher training

Practice as an element of teacher training encompasses the pedagogical practice carried out in schools to achieve the aims of education. In teacher training courses, it refers to the practice of teachers and students in the courses that materialize the training of educators. In this paper, the focus is on training in and through practice which contributes to teacher training, in other words, practice as a structuring component of teacher training. Practice as an initial teacher's training component is understood to be integrated into the various stages of teacher training in three epistemological approaches, as explained above.

The practical processes promoted in initial teacher training and institutions are immersed in capitalist society and are developed through the bias of contradiction. By taking practice as an element of contradiction, this must be done through the lens of criticality, to organize training processes for liberation, overcoming not only demobilizing content but also how educational practices are organized and systematized, understanding that “the ways of teaching, of transmitting, are not neutral. They are the material expression of social relations within capitalism” (Martins, 2009, p. 88). Practice, in the various professional training courses and especially in undergraduate courses, is characterized as a curricular component of the training process, aimed at showing the how, why, and wherefore of learning to be a teacher and knowing how to be a teacher, as well as the epistemological approaches to understanding practice in the teacher training process.

The national papers in the Educ@ database were published in 22 journals and the international papers were published in *Teachers and Teaching – Theory and Practice*. The countries from which these papers originated are as follows: Australia, Brazil, Canada, Chile, China, Denmark, Estonia, Finland, the Netherlands, Germany, Ireland, Israel, New Zealand, Portugal, Taiwan, Spain, Turkey, South Korea and the United States. This shows that the discussion of practice in teacher training is the subject of reflection and interest by various scholars, as an essential component of teacher training processes.

In categorizing the articles for analysis, they were grouped into: (i) the theory-practice relationship in teacher training; (ii) practice in learning to teach; (iii) internship in teacher training; (iv) training based on reflection on practice. We would point out that these categories also included subcategories of different epistemological approaches, with imbrications and articulations between them.

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<sup>1</sup> All the abstracts in this journal were translated from English into Portuguese by Professor Afrânio Bezerra de Souza, who has a degree in English from the State University of Piauí (UESPI) and also graduated from the Pink and Blue Freedom language school, characterizing this process as free translation.

### *Theory-practice relationship in teacher training*

The theory-practice relationship prioritizes epistemological approaches that either focus on theory as a guide to practice, or on practice as a guide to teacher training (Martins, 2003). Since the 1980s, this structure has been the target of criticism in the search for this relationship to be incorporated into the development of teacher training.

In the publications in focus, this category was highlighted in 20 papers and was examined based on the following themes<sup>2</sup>: trends and their importance in training proposals; university-school partnerships as possibilities for implementing the theory-practice relationship; the role of teacher trainers in fostering this relationship; and models that guide the implementation of this relationship.

Regarding the examination and importance of the materiality of the theory-practice relationship, Sântti, Puustinen and Salminen (2018) discuss this relationship in the training proposals implemented in Finland since the 1960s, when practice predominated as the guiding principle of the teacher training process; at the end of the 1970s, the courses began to emphasize this relationship, but with the primacy of epistemological theory as a guide to practice, giving prestige to the university as the most appropriate space for teacher training, an approach that continued throughout the following decades. This movement also took place in Brazil, more markedly from the end of the 1980s.

The epistemologically oriented approach to the articulated relationship between theory and practice includes Lück and Silva (2007), Graham and Roberts (2007), Baumfield and Butterworth (2007), Allen, Butler-Mader and Smith (2010), Cartaxo and Martins (2014) and Laletas *et al.* (2022), who agree that, at the turn of the 21st century, theory became a central aspect of both teacher training and work.

About the university-school partnership as a possibility for making the theory-practice relationship a reality, many papers indicate that this partnership is focused on the importance of practical experience in teacher training, always bringing the school grounds as a significant space for practical exercise. The authors in this epistemological approach to the theory-practice relationship, in which experiences are the starting point for knowledge, characterize the processes by stating that the professional field provides rich experiences essential in the individual and collective journeys of becoming a teacher.

Furlong (2019) examines the quality and value of universities as the locus of training in Wales for over 40 years and considers that, at the turn of the century, there was a primacy of practice in the training of trainee teachers, with universities no longer seen as partners. Born, Moriconi and Louzano (2021) present the results of a study carried out by a consortium of institutions that developed proposals centered on training by practice as a possibility of preparing trainees for teaching practice. Bourke and Ryan (2022) also examine the impact of a teaching practice centered on responsibility for promoting student learning as an indicator of teacher quality in the initial training of early childhood educators. Romanowski *et al.* (2017) highlight the difficulties

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<sup>2</sup> We understand the themes as the different approaches to the studies and research carried out around the practice included in the teacher training process in degree courses.

faced by institutions when it comes to incorporating practice into the curriculum and establishing this partnership between university and school.

We understand that the relationship between university and school needs to be developed as a two-way street, i.e. the contributions are evidenced in the exchanges, because, at the same time the learning takes place in the confrontation of problem situations, typical of the school context, enriching the training of the undergraduate, reflective moments are produced that involve school professionals, prompted by criticality in understanding the causes and possible solutions to the issues present in pedagogical practice in which the clash with theory is fundamental. Both theory and practice are points of departure and arrival, as well as interpenetrating in the examinations and reflections that enable the future teacher to understand the school, the educational process, and the context of the social practice in which teaching takes place.

Regarding the role of trainers in promoting the theory-practice relationship, Voigt and Pesce (2018), Border (2018), and Postholm (2019) highlight the importance of teachers and the development of projects in which they go to school to develop training activities. According to the authors, the theory-practice relationship would be established with greater intensity if the trainers were more sensitive to listening to the reports of teachers in training about their difficulties and the problems emerging in the pedagogical practice of the school.

About models aimed at fostering the relationship between theory and practice, when analyzing the coalition model for professional development (CMdPD), Youmans and Godden (2022) found that the members participating in the network reported professional growth as a result of this model, in terms of increasing their capacity, promoting collaboration with their colleagues, as the components of the model help to mobilize the collective work of a newly formed educational coalition dedicated to promoting change throughout the system.

Abu-El-Haj and Fialho (2019), analyzing a model that highlights multicultural attitudes and practices in the school environment, showed that the study participants felt motivated to carry out a pedagogical practice in which this model is present. The descriptive review model can help teachers develop practical wisdom, according to Furman (2018), as they are encouraged to describe and analyze their practices. Another model deals with action-oriented knowledge, integrating theoretical and practical aspects of teaching, and should be investigated in the context of teaching practice in teacher education (Toom *et al.*, 2019).

The model of teaching practices centered on authentic simulation environments and regulated learning is described and examined by Moradoff, Kramarski and Heaysman (2021), expressing good results in teacher performance. In addition, Morrison, Thompson, and Glazier (2022) highlight the training in which culturally relevant pedagogies allow educators to insert themselves into the process, which favors expanding and improving their learning about culturally responsible teaching.

In Brazil, we found that discussions about models to promote the theory-practice relationship are incipient.



### *Practice in learning to teach*

The research in this category discusses practice as vital in the process of learning to be a teacher, circumscribed in the theoretical-practical activities developed in initial training by the experiences brought about in teaching and learning environments, in the instances that train teaching professionals, in which epistemology highlights theory as an expression of practice, as proposed by Martins (2009, p. 43).

There were 20 papers, covering: the organization of the training curriculum to promote learning in and through practice; the experiences of students in and through practice; and teacher educators in promoting learning in and through practice.

About practice as a curricular component in subjects other than internships, the topic is mainly introduced by teacher trainers. Araújo and Silva (2021) and Kwok (2021) emphasize that this process presents itself as a possibility for managing practice during classes

Lunenberg and Korthagen (2009), Grossman, Hammerness, and McDonald (2009), Hutchinson and Hadjioannou (2011), Iftody (2013), Chien (2015), Pereira and Velasco (2015), Mitchell and Reid (2017) and Bisconsini and Oliveira (2019) investigated practice as a teacher training process, considering the experiences of student-teachers in school environments during their initial training. They analyzed experiences characterized by the individual dimension, self-training, and "self-telling", constituting learning expressed in becoming a teacher, individual and collective, from the exchanges promoted by the training spaces, in the teacher-student-knowledge relationship in processes of mediation and reflection. In addition, Melo and Carvalho (2019) and Wang, Yuan, and Liao (2022) discuss undergraduate courses for education in the countryside, which seek to articulate students' practices in the training process in Brazil and the United States.

Finally, Zyngier (2007), Brubaker (2012), Núñez *et al.* (2015), Van Uden, Ritzen, and Pieters (2016), Simmie and Lang (2018), Whitley *et al.* (2019), Tosun and Öztürk (2020) and Liu, Colak, Agirdag (2021) point to a practice related to the dimensions of autonomy, empowerment and active and critical participation, in which teacher educators favor the involvement and participation of students in the training process, demystifying their beliefs about the complexity of learning, the possibilities of their competencies, for gender-responsive training, providing them with different ways of understanding practice in teacher education.

### *Supervised internship in teacher training*

The supervised internship, understood as practice within the scope of degree courses, with a workload, times, and spaces defined in the legislation, expresses the obligation of practical exercise in teacher training. This category of practice includes studies that reflect on the interrelationship between university and school, in the practice of learning to be a teacher, mediated by initial training and teaching work, providing the student-teacher with challenging experiences, through the unity of theory and practice and the possibilities of better understanding the role of the teacher as an agent of change in the social context.

The papers in this category totaled 22, with the following themes: internship development policies; the university-school relationship; the internship in teacher identity development; internship development models; and evaluation of internship activities.

Regarding internship policies in the legislation, defining the organization of this activity within the curriculum, the research by Miranda and Soltau (2010), Agostini and Terrazan (2012), Calderano (2012) and Rodrigues (2013) address issues that broaden the understanding of the forms of organization and development of the supervised curricular internship, indicating that the process inserts the student-intern in the school context/professional field, in which actions are carried out to help them learn how to be a teacher, through individual and/or collective and collaborative training practices, characterizing a group with common interests and which is strengthened by the relationships formed within the group itself, in the face of the experiences and challenges faced, contributing to reflections on their professionalism. The papers point out that current policies define practice as a curricular component from the start of the degree course and, from the second half of the course onwards, internships are extremely important moments for consolidating teacher training and encouraging the construction of becoming a teacher, by experimenting with the environment and the profession, interacting with its characteristics and reflecting on the areas of inconsistency and instability typical of these environments. Specifically, Herzog-Punzenberger (2022) reflects on internship training about migration, considering the highly diverse sociocultural, linguistic, and religious needs that impact pedagogical practice in schools.

As for the university-school relationship, the studies highlight criticisms of the development of this activity, such as the distance between these institutions, the emphasis on specific subjects in the area to the detriment of pedagogical subjects, the dichotomy between theory and practice, the lack of clear guidelines for the development of the internship, the decontextualization of professional training with the world of work, among others.

The studies that have analyzed the internship with teacher training, both as learning in the profession and as the construction of a teacher's identification associated with professional development, are by Dozza (2009), Miranda, Braúna, and Ferenc (2015), Yayli (2012), Allen and Wright (2014), Brownlee *et al.* (2014), Yuan and Lee (2016) and Vedovatto and Borges (2021), focusing on teacher training with the supervised internship as a curricular component of greater integration between university and school and a space for the materialization of teaching as a formative process for the student-teacher, contributing to the transformation of the identity from student to teacher.

Concerning internship models, i.e. an epistemology that privileges theory as a guide to action, Vitória and Rigo (2018) are dedicated to systematizing data on the pedagogical dimensions configured in the writing of internship diaries, whose habit helps to improve the quality of writing, while Ferreira (2018) analyses interns in terms of the evaluations they carry out in their practices.

Eksi *et al.* (2019) verify the role of professional agencies for trainee referrals in several countries, highlighting, from the reflection reports, factors supporting and detracting from the professional agency as self-related (responsibility, perseverance, and sense of belonging to the profession), mentor-related (rapport, modeling, team membership and decision-making, constructive feedback, allowing space) and classroom and student-related (authenticity, role in the eyes of students, discipline and classroom management).

Kennedy-Clark, Galstaun e Reimann (2021) examine the OTTO model (Observe, Test, Test, Observe), in which observation data is analyzed, followed by test analysis of the observations, enhancing the process with test observation and analysis of this data. This model can contribute to training teachers with skills for evaluating data generated by observations, as it combines quantitative and qualitative data.

About the implementation and analysis of a device for monitoring trainees, Cyrino, Souza Neto and Sarti (2020) point out the evaluation to be carried out by school teachers on trainees. The supervised internship can become a space for overcoming fragmentation, which is still so present in teacher training courses. By coming into contact with school reality and interacting in this context, through challenging practices that provide them with reflections related to their training and their field of professional activity, trainees are motivated to perceive themselves as teaching professionals, strengthening their choice of teacher training. The internship thus becomes a tool for training institutions to develop practices aimed at training future teaching professionals, so that the trainee learns to be a teacher in the exercise of teaching practice, through teaching experiences that contribute to the construction of professional identity from initial training.

According to Roldão (2007, p. 40, emphasis added), “it is becoming increasingly necessary to view training as immersion in the work context, gradually transforming these work contexts [...]”, in other words, it is important that the school is also seen as a space for the initial training of basic education teachers. According to the studies, the supervised internship is a space for reflection on the teacher’s identity, due to the very exercise of teaching in the educational context and guided by the epistemology of the articulation between theory and practice, considering the dialectic between these two elements, hence the need to review the traditional understanding that underpins our beliefs in undergraduate courses regarding the theory-practice unit. From this perspective, we understand that the internship is not an isolated practice of interest only to the student intern, but a formative practice that involves the teacher trainer from the higher education institution, co-teachers, students, and other members of the school community, who together live and experience diverse learning situations permeated by joyful and pleasurable moments, as well as difficulties encountered in the development of this process. According to Passos (2016, p. 174), “the situations experienced in the group make it possible to identify weaknesses, anxieties, fears, but also personal and professional motivations about teaching”.

In the process of becoming a teacher, the student trainee also develops autonomy, creativity, integration, participation, respect for others, and sensitivity to social and political issues, dimensions that involve their profession and their human emancipation. The organization of the supervised curricular internship can help to turn practices towards a proposal to renew educational models and human formation, to rethink relations within the school, as well as society itself, which is immersed in the class struggle. This implies planning, preferably with the participation of the members of the training institutions responsible for this process of initial teacher training.

We also found papers on understanding and evaluating practices during the internship, such as Castaño *et al.* (2015), Sá and Almeida (2016), Gleeson *et al.* (2015), and Han, Shin, and Ko (2017), which bring two important components to the discussion of practices, specifically the supervised internship, to deepen the analysis: beliefs about being a teacher and the theory-practice

relationship. The first component concerns the beliefs held by teachers in training, whether they are undergraduates or already in professional practice, about the school, the teaching and learning processes, and the development of practices. These beliefs are perceived as elements rooted in historical processes, are an object of interest during internship activities, and should be discussed and deconstructed from the perspective of critical pedagogy. In this respect, Carlos Marcelo (1999, p. 56) states that student trainees “[...] develop their beliefs about students based on their own experiences as students, assuming that students have the same learning styles, aptitudes, interests and problems as the teacher trainee himself”. It is therefore up to the teacher trainer, when reflecting on practice, to propose to the group they are accompanying that they identify these beliefs, analyzing them from the point of view of critical thinking, from the perspective of the unity between theory and practice, deconstructing certainties and reworking convictions in the processes of dialogue and investigation of practice.

In all these papers, we identified that practice can be understood as an element of training, situated in a hierarchical relationship, in which the epistemology of theory takes precedence over practice; thus, teacher training courses tend to organize training processes centered on the theoretical dimension, not materializing the theory-practice relationship, as identified by Cochran-Smith e Lytle (1999), in the conception that knowledge is a guide to practice, in other words, first you learn theory and then you practice. This approach emphasizes models for the development of internships.

Practice is also presented in a dialectical relationship with theory, in which the future teacher is capable of producing knowledge, analyzing their practice and exercising this function continuously, investing in their training and professionalization. In other words, there is a search for changes in the very rationality that underpins teacher training and which appears in isolated experiences, but not as a reality that stands out and extends to the majority of contexts.

### *Reflective practice*

A strong current around reflection on practice took shape in the 1990s and onwards; however, considering the descriptors used in this research, few papers were found on the subject.

According to González, Martín and González (2019), the practicum is a training process in competence-centered proposals, with little contribution to understanding the professional profile, according to the students. For their part, Allas, Leijen e Toom (2020), in a study carried out at a university in Estonia, collected information on the types of knowledge built up by students in teaching practice based on reflections on practice.

In short, practice is expressed as a cornerstone of the teacher training process, but the approaches are different, as highlighted by all the papers examined.

## **Conclusion**

The integrative review of practice in the process of initial teacher training made it possible to examine the epistemological approaches in different studies published nationally and internationally,

drawing up in-depth analyses based on reading the texts, from which we derived indicators for grouping approaches to practice in the teacher training process.

In this process of investigation and analysis, we sought to go beyond mapping to present an integrative analysis that expressed explanation, understanding, and integration of the studies examined. In this sense, we established groupings which, when highlighted, presented clues for systematizing initial teacher training processes and getting to know them, reflecting on the epistemological axes on which they are forged: (i) theory-practice relationship; (ii) practice in learning to teach; (iii) supervised internships; (iv) reflective practice.

By constituting itself as a teacher training process, practice can be considered a fundamental component of initial training, in which the knowledge and know-how that underpin professional development and teacher identity are also gestated and generated from practice. The studies show that practice is polysemic - the practice of trainers, of students (future teachers), of basic education teachers - and is constitutive of pedagogical practice. They also highlight the involvement of these subjects: teacher trainers, student-teachers, basic school teachers, and others involved in the spaces and moments of training. This dialogue is established around the definition of teaching as a central component of teacher training, with teaching and learning being the focus of the practice process, as indicated by the papers analyzed. In turn, the epistemological aspect highlighted in Learning to Teach is directed toward execution processes, more focused on technical rationality.

In general, we found that the epistemic approaches underpinning initial teacher training processes are moving away from fragmented training, from technical rationality, towards constructing rationality centered on practice, highlighting the need to strengthen critical and reflective practice. In some of the studies, we also see that, in the theory-practice relationship, practice is valued as a space for building knowledge, moving towards a perspective of identifying theory as an expression of practice; however, in most of the research, the approach is of theory as a guide to practice, in other words, in the training process, theory precedes action.

In the processes of initial teacher training as part of the structuring fields, the core field of training is delineated by the categories "practice as an element of teacher training" and "supervised internship in teacher training", originating from the learning of "being a teacher" and "knowing how to be a teacher" (Roldão, 2007), in which reflection seems to have been incorporated into the process, no longer appearing as a process in itself. In this sense, practice takes shape in the learning that makes up the profession, and is fundamental to the epistemological approach of the structuring fields of teacher training.

The contributions of this study to the field of teacher training lie in understanding training processes, especially practice, as fundamental to rethinking the proposals that guide the composition of undergraduate programs. It also reveals the importance of interactions between teachers and students, between university and school, in the constitution of teaching-learning, as mediating subjects in this process, transforming practice into teaching knowledge.

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**Author 1** Conception and design of the research; construction and processing of data; analysis and interpretation of data; preparation of the final text.

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