# Construção de saberes: um estudo sobre a prática docente e a inclusão digital

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**Resumo**

O presente artigo tem como objetivo analisar como se constroem as relações com o saber entre o jovem professor (em formação inicial) e o professor com mais experiência (em formação continuada) que retorna aos bancos escolares. A pesquisa tem como base teórica os estudos desenvolvidos por Charlot (2000, 2005), Moran (2012), Nóvoa (1999, 2007, 2009), Pimenta (2012, 2014), Tardif (2013), entre outros que pesquisam a formação docente. A pesquisa caracteriza-se como qualitativa. Os dados foram coletados e analisados a partir da análise de conteúdo de Bardin (2016). O resultado desta investigação apontou para a importância do curso em inclusão digital e revelou o quanto a formação inicial e a continuada podem estar dialogando e propiciando novos saberes.

**Palavras-chave**: Construção de saberes. Formação de professores. Inclusão digital.

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# Construction of knowledge: a study on teaching practice and digital inclusion

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**Abstract**

This article aims to analyze how the relations with knowledge are built between the young teacher (in initial training) and the more experienced teacher (in continuing training), who returns to the school benches. The research is theoretically based on studies developed by Charlot (2000, 2005), Moran (2012), Nóvoa (1999, 2007, 2009), Pimenta (2012, 2014), Tardif (2013), among others who research teacher training. This is a qualitative research. Data were collected and analyzed from Bardin's (2016) content analysis. The result of this investigation pointed to the importance of the digital inclusion course and revealed how much initial and continuing education can be dialoguing and providing new knowledge.

**Keywords**: Construction of knowledge. Teacher training. Digital inclusion.

# Construcción de saberes: un estudio sobre la práctica docente y la inclusión digital

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**Resumen**

Este artículo tiene como objetivo analizar cómo se construyen las relaciones con el conocimiento entre el profesor joven (en formación inicial) y el profesor con más experiencia (en formación continua) que vuelve a los bancos escolares. La investigación se basa teóricamente en estudios desarrollados por Charlot (2000, 2005), Moran (2012), Nóvoa (1999, 2007, 2009), Pimenta (2012, 2014), Tardif (2013), entre otros que investigan formación docente. La investigación se caracteriza por ser cualitativa. Los datos se recopilaron y analizaron mediante el análisis de contenido de Bardin (2016). El resultado de esta investigación apuntó a la importancia del curso en inclusión digital y reveló el cuánto la formación inicial y continua debem estar dialogando y aportando nuevos conocimientos.

**Palabras clave**: Construcción de saberes. Formación de profesores. Inclusión digital.

# Introduction

Approaches encompassing teacher training are not recent, as education is always undergoing technical, scientific, and cultural evolution. In the contemporary world, education takes on an even more decisive role in survival, and a revolution is expected from it (PIMENTA, 2012; NÓVOA, 1999; TARDIF, 2013). Thus, the focus on teaching practice in our society is constant, as it holds the hopes for transformation toward a more just and equitable society.

For this reason, it is important to address elements related to educational systems concerning teacher training. This training, in times of cognitive shifts and paradigm changes, must keep pace with the technological transformations occurring in society.

In this context, the present study emerges from observations made during a digital inclusion training program in which students from the Bachelor's in Computing program, as part of a didactics course, taught classes to elementary school teachers from the Basic Education Network through a Training Program, which includes initial technological training courses.

Observing the development of the training and identifying the challenges faced by teachers in the process of updating/training, as well as by students who, although still learners, temporarily assumed the role of teachers, prompted reflection on how new teachers, entering the teaching profession, develop as educators in the presence of experienced teachers who have been teaching for years but lack proficiency in technology.

Therefore, the aim of this study is to analyze how knowledge relationships are constructed in the field of digital inclusion between the young teacher (in initial training, proficient in technology but lacking in didactics) and the more experienced teacher (in ongoing training, with years of teaching experience but lacking in technological skills) who returns to the classroom.

## Teacher Training – Professional Pathways

Education and teacher training, when viewed from the daily realities of schools, often differ significantly from what educational reform programs advocate. However, the discussion linking education quality to the professionals in the field and their training is not new.

Nóvoa (2007) emphasizes the importance of reflecting on professional pathways, considering how teachers experience the interplay between personal and professional dimensions, as well as how they have evolved over their careers. The author highlights the need for research focused on this field in the hope that it will contribute to developing a distinctly pedagogical perspective (and not merely an anthropological, historical, psychological, or sociological one) on the teaching profession. In his words:

> [...] this profession needs to be spoken about and narrated: it is a way to understand all its human and scientific complexity. Being a teacher requires constant choices that intersect our way of being with our way of teaching, revealing in our way of teaching, our way of being (NÓVOA, 2007, p.10).

It is therefore important to pay attention to the changes occurring in the labor market and in society at large. Often, the discourse becomes excessive, and as Nóvoa highlights (1999, p. 13-14):

> [...] they conceal the poverty of political practices. At the end of this century, no coherent proposals for the teaching profession are emerging. Quite the opposite. [...] on one hand, teachers are viewed with suspicion, accused of being mediocre professionals with inadequate training; on the other hand, they are bombarded with increasingly abundant rhetoric that regards them as essential elements for improving the quality of education and for social and cultural progress.

Nóvoa (1999, 2007, 2009) discusses the concept of teaching time in relation to the historical process of teacher professionalization, referencing the past to better understand current issues facing teachers today. He emphasizes that these professionals are experiencing a period of crisis, marked by the need to make fundamental decisions about their future.

In this perspective, Pimenta and Franco (2014) encourage reflection on how teachers' knowledge is constructed, exploring how training is understood and knowledge is acquired. Oliveira-Formosinho (2014, p. 30) notes that practical knowledge "is constructed within specific cultural, social, and educational contexts and possesses collective characteristics that each professional experiences throughout their life history".

For Franco and Lisita (2014, p. 41), training is understood as a:

[...] a human development project through which efforts are made to [...] bring about transformations in the teacher as a person. We conceive of the teacher as a professional who performs work of a public nature, which morally commits them, as the exercise of their professionalism takes place within a context of institutional and social practices.

According to Pimenta (2012), investing in teacher training requires an understanding that, in contemporary society, it is essential to view it as a mediator of the formative processes of citizenship for students, with the aim of overcoming failure and social inequalities. Thus, in this context, it is necessary to strive to reframe formative processes, starting from a perspective that reconsiders the knowledge essential for teaching, providing students with a pedagogical and teaching practice that encourages them to analyze developed practices, putting didactics at the service of students' reflection and the formation of their teaching identities.

Tardif (2013) discusses the relationship between knowledge and practice, suggesting that teaching knowledge encompasses insights from teachers, derived from previous educational institutions and professional training. This includes knowledge from personal data, textbooks used in their work, and the daily experiences within the profession, classroom, and school. These sources have their specific social forms of acquisition and hold a unique relationship with the teaching profession.

The knowledge built through teaching experience serves as a foundation for practice. In this view, according to Tardif (2013, p. 21), "[...] teaching is about mobilizing a wide variety of knowledge, reusing it in the work to adapt and transform it through and for the work." Consequently, teaching knowledge is not solely constructed in practice; a theoretical foundation is essential, as knowledge comes from various points throughout one's career. Therefore, daily experiences in workspaces, relationships with colleagues, students, and individual histories are also indispensable sources of knowledge in building the identities of education professionals. Continuous learning and openness to new knowledge are vital, in a process-oriented and ongoing form of training.

In this regard, teacher training is understood as the foundation of education, and with this in mind, the need for ongoing updates grows, not only regarding the discipline itself but also concerning teaching methodologies and new technologies. This is because basic teacher training does not fully account for the rapid developments in the educational field. In this context of change, it is important for teachers to guide students in transforming information into knowledge. Following this line of thought, Moran (2012, p. 73) emphasizes the importance for educators to "[...] believe in the potential for personal learning, the ability to evolve, to continually integrate new experiences and dimensions

6

of daily life [...]", while simultaneously understanding and accepting their own limits, personal identity, and unique history.

As society becomes increasingly technological, awareness of the need to include technology in school curricula is essential, as the knowledge society demands a different approach. The technological component cannot be ignored, regardless of the field of knowledge, especially in teacher training.

> Technologies serve as means and support, but with the advancement of networks, real-time communication, and research portals, they have become essential tools for change in education. [...] The pedagogical mastery of technologies in schools is complex and time-consuming. Educators often start by using them to improve performance within existing standards. Later, they are encouraged to make some specific changes, and only after several years are educators and institutions able to propose innovations and deeper changes compared to their previous practices. Simply having access to technology does not equate to pedagogical mastery. There is a considerable time gap between learning about, using, and transforming processe (MORAN, 2012, p. 90).

Although the integration of technology in education is not new, it remains essential for teachers to rethink their training, as the dynamics of the modern world demand professionals who are flexible to changes and can adapt to the challenges that arise in everyday life.

## Methodology

In order to analyze how knowledge relationships are constructed between the young teacher (in initial training) and the more experienced teacher (in continuing education) who returns to the classroom, this research presents a qualitative approach that, as such, "[...] does not concern itself with numerical representativeness, but rather with deepening the understanding of a social group or organization [...]" (SILVEIRA & CÓRDOVA, 2009, p. 31). The intention was to analyze the relationships between young teachers and experienced teachers regarding their relationships with knowledge. Additionally, the study aimed to understand the extent to which these relationships influenced intellectual, social, and cultural performance.

The participants in this study included: (I) two experienced teachers who participated in a training program on digital inclusion, and (II) two young teachers in initial training (students) who taught classes in the training course. To establish a criterion for selecting the analysis corpus, the researchers revisited notes taken during the observation process. An important characteristic used as a selection criterion was: the younger teacher and the older teacher, as well as the teacher with less

age and the one with greater teaching experience. The same approach was applied to the students: the one with more age and greater technical experience, and the one with less age and lesser experience. It is worth noting that the identities of the participants were kept confidential; thus, in this study, they are identified as: P1 (teacher 1, age 54), P2 (teacher 2, age 46), A1 (student 1, age 36), and A2 (student 2, age 22).

Regarding data collection, a method was designed to allow participants to share their experiences. Therefore, semi-structured interviews were chosen.

After conducting the interviews, the data were subjected to Content Analysis (CA), which, according to Bardin (2016, p. 37), "[...] is a set of techniques for analyzing communications." According to the author, this method involves

> [...] categories, which are like drawers or significant headings that allow for the classification of the constitutive meaning elements of the message. [...] The technique consists of classifying different elements into various drawers according to criteria that can reveal a sense capable of introducing some order into the initial confusion. It is clear that the choice of classification criteria depends on what one is looking for or expects to find (BARDIN, 2016, p. 43).

Based on this methodological framework, the aim was to use Content Analysis (CA) to interpret the collected data, with the objective of organizing the units of analysis and categorizing them to group the data based on the common elements present in the interviews. Consequently, CA is a form of analysis that

> [...] works with speech, that is, the practice of language carried out by identifiable speakers. [...] it takes into account the meanings (content), possibly their form, and the distribution of these contents and forms [...] it seeks to understand what lies behind the words being examined (Bardin, 2016, p. 49-50).

According to Bardin (2016), Content Analysis (CA) consists of: (i) pre-analysis; (ii) exploration of the material; and (iii) treatment of results, inference, and interpretation. Below is a brief description of each of these stages.

The pre-analysis phase allows for an initial contact with the collected information, a moment when the documents to be analyzed begin to be understood. The goal of this stage is organization. The author refers to it as "floating" reading, a moment when fluency occurs based on emerging hypotheses (BARDIN, 2016).

The exploration phase is when the collected material is processed, including the classification of information into categories and subcategories. Processing the material involves coding it, and "coding is the process by which raw data are systematically transformed and aggregated into units

that allow for an exact description of the relevant content categories" (HOLSTI apud BARDIN, 2016, p. 133).

In this regard, it was during the exploration phase that the distribution and organization of fragments from each interview were arranged through an initial classification, where the most relevant points highlighted by the interview subjects were cataloged. Following this, a re-reading of the theoretical framework adopted in this research was conducted to engage with the information obtained from the interviews. This reading enabled the identification of the knowledge relationships pointed out by the subjects in the interviews through inferences, thus allowing for the categorization of the analysis.

Categorization is organized by classifying elements into different groups. For Bardin (2016, p. 147), categories are:

> headings or classes that bring together a group of elements (record units, in the case of content analysis) under a generic title, a grouping made based on the common characteristics of these elements. The criteria for categorization can be semantic (thematic categories [...]), syntactic (verbs, adjectives), lexical (classification of words [...]), and expressive (for example, categories that classify various language disturbances).

In this sense, the organization of the categories listed is not presented in this study, as they were developed for the analysis of a broader research project titled "Construction of Knowledge: Relationships between the Beginning Teacher and the Experienced Teacher." However, in this study, we focus only on one of the listed categories. The categorization facilitated the analysis of the testimonies collected from the interviews. For Bardin (2016, p. 148), "classifying elements into categories necessitates investigating what each of them has in common with the others. What allows for their grouping is the common part that exists among them?"

Finally, the phase of treating results, inference, and interpretation involved capturing, from the collaborators' statements, the highlights they made regarding digital inclusion training. At this moment, the parts of the identified categories were reorganized, linking fragments of the interviews with theoretical concepts.

## The Relationships Established During Training – Analyzing the Data

Charlot (2000, p. 78) advocates the idea that "the relationship with knowledge is the relationship of a subject with the world, with themselves, and with others. It is a relationship with the world as a

9

set of meanings, but also as a space of activities, and it is inscribed in time." It is from this concept that the meaning of relationship and knowledge is understood in this study.

In this sense, the subject constructs an active relationship with the world as they develop their relationships with knowledge and appropriate that knowledge. According to Charlot (2000, p. 59), the subject is in a constant state of learning, where learning "[...] can mean acquiring knowledge in the strictest sense, that is, intellectual content [...]. However, learning can also involve mastering an object or activity [...], or entering into relational forms." Thus, the constructions of knowledge analyzed here traversed the realms of learning and knowing, until the relationships with knowledge built before, during, and after the digital inclusion training were perceived.

It was observed that A2, in establishing relationships with colleagues and experienced teachers, realized that many changes had occurred in education since the teachers began their teaching careers up until the time they arrived for the training. "I think teaching has changed; it has different ways for you to learn, and it's not a matter of being backward or them being behind; it's about the necessity of new knowledge for them" (A2, 2018).

A2's (2018) concern is highlighted as they emphasize, from their perspective, that teaching has transformed, because for them, "[...] teaching has changed; it has different ways of [...] learning [...]". Increasingly, changes are instituted in the daily school environment, and teachers are often compelled to conform to new teaching methods without undergoing a training process that addresses the new reality. According to Woods *apud* Charlot (2005, p. 98),

> the pressures on teachers' adaptation capabilities have increased, are increasing, and will likely continue to increase [...]. Teachers cannot change their profession or the social order; they must, therefore, adapt. They must accommodate to the situation. Where problems are numerous and intense, adaptation will prevail over teaching [...]. Teachers adapt by developing and employing survival strategies.

The "survival strategies" highlighted by Woods apud Charlot (2005) illustrate that, for A2 (2018), the lack of technological knowledge among the teachers does not imply that they are outdated or that their teaching methods are obsolete. As A2 emphasizes: "[...] it's not about being backward or them being behind; it's about the necessity of new knowledge for them" (A2, 2018). This statement makes it evident that the disconnects often present between the discourse on technological innovation in schools and the actual developments in teachers' continuing education do not align with teachers' needs. Consequently, teachers have to adapt in whatever way they can, always striving to seek out new knowledge.

Furthermore, it is important for students to reflect on their practices from the initial training, seeking to understand that:

> to train teachers is to equip them with competencies that will allow them to manage this tension [between the logic of practices and that of knowledge constituted in discourse], to construct mediations between practices and knowledge through the practice of knowledge and the knowledge of practices. To train educators, one must also be capable, as a trainer of educators, of managing the same tension (CHARLOT, 2005, p. 98).

P1 (2018) highlights the knowledge of the students as a relevant factor in their training, stating: "[...] we could see that they had a vast knowledge of the subject" (P1, 2018). It is observed that, while the students were young teachers with limited didactic experience and recognized the importance of the teachers being in training (as indicated in the previous statement), the experienced teachers acknowledged the knowledge that the novice teachers possessed when teaching about new technologies.

Moran (2012) adds to the concept of knowing, emphasizing that "to know is to learn new paths," and in this aspect, there is agreement with the author, as the experienced teachers were entering the world of technology, learning to familiarize themselves with the tools and observing how they could assist in their intellectual, personal, and professional development.

> To know is to relate, integrate, contextualize, and incorporate what comes from outside. Knowing is to understand, to unveil; it is to go beyond the surface, the predictable, the external. Knowing involves deepening levels of discovery, penetrating more profoundly into things, into reality, and into our inner selves. [...]. Knowledge occurs in the rich process of external and internal interaction (MORAN, 2012, p. 41).

Thus, the relationships with knowledge, in terms of understanding, permeated that training space. This is because both the novice teachers and the experienced teachers emphasized the relationships built throughout the digital inclusion course. A2 (2018) reveals once again that during the course, some anxieties emerged, and gradually, these concerns were alleviated as they became more involved in the process of interaction with the different generations.

> Many times we feel insecure in front of them because we didn't know how they would react. However, this exchange of learning was necessary. I believe that teachers, already trained and with a long career, need to take a different learning course or specialize in another way (A2, 2018).

A2's (2018) testimony indicates that, for the students, being in the presence of experienced teachers generated instability; however, the experiential exchanges were important for both parties.

When they point out the issue of insecurity, it is understood that this is part of the training process, especially when faced with experienced teachers. Following this logic, Tardif (2013) discusses that, regardless of the length of service, the teacher is considered the subject of their practice, independent of how long they have been teaching. According to the author, "they approach their practice and organize it based on their experiences, life history, affectivity, and values" (TARDIF, 2013, p. 232). Thus, when confronted with certain realities of teaching practice, A2 (2018) seeks, in their uniqueness, ways to overcome obstacles, such as insecurity in the presence of experienced teachers.

A2's (2018) words reveal the certainty that teachers must continually update their knowledge, as the student states, "[...] it is necessary for experienced teachers [...], to take a course [...] and specialize." However, his speech also reflects a certain anxiety regarding the lack of continuing education for teachers. Tardif (2013, p. 16) points out that "the knowledge of a teacher is a social reality materialized through training, programs, collective practices, school subjects, institutionalized pedagogy, etc., and is also, at the same time, their own knowledge." Therefore, it is understood that training courses are important to facilitate the professional conditions that configure their teaching know-how.

In this context, it is noteworthy that P1 (2018) agrees with A2 (2018) regarding the importance of teachers engaging in ongoing training. An implicit element in the culture of training emerges, as teachers affirm the importance of remaining in constant learning but also spread the idea that not all training is aimed at enhancing their knowledge.

P1 (2018) reveals in their statement that "[...] explaining how [the computer] works from the beginning was very important because [...] we were [...] afraid." This corroborates A2's (2018) statement, which warns that "[...] this exchange of learning [between those who dominate technology and those who do not] is necessary]".

> Returning to the course, I would like to say that the fact that they started from content we wanted to learn was very significant because they recognized our needs and began right from the basics. Their methodology, that approach of explaining how it works from the ground up, was very important for us because we had fears. I had fears, and I know that there were colleagues there who shared this feeling; they were afraid of losing everything, of ruining everything, of damaging the machine. So all of this was resolved (P1, 2018).

It is evident that P1 (2018) is impressed by how the students managed the training, as they started from the reality of what the teachers wanted to learn. She points out that "[...] the fact that they began with content we wanted to learn was very significant because they recognized our needs and started right from the beginning [...]" (P1, 2018). Additionally, A2 (2018) emphasizes that it was

only possible to initiate the training based on what they truly wanted to learn because the instructors had requested, during the first meeting of the course, that an online form be filled out to assess what the teachers could do on the computer. It is important to note that most of them needed assistance from the students to complete this form.

P1 (2018) mentions that she knew: "[...] there were colleagues there who [...] were afraid of losing everything, of ruining everything, of damaging the machine; so all of this was resolved." This indicates that responsibility and technological knowledge are significant issues for the participant. The students were not mere conveyors of information; rather, they sought to understand the teachers' difficulties and mediated learning in a meaningful way.

In this regard, Charlot (2000) points out that desire is the force that drives education and fuels the teaching and learning process. This force attracts and establishes the desire to appropriate knowledge. What is observed, then, not only through speech but also through gestures and interactions that permeated that environment, was the desire to teach emanating from the students (beginning teachers) and the often-exacerbated eagerness to learn coming from the experienced teachers. P2 (2018) shares P1's (2018) perspective and adds some thoughts: "We just have to learn what it is, where to go, without fear of making mistakes. Because they taught us and allowed us to try, to make mistakes, and to try again without fear" (P2, 2018).

In her statement, P2 (2018) expresses that "[...] we have to learn [...], without fear of making mistakes." Once again, "fear" appears as an indication of apprehension regarding the use of technology, just as P1 had previously highlighted when she mentioned: "[...] there was fear of losing everything [...]". Both P1 and P2 harbored feelings of apprehension, uncertainty, and anxiety concerning learning with computers and other technological tools. As the digital inclusion course facilitated new learning opportunities for those involved, doubts and anxieties began to be alleviated.

Charlot (2000, p. 69) asserts that "learning can also mean mastering an activity or becoming capable of using an object appropriately. It is no longer about moving from non-possession to possession of an object (the 'knowledge'), but rather about moving from non-mastery to mastery of an activity".

> Because I believe they thought: 'We are teachers who have been trained for so many years; we need to stay updated; nowadays, we need to be integrated into the realm of technology.' And it was this mindset that they conveyed to us that motivated us; it was really cool. At the same time that they learned to use the technology, we learned a bit about what it means to be a teacher from them, which contributed significantly to our training (A2, 2018).

Just like P1 and P2 (2018), the other participants in the training demonstrated enthusiasm and interest in what they were learning. A2 (2018), in addition to noticing the teachers' enthusiasm, emphasizes what he, as a student/teacher, reflected on regarding their thoughts: "[...] I believe they thought: 'We are teachers who have been trained for so many years; we need to stay updated; nowadays, we need to be integrated into the realm of technology.'" What he reveals in his statement is that experienced teachers must continuously seek to enhance their knowledge; for A2 (2018), experienced teachers, who have been in the profession for some time, should always be on the lookout for new knowledge and training, constantly pursuing new learning opportunities to improve their teaching techniques and approaches.

This aspect aligns with Pimenta (2012, p. 35), who states that "it is necessary to rethink the processes of training, [...] in a way that enables the formation of teachers as critical intellectuals capable of affirming and practicing the discourse of freedom and democracy." In P2's (2018) discourse, the relevance of (re)thinking training processes and the importance of the exchange of experiences between different generations is evident. "An unparalleled exchange of experience, because we exchanged our patience, our calm, and they exchanged their youth, creativity, learning, technology, and the shortcuts of technology. As they themselves told us: 'You have to make technology work for you'" (P2, 2018).

The teacher emphasizes how significant the exchange of experiences is when she states that the course involved "an unparalleled exchange of experience [...]" (P2, 2018). It is understood, therefore, that by building their learning relationships during the training process, the students and the teachers had the privilege of participating in unique and singular moments that the space provided. For Tardif (2013, p. 21), teaching experience is the foundation of knowledge, and for the author, teaching is:

> [...] mobilizing a wide variety of knowledge, reusing it in the work to adapt and transform it for and through the work. The work experience, therefore, is merely a space where the teacher applies knowledge, being itself a form of knowledge about knowledge—essentially: reflexivity, revisiting, reproducing, reiterating what is known in what one knows how to do, in order to produce their own professional practice.

Thus, the importance of experiencing teaching practice becomes evident, as the students were the primary mediators of the digital inclusion training, attempting to teach and empower the teachers from Basic Education to employ technological knowledge in alignment with their daily practices. It is noteworthy that a range of relationships were woven in this space, as observed in P1's (2018) statement: "What I can say is that there is one teacher before knowing how to use the tools and another

after learning to use them. I can not only do things for myself, which improves my pedagogical practice, but I also create work for the children; I conduct research on the internet."

In light of this, it can be seen that P1 (2018) constructed knowledge alongside the students, as she notes that "[...] there is one teacher before knowing how to use the tools and another after learning to use them." It can thus be deduced that it was the desire to learn that motivated P1, P2, and the other teachers to participate and achieve their objectives concerning the digital inclusion course. In the words of Charlot (2000, p. 54), "[...] there is an attractive force: desire is always a 'desire to' [...] build oneself [...] as a new, different being." In this case, appropriating technological resources and provoking changes in oneself and in their surroundings.

Once again, P1 (2018) emphasizes how technology has contributed to her life and work, stating that "[...] it helps me solve problems that I would have to look for in books or discuss with someone who knows more; I can resolve them right there, on the computer."

This conception illustrates how the experienced teachers involved in this process recognize their difficulties with technology and the desire, as noted by Charlot (2000), to pursue ongoing training. The relationship between teacher and technology has sparked new learning opportunities, fostering interest in learning, building, and producing in collaboration with technological tools. This perspective aligns with the statements made by A1 (2018),

> Regarding what this experience brings to my training, I can say that: certainly, this opportunity contributed to our development because when you have little or no experience, any experience is relevant. I believe that in life... for life, I always value having new experiences; this is a new experience, because no class is the same as another, no moment is the same as another, and no student is the same as another (A1, 2018).

A1 (2018), like the others, also comments on how participating in the digital inclusion course contributed to her training and that of her colleagues. It is understood that the experience provided by the didactics course aligns with the idea proposed by Pimenta (2012, p. 20), who argues in her research on training courses that "mobilizing the knowledge of experience is, therefore, the first step in the didactics course aimed at mediating the process of constructing the identities of future teachers."

It was also noted that many of the doubts the students had about being a teacher were discussed in class, and as the course progressed, they had the opportunity to build their identities while engaging in teaching and learning practices. Thus, it is understood that the students were able to grasp the role of being a teacher and that, in addition to becoming educators throughout the course, they achieved the essence of teaching, which is to educate their students. P1 (2018) supports this assertion by

15

describing what she can now do after what the students taught her: "I can prepare my pedagogical documents; I can now create more elaborate assignments for them. In short, I can do all this. My reports for the administration, which used to be all handwritten, are now all typed, so this has definitely changed" (P1, 2018).

Analyzing P1's (2018) statement reveals that, for her, having knowledge about technological resources signifies an enhancement of her work, both in terms of planning and bureaucratic documents. It is remarkable that she established a relationship between her school routine before and after the digital inclusion course, noting that "[...] before everything was handwritten, now it's all typed, so that has changed [...]". There has been an integration of technological resources into her relational process with the school, and this relationship has brought benefits to the teacher in terms of providing her with confidence and autonomy in using technology.

It is believed that this is the intent behind Charlot's (2005) emphasis in his research that the relationships with knowledge established between the teacher and the learner occur through the construction of relationships between the subject and the object of knowledge related to learning and knowing, which is a relationship with time, with others, and with oneself that enables one to learn something in a specific situation.

A2 (2018) elaborates on the reasons why the relationships built during the course were important.

> So it was important, it is important to have more training with already qualified teachers and us, future teachers, and that exchange of experiences and good conversations. I believe this needs to happen more and more, and there has indeed been a transformation! Didactics II was important because those who didn't know now have certainty about whether they want to be teachers or drop the course; they are certain because they had the experience of teaching, of seeing what it's like, of creating lesson plans, and of building together with their peers. It was there that they found clarity about what they want. The digital inclusion course was truly revolutionary and transformative" (A2, 2018).

A2's (2018) statement demonstrates the importance of bringing the initial teacher training course into the profession. Nóvoa (2009) emphasizes the relevance of linking training courses with teaching experience, referring to this as integrating teacher education into the profession. He indicates that, "by using this expression, I want to highlight the need for teachers to have a prominent place in the training of their peers" (NÓVOA, 2009, p. 17). The author also draws a comparison with teaching hospitals, where students have the opportunity to reconcile practice and theory, indicating that "the preparation is conceived in the phases of initial training, induction, and in-service training [...] [which] can serve as inspiration" (p. 18).

16

A2 (2018) complements by indicating that "[...] there they had the experience of teaching, of seeing what it's like, of creating lesson plans, of building together with colleagues, and it was there that they found certainty about what they want [...]". This shows that the students not only experienced teaching practices in the classroom but also practiced how to construct the entire process that precedes a lesson, including planning moments and theoretical discussions. According to Charlot (2000), the foundation of professional knowledge is interconnected with training processes, where reflecting on practice aids in the development of teaching activity. The author states that "an 'interesting' lesson is one in which a relationship with the world, with oneself, and with others is established in a specific form" (CHARLOT, 2000, p. 73).

Finally, A2 (2018) emphasizes that "[...] the digital inclusion course was [...]: revolutionary and transformative." This demonstrates that both the student who is becoming a teacher and the experienced teacher need to be in a constant quest for new knowledge. Thus, the aspirations encountered by the novice teacher when faced with the realities of teaching are of utmost importance, as they provide the undergraduate student with the strength and desire to overcome the difficulties of the early career. This is essential because they need to implement strategies for socialization with more experienced teachers, which also gives the future teacher more confidence to practice their profession and build self-assurance.

Conversely, it is pertinent for the participating teachers to rethink their school context and their relationships with new ways of acquiring knowledge, as they were found to be limited to digital knowledge. It is essential that these teachers remain attentive and recognize the need to continue practicing the use of technologies and not succumb to complacency regarding the new knowledge acquired, as this could lead them back to outdated practices.

## Final Considerations

In outlining the final considerations of this research, we sought a statement from Charlot, an author who served as inspiration for this study. Human beings are constantly involved in (inter)personal relationships, engaging with others, the world, and their inner selves. Therefore, they construct themselves and others through interactions and relationships, weaving meanings and transforming themselves in the world and for the world. Thus:

> To be born, to learn, is to enter into a set of relationships and processes that constitute a system of meaning, where one expresses who I am, what the world is, and who

others are. This system is developed in the very movement through which I construct myself and am constructed by others this long, complex movement, never completely finished, that is called education (CHARLOT, 2000, p. 53).

Thus, upon analyzing the data based on Bardin's (2016) content analysis, new knowledge regarding the processes of teacher identity and knowledge construction has been consolidated, as this work contributes to rethinking the practices of initial and continuing education courses.

Observations during the course reveal that participants expressed satisfaction with how the digital inclusion training was conducted. It was evident that the students were delighted with the opportunity to experience teaching, while the teachers were enthusiastic about the possibilities of using technology, not only in the classroom but especially in their daily lives.

In light of this, there is a clear need in both initial and continuing education programs. Just as there is an urgent need to provide undergraduate students with teaching experience from an early stage, it is also apparent that experienced teachers require support and attention to their needs and challenges, not only in relation to technology but also in other areas of knowledge.

Regardless of the group of teachers whether beginners or experienced everyone must be integrated into the new educational changes. They should not feel compelled to adapt due to pressure or criticism, which ultimately demotivates them in their pursuit of change. Instead, there is a need for spaces where teachers feel empowered to seek knowledge.

In this regard, both beginner and experienced teachers require encouragement to transform and allow themselves to go beyond their current practices, receiving support that leads to new perspectives, perceptions, and concepts of teaching and learning. Furthermore, it is essential that the environments in which training courses take place demonstrate new ways to construct knowledge that is contextualized with the transformations of the knowledge society.

This research aligns with Pimenta's (2012) studies, which have developed ongoing research on initial teacher education, consistently seeking to reflect on the teaching practices of students and how they are constituting their identities as teachers. "[...] we are committed to rethinking training processes by reconsidering the knowledge necessary for teaching, placing school pedagogical and teaching practices as objects of analysis" (PIMENTA, 2012, p. 16).

Thus, the relevance of digital inclusion training is highlighted, as well as how initial and continuing education can engage in dialogue and foster new knowledge. This training was significant for both the students in initial training and the experienced teachers who were seeking ongoing technological education at that moment. The teachers clearly expressed in their statements that the

students proved to be excellent teachers who knew how to instruct them. On the other hand, the students learned from the (real) challenges presented by the teacher.

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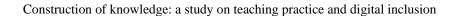
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