Article

Professional teachers' induction policies: analysis on programs carried out by UFSCar, mentors and their training

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Abstract

This paper presents the results of three research interventions focused on mentoring programs for beginning teachers. The paper discusses the contributions and challenges identified in these interventions, as well as the characteristics of the mentors and training proposals. The goal of the paper is to provide insights into how these programs can offer the desired support to beginning teachers. The programs were developed by a group of researchers from a public university over the last 20 years. They offer assistance for beginner teachers working at different levels of education, including Early Childhood Education, Elementary Education (initial years), and Youth and Adult Education. The mentors have specific professional profiles and length of time working in the classroom. The programs also utilize the Internet for communication between mentors, beginners, and the research group, and may include the use of virtual tools. This text presents some dimensions of the investigated programs, including the conception of mentoring, theoretical and methodological approaches, main characteristics, and practices. The results discussed pertain to experienced teachers who participated in the initiatives, as well as the characteristics of the initial and continuing training provided to mentor teachers at the beginning of their careers. Finally, policies to support teachers starting their professional careers, including induction and mentoring, should consider the development of systematic and long-term training processes. The central focus of training proposals for this purpose should be teaching, learning to teach, and professional teaching performance.

Keywords: Teacher education, Beginning Teacher Induction, Basic education.

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1. Introduction

Recently, there has been a growing interest in the early stages of a teacher's career in Brazil. This is reflected in the increase in academic research focused on teachers at the beginning of their professional journey. However, academic production has not addressed the use of mentoring, which involves being accompanied and supported by more experienced professionals, usually called mentors, to minimize the difficulties that characterize this period (André, 2012; Oliveira; Bahia; Neves, 2022). There have been few studies on experienced teachers teaching novice teachers how to teach, as well as their training.

Mentoring is a training method that can be implemented as part of a teacher induction program for those with less than five years of teaching experience at a particular level of education. It involves planned and systematic support from an experienced teacher (mentor) to assist a less experienced teacher (beginner teacher) with early career challenges.

Mentoring assumes that an experienced teacher acts as a mentor to beginners, possessing both knowledge of teaching at the beginners' level and how to teach them.

However, many inductions and mentoring programs adopt a unidirectional view of the mentor's role, considering them only as someone experienced who teaches someone less experienced (Chen, 2012). This model of mentoring assumes vertical relationships between mentors and beginners, in which the roles of those who teach and those who learn are distinct and distant.

However, it is advocated to promote horizontal relationships between teachers at different stages in their teaching careers, in safe professional development spaces that promote mutual support and learning experiences. Professional development and learning can result from professional dialogues or conversations, which often involve teachers from different generations in mentoring.

This article presents results from three studies on mentoring programs for beginning teachers (BT) conducted by experienced teachers in collaboration with researchers from a public university. The focus is on the characteristics of the training processes that enable experienced teachers to act as mentors for new teachers.

professional performance. Experienced teachers were assisted in building a knowledge base about teaching and developing a professional identity like that of a mentor.

It is important to note that each of the three offers has specific purposes based on characteristics such as the use of the internet and virtual tools in mentor-initiate and mentor-researcher interactions, teaching levels and modalities (Early Childhood Education, EC; initial years of Primary Education, IY; Youth and Adult Education, YAE), and the profile of experienced teachers (years of experience, diversity of experience, role in the school, and career stage).

This article presents ideas about the challenges faced by novice teachers, the necessary support, and the role of teacher trainers. It also provides an overview of some isolated initiatives in Brazil. Next, we present research and mentoring programs for BT's in their first professional

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experiences, as well as the training processes carried out. The text concludes with considerations about the results for experienced teachers and the characteristics of the training proposals for this type of activity. These proposals could help formulate and develop policies to induct teachers at the start of their professional career, with mentoring as an alternative.

2. Induction/mentoring programs, training, and profile of mentors: an incipient theme in Brazilian policies

Entering the teaching profession presents numerous challenges. Initial training courses can be precarious, and curricula may be poorly structured (Gatti; Barreto; André, 2011). In addition, individuals in the profession, including those new to education networks and systems, are often assigned to regions and schools that are at risk and vulnerable (Cruz; Farias; Hobold, 2020; Oliveira; Bahia; Neves, 2022), among other challenging situations. This type of teacher assignment practice can cause anguish, stress, fear, and insecurity, which can reinforce feelings of isolation and unpreparedness among professionals at the start of their careers (Rabelo, Monteiro, Reis; 2023).

The beginning of a teaching career can be a challenging phase, as IPs are often faced with traumatic experiences that can lead to them leaving the profession (Huberman, 1992). Other factors can impede the performance of teachers, even those who change cycles or levels of performance. These factors include insufficient mastery of specific and pedagogical content, a lack of knowledge of educational policies and their implications for performance, limited experience with school culture and classroom management, and the need for newcomers to develop an understanding of tools, strategies, knowledge, practices, vision, and dispositions that enable them to commit to their students' success (Ávalos, 2016).

In the Brazilian context, it is now understood that early career attributes require institutional actions that form a continuum between initial training and entry into the profession. This recognizes the need for these teachers to have formal training spaces, to be welcomed, and to have their professional performance monitored (Cruz; Farias; Hobold, 2020). Therefore, it is assumed that if entry into the teaching profession is done well, teachers' chances of remaining in the field and achieving professional growth will increase.

However, the proposal and implementation of public policies and programs aimed at providing support to new teachers facing professional challenges is still in its early stages. Similarly, there is a lack of scientific research on the effectiveness of various training models designed to support IPs, including induction and mentoring programs, mentor profiles, and mentor training for experienced teachers across different educational areas and levels.

The importance of offering training programs and policies to teachers at the beginning of their careers is related to a wider perspective on education. The task involves recognizing and understanding the complex and dynamic nature of the teaching profession, valuing teachers, their knowledge, and teaching culture, and acknowledging the processes of appropriation of professional knowledge. It is also important to consider the specific training needs or demands of teachers and promote school-based professional development, which requires adequate time and space.

With this in mind, and without pretending to exhaust the initiatives on induction programs that have been promoted over time, we have selected some that have proved successful. These initiatives, in some cases, embody legal determinations for teacher training[4].

An exemplary experience worth highlighting is the Integrated Public Education Centers of the State of Rio de Janeiro (CIEPS). These are full-time schools designed for the working classes, proposed by Darcy Ribeiro. The program included an induction program where experienced teachers (mentors) provided support to novice teachers and collaborated on the development of teaching materials. These institutions implemented an in-service training program in partnership with the Universidade do Estado do Rio de Janeiro (UERJ) that lasted two years. It is important to note that the teachers were given time for professional development. The proposed activities were described as the first initiative to support teachers at the start of their careers in the country and were considered up-to-date (Rabelo; Monteiro; Reis, 2023).

In some public education networks, there have been specific initiatives to develop systematic support actions for new and beginning teachers. Gatti et al. (2011) identified five initiatives in the past 20 years, two of which were notable for monitoring the probationary stage for those entering schools. These were local actions carried out by the Municipal Education Departments of Sobral (Ceará) and Campo Grande (Mato Grosso do Sul). These are important examples that could guide similar actions in the future, in the proposal and development of state or federal policies to support beginning teachers.

Among the five, the action aimed at beginners developed in Sobral (Ceará) is particularly noteworthy. This action was based on the identification of deficiencies in the knowledge repertoire of recently graduated from elementary school teachers. In 2005, the Municipal Department of Education in Sobral established a continuing education program for new teachers in the network. Participation during the probationary period was mandatory, and teachers received an additional financial incentive of 25% of their basic salary for four hours a day. The program's first version lasted two years and consisted of 200 hours of work per class. In its second version, the content range was expanded to include teachers from various areas due to the shortcomings in the presented pedagogical scope (Calil; André, 2016).

The program in Campo Grande (Mato Grosso do Sul) is also noteworthy. It was carried out in five stages: newcomers received information on how the education system works, teachers' primary needs were diagnosed, on-site training was provided at the school, the teaching, and learning process was monitored, and student learning was evaluated. This case considered several key aspects of a support program for novice teachers. This program is notable for its in-service training actions that are tailored to the needs of the participants. It also provides monitoring and pedagogical support in their work context, involves school managers in the training process, and subsequently monitors the newcomers in their professional insertion. Additionally, the program refers to the learning results of the students when providing training and support to beginners and is concerned with evaluating the training process

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4 Examples: National Education Plan - PNE (2010-2020); National Education Plan (PNE) (2014-2014); National Teacher Training Policy (2016).

(Gatti; Barreto; André,2011; Ferreira *et al.*, 2017). The program aimed to address the training needs of teachers and integrate them into the Quality Education Policy adopted by the Secretariat. In other words, it provided subsidies to participating teachers to learn about the central body's structure and the competencies of each sector. It also clarified the functioning of the educational system in Campo Grande, the documents and policies that guide professional life (André, 2012).

The programs aim to provide support that meets the training needs of new teachers and promotes their understanding of local policies, education network structures and operations. Additionally, the programs offer support and incentives for participation. Despite the relevance and care expressed in these examples, it is important that the proposed actions are related to other ongoing training initiatives with similar conditions.

Other relevant studies can be cited. For instance, Nascimento et al. (2023) investigated various training actions in four schools in the Rio de Janeiro Municipal Network through a case study. They analyzed the concepts and practices focused on welcoming new teachers and identified their contribution to promoting teacher induction and continuing teacher training, particularly in times of collective work. Cruz, Farias, and Hobold (2023) conducted a research-intervention in three Brazilian regions on peer induction and its impact on teachers at the beginning of their careers and in overcoming challenges during their first years of teaching.

In initiatives, research, and policies that address support for beginning teachers in the Brazilian context, little mention is made of their trainers[5]. Generally, there are no descriptions or analyses of professional profiles, nor is the relevance of specific pedagogical training for working with teachers at the start of their careers recognized, particularly in the role of mentors. This suggests that the topic is still in its infancy.

Like any other teacher, trainers work in complex and conflicting situations and are subject to multiple and contradictory forces. Their practices are based on knowledge gained throughout their careers and act as 'lenses' or 'filters' (Fairbanks et al., 2010) through which they view learning and guide their actions. Recent demands on teachers and their trainers emphasize the importance of creativity, flexibility, and continuous professional development. They must apply their professional knowledge to various situations and be open to building upon it as Knowles, Cole, and Presswood (2008) highlight these needs.

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[5] For Vaillant (2003), talking about a trainer means "assuming a concept with a high degree of semantic dispersion" (p.22). It can be understood as: (1) a synonym for teacher, in which case the training of trainers would encompass the whole field of knowledge that is understood as teacher training at its different levels; (2) a professional who trains teachers at different levels of education; (3) a special case would be teaching professionals who take part in the initial training of teachers as practice tutors; (4) mentor teachers who advise and guide beginning teachers.

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3. Mentoring programs for beginning teachers at the Federal University of São Carlos

3.1 An overview of intervention research

Over the past two decades, researchers at the Universidade Federal de São Carlos (UFSCar) have partnered with basic education teachers to propose supporting beginning teachers with constructive-collaborative intervention research[6], as described by Cole and Knowles (1993) and Mizukami *et al.* (2010).

The three programs aimed to develop knowledge about learning processes and professional development for both novice and experienced teachers. Intervention research was conducted with experienced teachers who acted as mentors to novice teachers, assisting them with aspects of starting their teaching careers.

Experienced teachers are selected as trainers for beginners based on their long and varied experience in teaching and other school management activities, knowledge of the philosophy of schools and their cultural values, and a repertoire of professional behaviors in line with the demands of school communities and public policies.

This option assumes that professionals with multiple experiences and adequate training will be able to advise and guide less experienced teachers, offer relevant information, suggest teaching strategies suitable for beginners, propose solutions to classroom problems, and share knowledge, among other contributions.

The interventions aimed to help experienced teachers develop a knowledge base on mentoring and their identity as early career teacher educators. These processes are crucial for these teachers to provide support, accompaniment, and assistance to novice participants in dealing with difficulties, dilemmas, and obstacles, and to mitigate or minimize them.

According to these teachers, extended participation in learning spaces designed to promote professional development, in collaboration with both experienced and novice teachers and university researchers, can create a learning community.

To this end, each program was set up with specific training processes aimed at experienced teachers, usually in two stages, with different durations and using different means of interaction between researchers and experienced teachers. In this way, the initial and ongoing training processes that will be discussed in this article were carried out.

To achieve these goals, it was necessary to question approaches that simplify and standardize training processes for teachers in general. To this end, specificities such as length of career, teaching area and level, and work context were considered. Thus, it was essential to consider a theoretical-methodological basis both in the research and in the interventions carried out on training processes aimed at experienced teachers and those related to their work with beginners.

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[6] Projects Funded by FAPESP - Public Education: Pr. 2004/00160-9 (2004-2007) and Pr. 16/25412-8 (2017-2020) and CNPQ - Universal Call (2013) Pr.471161/2013-6 (2013-2016).

The references adopted dealt with: teacher learning and professional development processes; reflective processes; characteristics of teachers at different stages of their careers; teacher trainers; knowledge base for teaching; teacher thinking and pedagogical reasoning processes; induction and mentoring; teacher training requirements; use of virtual interaction spaces; autobiographical narratives; learning communities; professional conversations between teachers; use of virtual devices, among others (Cole; Knowles, 1993; Gatti; Barreto; André, 2011, Mizukami *et al.,* 2010; Rodgers, 2002; Shulman, 1986; Timperley, 2001; 2015; Vaughan, 2015; Wang; Odell, 2002).

In summary, the theoretical-methodological aspects that guided the construction, implementation, and evaluation of the programs, as well as their investigation, were as follows: the limits of initial training; the influence of experiences from schooling trajectories; teaching and acting professionally are influenced by: a) the contexts in which they work; b) public policies; c) the teacher's relationship with the school's pedagogical proposal and peers; d) the group of specific students; e) the support of the school unit and the time available to participate in the programs.

It was also considered that: a) school-university interactions involving teachers and researchers can provide opportunities for reflection, learning, and professional development for teachers; b) the use of digital/virtual resources is related to social, cognitive, and pedagogical aspects, as well as spaces for inquiry and problem-solving; c) promoting critical or reflective thinking through professional conversations; d) reviewing existing knowledge and building new knowledge; e) professional development.

Each of the three mentoring programs had specific questions and objectives that were expanded with each new offering, providing answers that could guide subsequent stages and initiatives, but also requiring answers to new questions. The dynamic nature of these processes meant that the data produced had to be constantly analyzed, which meant that the tasks associated with each of the ongoing investigations were complex and made it possible to make informed decisions about the intervention, such as the mentors' training processes.

Most of the data produced in the research can be characterized as narratives (written and oral), whose analysis was carried out through prose analysis (André, 1983) and the creation of timelines, especially in the case of the mentors' interlocution with their BT, known as mentoring trajectories.

3.2 Brief description of the programs[7]

3.2.1 Online Mentoring Program (OMP), 2003-2007

The main purpose of the Online Mentoring Program (OMP) (2003-2007) was to identify the limits and possibilities of offering it to novice teachers via the Internet.

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[7] The information presented in this section and part of the results section comes from the research reports sent to the funding agencies. In this text, it has been decided to use the acronym of the program as a reference to make it easier to identify the initiative mentioned. The references for these reports are Tancredi; Reali, 2007; Reali, 2017; Reali *et al.*, 2021.

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In this case, 11 experienced teachers with more than 20-25 years of teaching experience, both active and retired, participated. They generally had a degree in education. These teachers were actively involved in the design of the training proposal that was adopted, which was aimed at novice teachers with less than five years of experience in IA, as well as in the training processes (initial and ongoing) to work virtually and throughout the monitoring of the IPs.

The OMP was attended by 52 primary school IAs from different public schools located in different municipalities in São Paulo and Paraná. Each BT was supported by a mentor, usually for 12-24 months.

The mentoring processes between mentors and IPs, organized in dyads, took place at least twice a week, through the exchange of electronic letters, recorded in the form of written narratives, through a specific system on the virtual platform used.

The program was based on an open curriculum designed by the participants and based on the expressed or latent difficulties of the IPs, which were similar to those often reported in the literature on the subject. The initial training of the mentors included the use of computers and the Internet; it also covered topics such as starting a teaching career, characteristics, difficulties, ways to overcome them, learning processes and professional development of teachers.

The 11 experienced teachers held weekly face-to-face meetings with the researchers throughout the program. These meetings provided an opportunity to share knowledge, experiences, perceptions, doubts, and dilemmas about the mentoring processes and the IPs. The mentors presented a weekly summary of their practices with the IPs, an analysis of the participation of these teachers and other topics such as the criteria for dismissing IPs, and entries in their journals.

3.2.2 Online Mentor Training Program (OMTP), 2014-2017

In this second initiative, the Online Mentor Training Program (OMTP), the emphasis of the research was on analyzing the potential of virtual training processes (initial and continuing) for mentors, and their contributions to the performance of experienced teachers, school principals and supervisors in the face-to-face accompaniment of beginning EC and IA teachers belonging to the same institution or education network.

In this case, therefore, the training of mentors (initial and ongoing) was the focus of the research. One group consisted of around 60 teachers from two municipalities (one medium-sized and the other small) in the interior of the state of São Paulo, and a second group of 52 teachers. At the beginning of their participation in the proposal, they all had more than ten years' teaching experience in EC and IA. Each of these experienced participating teachers accompanied one or two beginner teachers in person, forming dyads or triads, depending on the area in which they had the most teaching experience, as part of their training as mentors.

In this initiative, the mentoring, unlike the previous program, involved face-to-face meetings, at times apart from the BT's working hours, audio-recorded and recorded in diaries by the mentors. The meetings between mentor-initiate dyads or mentor and two initiates (triad) took place every two

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weeks, according to the work plan established between them, and lasted between 4 and 8 months. The participating BT's worked in EC or IA and had training needs mainly around indiscipline, literacy, classroom management, inclusion, and the curriculum of early childhood education.

For their interactions with the research group, these experienced teachers completed an initial digital literacy module on Moodle (40 hours) and on mentoring processes, before beginning a further training process on mentoring processes, which lasted 180 hours for most participants, and an additional 90-hour module for a subset of mentors and BTs who wished to continue in the program. Throughout the program, researchers held virtual meetings and suggested activities on Moodle, such as reading texts, forums, and discussing movies. In this case, the mentoring curriculum was opened to be defined by the mentors and accompanied by the BT in a work plan to be implemented by the BT under the supervision of her mentor.

3.2.3 Hybrid Mentoring Program (HMP), 2017-2020

In the third offer, the Hybrid Mentoring Program (HMP), 26 experienced teachers with more than 10 years of practice participated in the initiative. However, this number fluctuated over time, and at the end of the offer there were 10 mentors working at the same school level as the novice EC, IY, and YAE teachers. This was also observed in the case of the participating novice teachers: out of 119 interested novice teachers, only 45 were able to participate because not all of them met the pre-established criteria for participation, such as having 8 hours/week to participate in the planned activities and having less than 5 years of teaching experience. Considering the total time the HMP was offered, 80 novices actively participated in the mentoring processes, most of them teachers in schools located in municipalities in the interior of São Paulo; the mentoring processes lasted between 8 and 24 months.

The aim of the research was to deepen the knowledge built up in the previous ones, focusing on the characteristics that proved to be powerful in the implementation of virtual and face-to-face activities - which, with the articulation of these two modalities, gave the proposal its hybrid character -, on the characteristics of the participants, namely beginners and experienced EC, IY and YAE teachers, and on the research of the program itself, which made it possible to carry out specific, in-depth studies on each of these emphases.

As in the past, the mentors underwent an initial four-month training course that covered topics such as their educational backgrounds, beginning their teaching careers, difficulties, and support at this stage of their careers, and mentoring programs and processes. This training also included the use and configuration of Moodle so that mentors could virtually set up their workspaces (mentoring rooms) and conduct literacy training for mentees so that they could participate remotely. These training processes took place face-to-face in weekly meetings between experienced teachers and researchers.

Initially, the mentors and the BT were organized into dyads of mentor and novice teachers working at the same grade level.

The mentoring processes between 2017 and 2019 were mostly conducted virtually, as only a few face-to-face BT meetings could be held between the mentors and the novices they were mentoring. This was due to the

difficulties that the BTs had in traveling from their hometowns to São Carlos, as most of them were from other municipalities in the State of São Paulo. It is noteworthy that during this period, some mentors started using WhatsApp to provide real-time support and guidance to the IPs.

In 2020, due to the restrictions imposed by the pandemic, all PHM activities became virtual. As a result of the new working conditions, there were also changes in the performance of the mentors, since although they had previously used WhatsApp sporadically with the novices, its use was increased. Another change was the organization of the different IPs into groups in a mentoring room to share experiences and discuss topics of common interest. In some cases, two mentors from the same grade grouped all their mentees together to do activities together.

4. Some results

4.1 About the experienced teachers

4.1.1 Profile and Career Paths

The experienced teachers in all three programs were primarily characterized as having a degree in Pedagogy, with ten or more years of teaching experience, and professional experience in the classroom or other roles within the school or education network during their participation in the programs. A smaller proportion of individuals held a second degree. Retired teachers participated in the OMP as mentors, with some having received their initial training in normal education (OMP) or teaching (OMTP).

The teachers included in the study had professional experience in the classroom, ranging from 20 to 25 years at the same level (OMP). Some experienced teachers had also worked at different levels and in different teaching modalities, such as EC and YAE in OMTP, as well as in other roles such as pedagogical coordination (OMTP, PHM), school management (OMP), and supervision (OMP, OMTP). The participating teachers in the three programs have extensive professional knowledge gained from diverse experiences in the classroom or other roles.

Some mentors have diverse professional practical experience in teaching and have held pedagogical-administrative positions. They have experienced different educational policies and innovations over time in the understanding of teaching and learning processes. They have also worked with different generations of students with varying characteristics.

The teachers' frequent participation in continuing education actions, specialization courses (OMP, OMTP, PHM), master's degrees (OMP, PHM), and doctorates (in progress - PHM) suggests their personal investment and commitment to professional development as educators.

4.1.2 Knowledge base for mentoring: teaching and learning to teach

The foundation for mentoring beginners in learning to teach is the construction of a knowledge base for teaching, which is based on experienced teachers' extensive repertoires of professional knowledge (Souza *et al.,* 2021;

Souz; Reali, 2020a; Tancredi; Reali, 2011). Migliorança (2010) points out that knowledge of diverse educational contexts is a relevant aspect of this knowledge base.

In the three initiatives, tensions were observed among the mentors regarding the multifaceted nature of their areas of activity: EC (OMTP, PHM), IY (OMP, OMTP, PHM), and YAE (PHM). These feelings may be related to the need for a complex knowledge base for teaching, which goes against common sense.

The complexity of the mentioned teaching knowledge may be due to the combination of different areas of knowledge into a single content. Additionally, initial training often treats the areas of knowledge and teaching content for EC, IY, and YAE superficially.

According to Shulman's (1986, 1987) research, the knowledge base for teaching consists of specific content knowledge, general pedagogical knowledge, and pedagogical content knowledge for each stage of schooling. The knowledge base of mentors in their work with supported beginners reflects similar types of knowledge.

The construction of a knowledge base for teaching in experienced teachers involves additional knowledge beyond what was previously mentioned. Tancredi and Reali (2011) identified this knowledge in the OMP, which was also found in the PHM. During the analysis conducted with program mentors at the start of their work with novice teachers, it was confirmed that their knowledge base for mentoring, specifically related to the teaching of teaching, was characterized by the following:

> i. Knowledge of the content to be taught to the beginning teacher.
> ii. Pedagogical knowledge for mentoring:
> • appropriation of technological knowledge.
> • understanding of the importance of the reflective process for professional development and the tools and strategies to be used in mentoring to involve the beginner in reflective processes, such as feedback with certain characteristics that allow the beginner to analyze their practice.
> • understanding of written narratives (training memorials and reflective diaries) as a training tool, with the following potentialities being highlighted by the teachers/mentors: reminiscing about experiences and redefining meanings once constructed; organizing and expressing thought; thinking about the experiences relived in the narratives, which can provide food for thought about their teaching practice and prefigure future actions to change what they consider to be inadequate; understanding their process of constitution as a teacher; and building strategies that make it possible to collect detailed data on the situation reported by the beginner to prefigure mentoring actions.
> iii. Pedagogical knowledge of the content.
> iv. Attitudinal knowledge: willingness to listen sensitively (Souza; Reali, 2020a, pp.1933-1934).

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In the OMTP, mentors who held positions such as pedagogical coordination, school management, and supervision had a knowledge base like that of the participating professional managers, pedagogical coordinators, and supervisors, as identified by Gobatto and Reali (2017) and Borges (2017). In some cases, the knowledge bases used as a reference for mentoring by these teachers were based on the functions performed and took precedence over the knowledge base for teaching or mentoring.

It may be beneficial for experienced teachers to mentor novice teachers while simultaneously teaching in the classroom in OMP and PHM, as this can help to build and refine the experienced teacher's knowledge base for teaching more quickly (Reali; Souza, 2022). Although the individual is considered experienced, they have encountered situations like those of the IPs they accompany and can more easily recognize aspects of the contexts in which they work.

Additional knowledge was identified by Souza *et al.* (2019) and is related to the knowledge base for mentoring.

> (...) looking at their professional career; becoming aware of their professional role; looking at their own mentoring practice; getting to know the reality of other levels of education and developing a greater emotional understanding of teachers at other levels of education; valuing the role of reflection in teacher professional development; valuing teaching performance; evaluating their teaching practices; reviewing classroom practices and transposing practices adopted in the PHM to their performance in the classroom, among others.

4.1.3 Professional identity

Movements towards the construction of a professional identity characterized an induction phase like that of a teacher at the start of their career (OMP, PHM; PHM). Silva (2020) notes that the transition from being a teacher to a mentor during the program was influenced by the mentors' prior teaching identities and the expansion of their knowledge bases due to the requirements of the new role in the case of PHM mentors.

Souza *et al.* (2021) suggest that their study on the identity of novice PHM minors provides a 'snapshot' of a dynamic, continuous, and unfixed process that reveals some of the elements that make up the mentor's identity. These elements include the marks of personal and professional trajectories that influence and enhance the constitution of this identity, as well as the images that mentors construct about the mentoring role.

Thus, experienced teachers' motivation to participate in a program aimed at supporting novice teachers occurs in those who received support at the start of their careers, as well as in those who felt alone, isolated, and did not receive any help. This motivation can be understood as the commitment and responsibility of teachers to the teaching activity and profession. Professional satisfaction of being able to contribute to another teacher can be a lever for them to invest in building the knowledge base that mentoring requires. The

definition of the framework of references for their work is an aspect apparently related to the construction of their identities as mentors.

As previously mentioned, the process of building a mentor's identity is dynamic and not necessarily linear or continuous. Depending on the disruptive circumstances, it may result in a return to a previous stage. The initial stage of their work is often perceived as tense, generating insecurity due to the large amount of information they must process about the intellectual property they work with, the context in which they work, and the difficulties they may encounter while establishing appropriate relationships. It is evident that mentors generally undergo processes that are very similar to those experienced by mentees.

During the Covid-19 pandemic, individuals exhibited patterns of fear, doubt, dilemmas, and anxiety similar to those experienced by the beginners they were accompanying. At this point, the professional mentors' ability to support beginners in remote teaching was perceived as collapsed. They faced challenges and did not know how to provide the necessary support. However, after a few months and with the support of the research team, the mentors began to feel more confident in their work (Souza; Reali, 2022).

4.1.4 Support required

In conducting the different programs, the support demanded by the mentors from their peers was commonplace; all of them at some point needed help from another mentor or a member of the group of researchers to properly conduct the mentoring process under their responsibility The existence of a space for exchanging information, reflecting on situations experienced, sharing, between mentors and researchers, favors the design of different alternatives for dealing with difficulties (Reali, Tancredi, Mizukami, 2016).

4.1.5 Institutional links

The mentors' institutional ties to the same school and education network as the mentees can be a positive attribute in the mentoring process. Borges (2017) identified that factors such as prior knowledge of the BT, the organization and functioning of the schools, the culture of their workplace, and the local public policies in force, including the possibility of offering role models and observing the BT's classes and performance in person, are aspects that can facilitate the mentor's performance. On the other hand, this type of relationship has sometimes led to conflicts of interest between the mentors and their duties as supervisors, principals, and pedagogical coordinators, as well as those demanded by the role of mentor. In addition, the fact that the mentors hold a position in the school management or in the school network was identified by the BT's as a limiting factor when it came to raising doubts, fears, and dilemmas freely and safely. The roles held by mentors in the IPs' schools or education networks sometimes proved to be conflicting for them, too.

4.2 About the training proposals for mentors and their development

4.2.1 Initial training

The approach adopted in the investigation and development of the mentoring programs, as indicated above, was aimed at building specific professional teaching knowledge through collaboration between researchers and mentors and between mentors and novice teachers.

To operationalize the development of the OMP, OMTP and PHM, it was necessary for the researchers to provide initial training for the mentors on topics such as teacher induction, mentoring and learning processes, and teacher professional development, as well as opportunities for experimentation and learning about the resources available in the virtual environments used in the programs (*e.g.*, Rinaldi, 2006). This stage lasted 8 months in the OMP, 3 months in the OMTP and 4 months in the PHM.

In general, these training courses began with discussions about teacher training: the professional trajectory, the difficulties at the start of the career, and the support received (OMP; OMTP). In the PHM offer, this theme was also developed in the form of written narratives. Remembering, describing, and analyzing episodes from the beginning of their careers individually and collectively proved to be useful strategies for the experienced teachers to broaden their understanding of a sensitive period in their training and its influence on their later work in their interaction with the newcomers they worked with. In addition, recounting and reminiscing about these situations seems to favor understanding and empathy for the mentors in relation to the situations presented by the beginners, particularly in difficult and dilemmatic situations.

As mentioned above, during the initial training in the OMP and PHM, the collaboration of experienced teachers in the design of the mentoring proposals together with the researchers was related to a greater understanding, adherence, and commitment to the different constituent elements defined. The mentors were involved in defining the characteristics, objectives, requirements, assessment processes and criteria, relevant topics to be addressed, etc. Mentors who joined the programs after this initial stage had some difficulties understanding some characteristics of the proposals, even though they had also taken part in alternative initial training processes.

The use of the internet, the virtual environment, Moodle, and its tools were other topics covered in the initial training stages with the mentors so that they could carry out the mentoring processes (OMP, PHM) or to enable interaction with the researchers and virtual monitoring of the mentors' work (OMTP). In the PHM, the training included editing the VLE (Moodle) so that each mentor had a virtual classroom to attend to each of the BT's they were mentoring.

4.2.2 Ongoing training

The ongoing training provided by the mentors, conducted as a group in weekly or fortnightly meetings with the researchers, was essential for learning and professional development. In addition to monitoring the mentoring processes, these meetings involved discussions, joint preparation of activities,

analysis of specific cases, construction of tools to deal with difficulties, and exchange of information and experiences between the beginners and mentors.

During the mentoring process, mentors often required support from their peers to ensure successful completion of their responsibilities (Malheiro, 2017).

The interactions between the group of mentors and the group of researchers gradually consolidated, resulting in the formation of a 'mentoring group' as a learning community (OMP; PHM). These learning communities were not established quickly, as they depend on the participation, personal commitment, and willingness of each member to share their work and commit to the purposes of the programs, novice teachers they mentor, and their students (Mizukami; Reali, 2019). As with any other group of people working towards a common goal, the processes involved in achieving it were slow and often accompanied by tensions, discomfort, and challenges (Reali; Tancredi; Mizukami, 2016).

4.2.3 Adoption of an open and semi-open curriculum

The choice of an open curriculum for the mentoring activities at the OMP proved to be relevant in that it opens greater possibilities for the mentor to be able to consider the demands presented by the newcomers.

In the case of the OMTP, it was proposed that the mentors draw up a mentoring plan to be conducted with each of the BT's to be accompanied, considering this activity and its development to be an opportunity for the experienced teacher participants to experience their role as a trainer of novice teachers. Although emphasis was placed on the training needs/demands of the beginners in the mentors' initial training, their actions were often directive in their choice of topics, in some cases considering previous assessments of the beginners (Alexandre, 2017; Borges, 2017).

In the case of PHM - based on the results observed in previous programs - we opted for a semi-open curriculum, as some topics and activities were addressed to all the IPs participating in this last program, at the beginning of the mentoring processes. The topics covered were training trajectories; characterization of the work context - school and classroom; description of the students and the community. The more systematic treatment of these topics made it possible to identify preconceptions, beliefs, thoughts, and feelings right from the start of the mentoring process. On the other hand, the possibility of tackling many subjects simultaneously can make it difficult for both the BT and the mentor to follow up (Machado, 2023).

4.2.4 Processes of inquiry and reflection

The research group introduced an element of inquiry into the mentoring group's discourse in its meetings with the mentors, in the proposed activities (training memoirs, case analyses, reports, diaries, etc.) and in feedback on their work. By promoting reflective processes, participants were often invited to go beyond a mere description, albeit detailed, of a particular circumstance, which allowed them to express their understanding, assumptions, and decision-making processes. Depending on the situation, they were encouraged to

reconsider it from other perspectives, in the light of broader ideas and principles that could lead to a different outcome (OMP; OMTP; PHM).

The adoption of these strategies was linked to the promotion of informed and meaningful practices, as well as enhancing the learning of mentors and mentees. By experiencing these processes and understanding the theoretical-methodological basis of their actions, the mentors were able to encourage the BT's to adopt the same orientation in their pedagogical practices with their students. By being considered by the mentors, they also helped the BT's to express their thoughts and decision-making processes. Regarding decision-making processes, they invested in explaining why they were deciding, what for, and when (Rodgers, 2002). Investing in these practices promoted a more profound understanding of the IPs being monitored and their charts of reference (Souza; Reali; 2020b). This movement was related to the professional development of experienced teachers, both as trainers and teachers. Most of these experiences were recorded in written narratives.

In the follow-up, it proved essential that the mentors also articulated their specialized knowledge, skills, and abilities that support competent teaching practices together with the knowledge base of teaching and mentoring.

Below is Chart 1 with general information on the aspects considered in this article on the programs carried out.

Chart 1 - Specific features of UFSCar's mentoring programs for **early career teachers**

Specifics	Description
Mentors' profiles	Length of previous teaching experience (10-25 years or more); positions held (teaching, pedagogical coordination, supervision, and school management); area and level of teaching; and being active or retired.
Mentors' institutional links	Schools and education networks, apart from those for beginners, are the same school or the same education network.
Participation of mentors in defining the purposes, requirements, and characteristics of the programs	Total or partial.
Curriculum of the mentors' training processes	Curriculum of the training processes for initial training: themes on difficulties and ways of overcoming them at the start of the career; support; teacher learning and professional development processes; digital literacy. Ongoing training: support for BT's and mentors; support for mentors' difficulties; reflection processes on mentoring practices.
Type of mentor-research group interactions	On-site, virtual and hybrid.
Profile of beginning teachers	Up to five years of teaching experience. Early Childhood Education (EC), Initial Years (IY) and Youth and Adult Education (YAE).

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Mentor-starter organization	Dyads, triads, groups of mentors and beginners.
Types of mentor-initiate interactions	Via mail and virtual, face-to-face and hybrid.
Tools/contexts for interlocution	Electronic correspondence in a specific space; Moodle; Skype, WhatsApp; as well as face-to-face conversations.
Formative-investigative tools	Exchanges of correspondence; written narratives (autobiographical; diaries; cases, etc.); analysis of cases and emblematic situations; teaching and learning experiences; questionnaires; interviews, professional conversations, observations, feedback; activity reports; reading of texts; discussions; forums; virtual meetings; face-to-face meetings; composition and analysis of timelines.

Source: prepared by the authors.

The following are considerations regarding the results, considering the three offers:

It is essential to promote reflection on practices as a tool for teacher learning and professional development through professional conversations recorded in the form of written narratives such as letters, reports, diaries, planning, and feedback. The analyses resulting from the strategies employed proved to be effective in promoting the development of new professional knowledge, rather than simply repeating performance models. This was achieved through improvisation and the pursuit of professional autonomy, which were based on careful examination of the practices employed and their consequences.

The virtual learning environments were appropriate for training and dialogue and allowed for the completion of proposed activities at various times and physical locations. The use of written narratives was a vital tool for conducting professional conversations and reflecting on practices in the three programs. It enabled mentors and beginners to record their interactions and jointly examine previous experiences and plan new ones based on questions and hypotheses.

The mentors were stimulated for new experimentation and learning by the formative demands and tensions of the BT. It is important for successful mentoring that the mentors know how to teach at the same educational stage as the BT being mentored.

Other actions to carry out mentoring processes, considering individual aspects of the beginners, were present. It is important to understand how adults and teachers learn, as well as how to identify the training needs of beginners. Professional development is a procedural and interactive process that is dependent on the context to which it refers and requires appropriate time and conditions to occur.

UFSCar's mentoring programs have been developed through funded collaborative research with the primary aim of producing knowledge on teacher training, masters, and doctors, and offering support for the development of public policies.

Although the results are generally suggestive of the validity of the initiatives, some difficulties and limitatrônas were faced during their implementation. One issue pertains to the discontinuity of the research due to its dependence on funding from agencies, resulting in a fixed start and end date. Another relevant difficulty is the relationship between the university and the school. The research schedule differs from the school calendar, and the particularities of the latter, such as external assessments and completion of bimonthly activities, demand concentrated attention from participating teachers. This makes it difficult for them to participate in the research simultaneously. The working conditions of the participating teachers were precarious due to working in multiple schools, an overload of activities, and a lack of government policies supporting professional teacher induction. These factors proved to be obstacles to implementing actions with this purpose. Furthermore, the school community and school managers' lack of academic knowledge about this device presents an obstacle to releasing or recognizing the participation of interested teachers in the proposals carried out by UFSCar.

5. Some contributions of UFSCar's mentoring programs to the design of support policies for early career teachers include

To formulate support policies for beginning teachers in EC, IY and YAE, some of the results presented above are taken as a reference and relate to the following ideas:

- Mentoring policies and programs for teachers at the start of their careers should be linked to a broader educational policy involving initial and ongoing teacher training, with an emphasis on its developmental nature. Offering induction/mentoring programs does not exempt universities from their mission to train future teachers with excellence and establish partnerships with schools and their professionals (Beca; Boerr, 2020).
- Relevant aspects of policies or programs, such as their objectives characteristics, and other definitions, should take place with the active participation of teachers.
- The participation of mentors and beginners in mentoring/induction programs require the provision of time, space, and material resources (e.g., computers, the internet). Their insertion into broader educational policies and their implementation require specific devices, standards, and resources that must be provided by the educational system (Beca; Boerr, 2020).
- The connection between theory and practice and university-school collaboration is essential for seeking alternative solutions to educational problems, and this expands the possibilities for teachers and schools to build new knowledge about teaching.
- The choice/selection of mentors involves critical care. When considering that a mentor teacher should have more than ten years of work in the classroom, it is necessary to recognize that experience alone does not make a mentor qualified. To act as a trainer, in this

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case the experienced teacher, requires a specific profile, a desire to perform this role, and, above all, availability and time.

● Prior training to act as a mentor is essential. This is because there are distinctions between teachers' knowledge of how to teach, and the knowledge required for mentors to teach how to teach, both face-to-face and virtually.

● As experienced teachers, mentors must understand the content to be taught and know how to relate it to the specificities of the students, understand how teaching methodologies can contribute to their learning, understand teaching practices and their principles, and know how to help beginners develop similar understandings. To this end, involvement in processes of reflection on one's own practices is essential and carrying them out in professional teaching communities is a way of validating them (Little, 2002; Rodgers, 2002).

● It is necessary for a mentor to have a solid scientific and didactic background and understand the learning matrices that underpin them; understand the principles of adult learning; know the socioeconomic and cultural context of the beginners and their formative trajectory, among other aspects related to teaching, the classroom, and the school. It is important to know how to support novice teachers in dealing with the demands of the educational system and to bring about behavioral, conceptual, and methodological changes with a view to future action, as well as how to identify their training needs (Vaillant, 2003).

● Teachers' participation in induction/mentoring programs should be voluntary in the context of training, characterized by the horizontality of the relationships established. These characteristics can break away from the isolation and individualism that are characteristic of teaching, to unleash innovation in teaching, learning, and professional development.

● Respectful and ethical attitudes should mark professional conversations between mentors and beginners. Teachers' professional learning and socialization are based on experiences and are therefore influenced by affective, moral, and performance factors. This learning also takes place in practice, considering the dynamic nature of the classroom context.

6. Final considerations

The implementation and analysis of the presented programs have resulted in many lessons learned over the years for the participants. The researchers' most important lesson was the recognition that there is room and support for new proposals and initiatives focused on teacher training in the multifaceted Brazilian educational reality. Teachers participated voluntarily, committed, and enthusiastically, even in longitudinal studies such as those presented.

Based on these experiences, it is recommended that support, induction, or mentoring policies aimed at teachers at the start of their careers should focus

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on systematic, long-term processes that enable learning to teach oriented towards pedagogical practices. This will result in learning for both beginners and their trainers/mentors. The focus of training proposals for this purpose should be teaching and learning how to teach.

It is understood that by assuming this purpose, quality in teacher training can finally be defined based on relevant training options (Loughran; Menter 2019). The skills, knowledge, and abilities that make a difference in supporting student learning, which teacher educators possess, have been ignored for too long. Understanding the quality of teaching and learning, and how they can be assessed, represented, and enhanced, is crucial for an informed discussion on teacher education.

Finally, it is agreed with Pérez-Gómez (2019) that the challenges of contemporary times demand solutions that affect the higher-order cognitive and affective capacities of teachers and their students. The presented programs aimed to develop principles for specialized thinking and effective communication, decision-making in uncertain situations, and problem-solving of varying complexity. They also aimed to propose innovative alternatives in increasingly complex, uncertain, fleeting, and confusing scenarios (p. 4).

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